GLOBAL ALLIANCE FOR CHRONIC DISEASES

Annual Scientific Meeting
17 - 21 October 2016

GACD
Australian Government
National Health and Medical Research Council
Global Alliance for Chronic Diseases
Research Network

5th Annual Scientific Meeting
17 – 21 October 2016
Sydney, Australia

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<th>Time/Venue</th>
<th>Topic</th>
<th>Attendees</th>
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</thead>
<tbody>
<tr>
<td>9.00am – 5.00pm</td>
<td>Implementation Science Workshop (ISW)</td>
<td>Workshop participants</td>
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<tr>
<td>Central Room</td>
<td>See separate agenda</td>
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<tr>
<td>Wynard/ St James</td>
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<tr>
<td>(breakout)</td>
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<tr>
<td>6.00pm onwards</td>
<td>ISW Cocktail Reception</td>
<td>Workshop participants</td>
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<tr>
<td>Hotel</td>
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<tr>
<td>Time/Venue</td>
<td>Topic</td>
<td>Attendees</td>
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</tr>
<tr>
<td>9.00am – 5.00pm</td>
<td>Implementation Science Workshop (cont.)</td>
<td>Workshop participants</td>
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<tr>
<td>Central Room</td>
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<tr>
<td>Wynard/ St James (breakout)</td>
<td>See separate agenda</td>
<td></td>
</tr>
<tr>
<td>9.00am – 5.00pm</td>
<td>Management Committee Meeting</td>
<td>Management Committee</td>
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<tr>
<td>Martin Place</td>
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<tr>
<td>7.00pm</td>
<td>Management Committee Dinner</td>
<td>Management Committee</td>
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<td>Restaurant TBC</td>
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## Wednesday 19 October

<table>
<thead>
<tr>
<th>Time/Venue</th>
<th>Topic</th>
<th>Attendees</th>
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</thead>
</table>
| 8.00am – 12.30pm | Site Visit  
Optional visit to Tharawal Aboriginal Corporation (packed lunch provided) | Registered visitors  |
| 9.00am – 12.30pm | Management Committee Meeting  
Martin Place | Management Committee  |
| 11.30am – 1.30pm | Registration  
Hotel Foyer | ASM Attendees  |
| 12.30pm – 1.30pm | Lunch | All  |
| 1.30pm – 2.00pm | Opening of Meeting  
Central Room | All  |
| 2.00pm – 2.30pm | Keynote Address  
Central Room | All  |

_Prof Fiona Stanley, University of Western Australia, Australia_  
_Celina Gorre, Executive Director - Global Alliance for Chronic Diseases_

_Prof Sandra Eades - Domain Head of Aboriginal Health,  
Baker IDI Heart and Diabetes Institute, Australia_
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>2.30pm – 3.05pm</td>
<td><strong>Diabetes Project Presentations 1</strong></td>
</tr>
<tr>
<td>Central Room</td>
<td>DM01 – Louise Maple-Brown, Menzies School of Health Research, Australia</td>
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<tr>
<td></td>
<td>2.37pm – 2.44pm</td>
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<tr>
<td></td>
<td>DM02 – Tianqi Zhu, The George Institute, China</td>
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<td></td>
<td>2.44pm – 2.51pm</td>
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<td></td>
<td>DM03 – Lorrein Muhwava, University of Cape Town, South Africa</td>
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<td></td>
<td>2.51pm – 2.58pm</td>
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<td></td>
<td>DM04 – Lisa Dolovich, McMaster University, Canada &amp; Fortunato Cristobal, Ateneo de Zamboanga University, Philippines</td>
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<td></td>
<td>2.58pm – 3.05pm</td>
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<td></td>
<td>DM05 – Xin Zheng, National Center for Cardiovascular Diseases, China</td>
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<tr>
<td>3.05pm – 3.15pm</td>
<td><strong>Question &amp; Answer session 1</strong></td>
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<td></td>
<td>All</td>
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<tr>
<td>3.15pm – 3.30pm</td>
<td><strong>Coffee Break</strong></td>
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<td></td>
<td>All</td>
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<tr>
<td>3.30pm – 4.05pm</td>
<td><strong>Diabetes Project Presentations 2</strong></td>
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<tr>
<td>Central Room</td>
<td>DM07 – Meena Daivadanam, Uppsala University, Sweden</td>
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<td></td>
<td>3.37pm – 3.44pm</td>
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<tr>
<td></td>
<td>DM08 – Greet Cardon, Ghent University, Belgium</td>
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<td></td>
<td>3.44pm – 3.51pm</td>
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<td></td>
<td>DM10 – Francisco Gonzalez Salazar, Universidad de Monterrey, Mexico</td>
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<td></td>
<td>3.51pm – 3.58pm</td>
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<td></td>
<td>DM11 – Sergio Hernández-Jiménez, National Institute of Medical Sciences and Nutrition Salvador Zubirán, Mexico</td>
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<td>3.58pm – 4.05pm</td>
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<td></td>
<td>DM12 – Kirsten Bobrow, University of Cape Town, South Africa</td>
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<tr>
<td>Time</td>
<td>Session</td>
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<tr>
<td>4.05pm –</td>
<td>Question &amp; Answer session 2</td>
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<td>4.15pm</td>
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<tr>
<td>4.15pm –</td>
<td>Diabetes Project Presentations 3</td>
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<tr>
<td>4.15pm</td>
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<tr>
<td>4.15pm –</td>
<td>4.22pm</td>
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<tr>
<td>4.22pm –</td>
<td>4.29pm</td>
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<tr>
<td>4.29pm –</td>
<td>4.36pm</td>
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<td>4.36pm –</td>
<td>4.43pm</td>
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<tr>
<td>4.43pm –</td>
<td>4.50pm</td>
</tr>
<tr>
<td>4.50pm –</td>
<td>Question &amp; Answer session 3</td>
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<td>5.00pm</td>
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Lung Diseases Project Presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Speaker</th>
<th>Location</th>
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<tbody>
<tr>
<td>5.00pm - 5.07pm</td>
<td>LD02</td>
<td>Kamran Siddiqi, University of York, UK</td>
<td>All</td>
</tr>
<tr>
<td>5.07pm - 5.14pm</td>
<td>LD13</td>
<td>Kamran Siddiqi, University of York, UK</td>
<td>All</td>
</tr>
<tr>
<td>5.14pm - 5.21pm</td>
<td>LD08</td>
<td>William Checkley, Johns Hopkins University, USA</td>
<td>All</td>
</tr>
<tr>
<td>5.21pm - 5.28pm</td>
<td>LD12</td>
<td>William Checkley, Johns Hopkins University, USA</td>
<td>All</td>
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Question & Answer session 4

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>5.28 – 5.40pm</td>
<td>Question &amp; Answer session 4</td>
<td>All</td>
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Opening Reception

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>5.40pm onwards</td>
<td>Opening Reception</td>
<td>All</td>
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Hotel
Thursday 20 October

Objectives for the day:

1. **Presentations of projects that have reached/are nearing close out**
   - This is an opportunity for those projects that have reached or are nearing study closeout to present their preliminary findings, learnings and experiences to the other network members. Presenters should also discuss plans for dissemination of data, engagement with policy makers and potential for scale-up.

2. **Streams**
   - Conference attendees will be together until 3.00pm, after which they will be split into three parallel streams (mHealth, Behaviour Change and Systems Change), with teams placed into streams according to methodologies and intervention targets. Each stream is a mix of diabetes, hypertension and lung diseases teams. There will be a pair of stream co-leaders to assist each stream and present back to the meeting as a whole on day 2 of the ASM. Each stream starts with a very brief presentation (<5min) from each project, then opens for discussion on pertinent issues.
   - The aim of the parallel sessions is to discuss the projects plans for dissemination of findings and other study outputs, engagement with policy makers, study context and scale-up. Additionally, it should be used as an opportunity to identify where joint working between the teams could be beneficial.

3. **Poster Competition**
   - The poster competition runs throughout day. Posters will be displayed near the conference area.
   - Posters will be judged by a panel, and there is also a “People’s Choice Award” for the poster that YOU think deserves the award. Please remember to vote by placing the sticker that has been placed in your name tag holder. Prizes will be awarded on Thursday afternoon. Please note that posters not presented by the authors will not be eligible for prizes.
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<tr>
<th>Time</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>8.45m – 9.00am</td>
<td>Presenters and Stream Co-leaders Briefing</td>
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<tr>
<td>Grand Central</td>
<td>Presenters and stream co-leaders</td>
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<tr>
<td>9.00am – 9.10am</td>
<td>Welcome and agenda for the day</td>
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<tr>
<td>Grand Central</td>
<td>All</td>
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<tr>
<td>9.10am – 10.10am</td>
<td>Presentation of Completed Projects 1</td>
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<tr>
<td>Grand Central</td>
<td>All</td>
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<tr>
<td></td>
<td><strong>Presentation of Completed Projects 1</strong></td>
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<tr>
<td></td>
<td><em>Study findings, plans for dissemination of data, engagement with policy makers, study context and scale-up</em></td>
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<td></td>
<td>9.10am – 9.25am</td>
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<td></td>
<td><strong>HT05:</strong> Treating hypertension in rural South Africa: A clinic-based lay health worker to enhance community-based outreach services for integrated chronic care</td>
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<tr>
<td></td>
<td><em>Felix Limbani, University of the Witwatersrand, South Africa</em></td>
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<td></td>
<td>9.25am - 9.40am</td>
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<td></td>
<td><strong>HT06:</strong> Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment</td>
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<td><em>Amanda Thrift, Monash university, Australia</em></td>
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<td></td>
<td>9.40am – 9.55am</td>
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<tr>
<td></td>
<td><strong>HT07:</strong> A smartphone-based clinical decision support system for primary health</td>
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<td></td>
<td><em>Devarsetty Praveen, The George Institute for Global Health - India</em></td>
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<td>9.55am - 10.10am</td>
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<tr>
<td></td>
<td><strong>HT08:</strong> Randomised control trial of early use of a simplified treatment regimen incorporating a half-dose, three-in-one blood pressure lowering pill vs. usual care for improving hypertension control in Sri Lanka</td>
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<td><em>Anushka Patel, The George Institute for Global Health, Australia</em></td>
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<tr>
<td>10.10am – 10.25am</td>
<td><strong>Coffee Break</strong></td>
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<th>Time</th>
<th>Session Title</th>
<th>Location</th>
<th>Speakers/Details</th>
</tr>
</thead>
</table>
| 10.25am – 11.10am | Presentation of Completed Projects 2                                           | Grand Central | HT09: Developing the evidence base for a national salt reduction program for India  
\textit{Sailesh Mohan, Public Health Foundation of India, India}  
10.40am – 10.55am  
HT10: Cost effectiveness of salt reduction interventions in Pacific Islands  
\textit{Jacqui Webster, The George Institute for Global Health, Australia & Arti Pillay, C-POND, Fiji}  
10.55am – 11.10am  
HT12 - Task shifting and blood pressure control in Ghana - a cluster-randomized trial  
\textit{Olugbenga Ogedegbe, New York University School of Medicine, USA} |
<p>| 11.10am – 11.30am | Question &amp; answer session for completed projects                              | Grand Central | Study PIs                                                                       |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>11.30am –</td>
<td>Working Group &amp; Special Joint Project Progress</td>
<td>Grand Central</td>
<td>All</td>
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<tr>
<td>12.40pm</td>
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<tr>
<td>11.30am –</td>
<td>11.30am – 11.40am Joint Publications Committee</td>
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<tr>
<td>11.40am –</td>
<td>11.40am – 11.50am Concepts &amp; Context</td>
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<td>11.50am –</td>
<td>11.50am – 12.00pm Data Standardisation</td>
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<td>12.00pm –</td>
<td>12.00pm – 12.10pm Task Shifting/How-to Series</td>
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<td>12.10pm –</td>
<td>12.10pm – 12.20pm Process Evaluation</td>
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<td>12.20pm –</td>
<td>12.20pm – 12.30pm COUNCIL</td>
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<td>12.30pm –</td>
<td>12.30pm – 12.40pm HT Innovations</td>
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<tr>
<td>12.40pm –</td>
<td>Lunch &amp; Poster Presentations</td>
<td></td>
<td>Poster entrants &amp;</td>
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<tr>
<td>2.00pm</td>
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<td>poster judges</td>
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<tr>
<td>2.00pm –</td>
<td>Stream Introductions - Overview of themes and recommendations of key</td>
<td>Grand Central</td>
<td>All</td>
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<tr>
<td>3.00pm</td>
<td>discussion points on scale-up &amp; context</td>
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<tr>
<td>2.00pm –</td>
<td>2.00pm – 2.20pm mHealth</td>
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<td>2.20pm –</td>
<td>2.20pm – 2.40pm Beh. Change</td>
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<tr>
<td>2.40pm –</td>
<td>2.40pm – 3.00pm Systems Change</td>
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<tr>
<td>3.00pm – 3.15pm</td>
<td>Coffee Break and Transition to Breakout Rooms</td>
<td>All</td>
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<tr>
<td>3.15pm – 5.15pm</td>
<td><strong>Grand Central</strong>&lt;br&gt;mHealth&lt;br&gt;Single slide from each team; begin discussion</td>
<td><strong>St James</strong>&lt;br&gt;Beh. Change&lt;br&gt;Single slide from each team; begin discussion</td>
<td><strong>Martin Place</strong>&lt;br&gt;Systems Change&lt;br&gt;Single slide from each team; begin discussion</td>
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<tr>
<td>5.15pm-5.30pm</td>
<td>Daily wrap-up</td>
<td>Grand Central</td>
<td></td>
</tr>
<tr>
<td>5.30pm onwards</td>
<td><strong>Working group meetings</strong>&lt;br&gt;&lt;i&gt;Evening to be kept free for teams and working groups to meet.&lt;/i&gt;</td>
<td>Working Group Members</td>
<td></td>
</tr>
</tbody>
</table>
### Friday 21 October

<table>
<thead>
<tr>
<th>Time/Venue</th>
<th>Topic</th>
<th>Attendees</th>
</tr>
</thead>
</table>
| 9.00am – 9.40am | **Context & Scale-up**  
*Prof Alex Brown, Professor of Population Health & Research Chair Aboriginal Health - University of South Australia* | All |
| 9.40am – 10.20am | **mHealth Spotlight**  
*Overview and key points from stream leaders, then open for discussion*  
*Stream Leader 1 – Puhong Zhang, The George Institute for Global Health – China, China*  
*Stream Leader 2 – Kirsten Bobrow, University of Cape Town, South Africa* | All |
| 10.20am – 11.00am | **Behaviour Change Spotlight**  
*Overview and key points from stream leaders, then open for discussion*  
*Stream Leader 1 – Greet Cardon, Ghent University, Belgium*  
*Stream Leader 2 – Kamran Siddiqi, York University, UK* | All |
| 11.00am – 11.20am | **Coffee Break** | |
| 11.20am – 12.00pm | **Systems Change Spotlight**  
*Overview and key points from stream leaders, then open for discussion*  
*Stream Leader 1 – Lisa Dolovich, McMaster University, Canada*  
*Stream Leader 2 – Renae Kirkham, Menzies School of Health Research, Australia* | All |
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Participants</th>
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<tbody>
<tr>
<td>12.00pm – 1.15pm</td>
<td>Panel Discussion (Context &amp; Scale-up)</td>
<td>Grand Central</td>
<td>All</td>
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<tr>
<td></td>
<td>Prof Alex Brown, Population Health &amp; Research Chair</td>
<td></td>
<td>Aboriginal Health - University of South Australia</td>
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<td></td>
<td>Elsa Cornejo Vucovich, El Colegio de Sonora, Mexico</td>
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<td></td>
<td>Anushka Patel, The George Institute for Global Health, Australia</td>
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<td></td>
<td><strong>Q&amp;A</strong></td>
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<tr>
<td>1.15pm – 2.30pm</td>
<td>Lunch</td>
<td>All</td>
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<tr>
<td>2.15pm – 4.30pm</td>
<td>Future of Joint Activities Discussion</td>
<td>Grand Central</td>
<td>All</td>
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<tr>
<td></td>
<td><em>Time reserved to discuss future joint activities. Topics to consider:</em></td>
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<tr>
<td></td>
<td>• Data sharing between teams</td>
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<td></td>
<td>• Future involvement of GACD alumni</td>
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<td></td>
<td>• New working groups</td>
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<tr>
<td>4.30pm – 5.00pm</td>
<td>Closing remarks</td>
<td>All</td>
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<td></td>
<td><em>Poster prizes awarded</em></td>
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<tr>
<td>7.00pm onwards</td>
<td>Gala dinner</td>
<td>All</td>
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<td></td>
<td><strong>Saturday 22 October</strong></td>
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<tr>
<td>8.45am – 4.00pm</td>
<td>Tourist visit</td>
<td>Registered visitors</td>
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<tr>
<td></td>
<td><em>Ferry from Darling Harbour to Manly Beach</em></td>
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</tbody>
</table>
Stream Assignments

**mHealth**

DM05  Effects of information technology-based tools on long-term self-management of diabetic and non-diabetic patients with coronary heart disease

DM06  iHEALTH-T2D - Family-based intervention to improve healthy lifestyle and prevent Type 2 Diabetes amongst South Asians with central obesity and prediabetes

DM09  Evaluation of a pilot project to prevent diabetes in the workplace using information technology [Evaluacion de un programa piloto de prevencion de diabetes usando tecnologias de la informacion en una poblacion basada en el sitio de trabajo]

DM10  Development of an interactive social network for metabolic control of patients with diabetes [Desarrollo de una red social interactiva para el control metabolico de los pacientes con diabetes]

DM11  Development and validation of software to provide medical treatment and patient empowerment to type 2 diabetics, through interaction with medical staff and real-time recording [Desarrollo y validacion de un software ligado a un portal de internet que facilite el tratamiento medico y el empoderamiento del paciente con diabetes tipo 2, la interaccion con el personal medico y la generacion de un registro en tiempo real]

DM12  Mobile phone text-messaging to support treatment for people with type 2 diabetes in sub-Saharan Africa: a pragmatic individually randomised trial

DM13  The Bangladesh D-Magic Trial. Diabetes Mellitus: Action Through Groups or Information for Better Control?

DM14  Implementation of foot thermometry and SMS to prevent diabetic foot ulcer

HT03  DREAM-GLOBAL: Diagnosing hypeRtension - Engaging Action and Management in Getting LOwer Bp in Aboriginal and LMIC

HT07  A smartphone-based clinical decision support system for primary health

**Behaviour Change**

DM08  Feel4Diabetes - Developing and implementing a community-based intervention to create a more supportive social and physical environment for lifestyle changes to prevent diabetes in vulnerable families across Europe

DM16  A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus

DM17  Tools and Practices to Reduce CVD and Complications in Diabetics in Mexico

HT04  A school-based education program to reduce salt intake in children and their families

HT06  Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment

HT08  Randomised control trial of early use of a simplified treatment regimen incorporating a half-dose, three-in-one blood pressure lowering pill vs. usual care for improving hypertension control in Sri Lanka

HT09  Developing the evidence base for a national salt reduction program for India

HT10  Cost effectiveness of salt reduction interventions in Pacific Islands
HT11  Launching a salt substitute to reduce blood pressure at the population level in Peru
HT13  Optimizing linkage and retention to hypertension care in rural Kenya
HT14  Comprehensive approach to hypertension control in Argentina
LD02  TB and Tobacco: Tobacco cessation within TB programmes: A ‘real world’ solution for countries with dual burden of disease
LD13  Muslim Communities Learning about Second-hand Smoke (MCLASS II): An effectiveness-implementation hybrid study

**Systems Change**

DM01  Improving the management of Diabetes in Pregnancy in Remote Australia
DM02  Systematic Medical Assessment, Referral and Treatment for Diabetes care in China using Lay Family Health Promoters - SMART Diabetes
DM03  IINDIAGO (Integrated Intervention for Diabetes risk after Gestational diabetes): An integrated health system intervention aimed at reducing type 2 diabetes risk in disadvantaged women after gestational diabetes in South Africa
DM04  Community Health Assessment Program in the Philippines (CHAPP)
DM07  SMART2D - A people-centred approach through Self-Management and Reciprocal learning for the prevention and management of Type-2-Diabetes
DM15  Bridging Income Generation with Group Integrated Care (BIGPIC)
HT01  Utilizing HIV/AIDS infrastructure as a gateway to chronic care of hypertension in Africa
HT02  Developing an innovative strategy for hypertension detection, treatment and control in two middle income countries, HOPE-4
HT05  Treating hypertension in rural South Africa: strengthening community-based outreach services for integrated chronic care
HT12  Task shifting and blood pressure control in Ghana - a cluster-randomized trial
HT15  Tailored Hospital-based Risk Reduction to Impede Vascular Events after Stroke (THRIVES)
LD08  Household Air Pollution and Health: A Multi-Country Liquefied Petroleum Gas (LPG) Cook stove Intervention Trial
LD12  Case Finding and Effectiveness of a COPD Action Plan in Low and Middle Income Countries
Meeting Information

Meeting Information and Agenda
The GACD Research Network’s fifth Annual Scientific Meeting (ASM) will be held 17 -21 October 2016 in Sydney, Australia. Sydney is the state capital of New South Wales and the most populous city in Australia. Home to the world’s largest natural harbour, the Sydney area has been inhabited by indigenous Australians for over 10 000 years.

Meeting Hotel and Venue
This year’s meeting will be held at the Mercure Sydney hotel:
818-820 George St,
Ultimo NSW 2007
Australia

Phone: +61 2 9217 6666

Travel
Delegates are asked to make and manage their own transfer bookings.

Travel from Sydney Airport (Kingsford Smith)
Sydney trains depart from both International Airport and Domestic Airport stations. Alight at Central Station and walk across George St onto Railway Square. Prices are approximately $16.80 one way, and the total journey time to the Mercure will be approximately 30 minutes.
Mercure Sydney is only 5 minutes’ walk from Central Station, located directly across the road. The best exit to take when leaving Central train station is Exit 7 for Railway Square, UTS and George Street exit. A taxi will cost approximately $35 from the International Terminal, $25 from the Domestic Terminal (dependent on traffic).

Weather
Spring weather in Sydney is cool but usually very pleasant and sunny. Spring is normally Sydney’s driest season, the 2000 Olympic Games were held mid-September for this reason. Spring commences September 1st and extends through to November 30th. Temperatures during the month of October typically range between 14 - 22°C.

Swimming and Water Temperature
The Australian east coast is influenced by the East Australian Current which brings warm water down the coast from the Coral Sea. Its effects vary from year to year but are strongest in summer and weakest in winter. Spring water temperatures in Sydney are generally around 19°C.
Registration

Registration and collection of meeting materials will take place outside the meeting rooms at the following times:

- **Implementation Science Workshop**
  - Monday 17 October, 8am – 8.45am
- **Annual Scientific Meeting**
  - Wednesday 19 October, 11am – 1pm

Internet access

Internet access is available in the meeting rooms for all attendees. For those staying at the meeting venue, internet access is also available in the hotel rooms.

Meals

For those staying at the meeting venue, breakfast is included in the room rate. Lunch will be served each day at the meeting venue, and coffee and refreshments will be available during the meeting. The meeting venue has a couple of dining options, and there are a number in the local area. Please note that evening meals beyond those detailed below are the responsibility of the attendees.

**Monday 17 October, 6pm**

From 6pm onwards on Monday, Implementation Science Workshop participants are invited to a light buffet and drinks reception in the foyer of the Mercure Sydney. This will be a great opportunity to catch up with colleagues and meet new meeting attendees.

**Wednesday 19 October, 5.40pm**

From 5.40pm onwards on Wednesday, all meeting attendees are invited to a light buffet and drinks reception in the foyer and on the terrace of the Mercure Sydney.

**Friday 21 October, 7pm**

You are invited to a formal dinner co-hosted by NHMRC and GACD to mark the closing of the meeting.

Tourist visit: Sydney Harbour to Manly Beach

On Saturday 22 October, a group will be meeting in the hotel lobby at 8.30am to travel to Manly Beach via ferry. Guests will be expected to cover their own costs, which will include the ferry ride (approx. $8AUD each way) and lunch at Manly Beach. The idea is to travel together as a group, but folks are welcome to go their own way once we reach Manly. All are welcome, including friends and family, and folks are free to make their way back to the hotel at their leisure.
Maps

Meeting hotel local area

Meeting hotel location map
Local sights, shopping and eating

Sydney Harbour and Darling Harbour
Sydney Harbour is located 3km from the hotel. There are a few ways to reach one of the world’s favourite tourist attractions, either 10 minutes by train, 15 minutes by taxi, 20 minutes by bus or 45 minutes’ walk.

Darling Harbour is located 1.5km from Mercure Sydney. Enjoy a 15 minute walk to Sydney’s favourite destination for leisure and entertainment.

Shopping
There are a number of 24 hour convenience stores in the immediate vicinity of the hotel. Broadway Shopping Centre is the closest major shopping centre located only 10 minutes’ walk from the hotel. Broadway contains mixed retail, supermarkets, department stores, and food outlets. Paddy’s Market and Market City are also within close walking distance, containing one of Sydney’s most popular market spaces, open from Thursday to Sunday.

The nearest supermarket to the hotel is Woolworths at Central Park and is a 2 minute walk from the hotel; Central Park is located on Broadway road.

Pitt St. Mall is the place to go to for your major department stores, it’s just a 5 minute train ride to St James, and all shops are open until 5:30pm (except Thursdays when shops close at 9pm).

Restaurants
The closest restaurant precinct is Kensington Street, providing you a variety of food cuisine, only a minute’s walk from the hotel (located off Broadway Road).
There are many areas to dine in and around Sydney, depending on what you are looking for. In Sydney, you will find a wide variety of restaurants when you visit places such as Darling Harbour, Chinatown/Haymarket, Surry Hills, King Street in Newtown or The Rocks.

## GACD Annual Research Network Poster Competition

<table>
<thead>
<tr>
<th>Number</th>
<th>Poster title</th>
<th>Author (Proxy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The impact of dietary and lifestyle factors on the risk of CVD among Indian adults</td>
<td>Deksha Kapoor</td>
</tr>
<tr>
<td>2</td>
<td>Evaluation of Existing DM Type 2 Risk Screening in Zamboanga City Philippines.</td>
<td>Monserrat M. Guingona (Dave Arnuco)</td>
</tr>
<tr>
<td>3</td>
<td>The Practices of Rural Physicians in the Diagnosis and Management of Diabetes Mellitus Type 2 in Zamboanga Sibugay Province, Philippines</td>
<td>Raizel Ann Tose Esteron (Dave Arnuco)</td>
</tr>
<tr>
<td>4</td>
<td>Northern Territory Diabetes in Pregnancy Clinical Register: Establishing a tool to improve service delivery and quality of care</td>
<td>Renae Kirkham</td>
</tr>
<tr>
<td>5</td>
<td>A Comparative Study on Text Messaging versus Pamphlets on Diabetes Towards Self Care Behavior of Diabetics in Zamboanga City, Philippines</td>
<td>Christian Viray Yecyecan (Dave Arnuco)</td>
</tr>
<tr>
<td>6</td>
<td>The chronic disease context for the Meta Salud Diabetes clinical trial: An epidemiological profile of Sonora, Mexico</td>
<td>Celina I. Valencia (Elsa Cornejo)</td>
</tr>
<tr>
<td>7</td>
<td>The theoretical and pedagogical foundation for Meta Salud Diabetes, an evidence-based, secondary-prevention program for diabetes self-help groups in Mexico</td>
<td>Elsa Cornejo</td>
</tr>
<tr>
<td>8</td>
<td>Methods for handling missing covariate data: A case study of the effect of hypertension on mortality among HIV-infected persons in Kenya</td>
<td>Evon Okidi</td>
</tr>
<tr>
<td>9</td>
<td>Cardiovascular risk factors among hypertensive individuals in western Kenya</td>
<td>Josephine Kisato</td>
</tr>
<tr>
<td>10</td>
<td>Meta Salud Diabetes : Protocol for a Cluster Randomized Trial to Reduce Cardiovascular Risk in a Mexican Diabetic Population</td>
<td>Samantha Sabo</td>
</tr>
<tr>
<td>11</td>
<td>Development and evaluation of a diabetes risk assessment tool for diabetes type 2 in the Philippines</td>
<td>Ricardo Angeles (Dave Arnuco)</td>
</tr>
<tr>
<td>12</td>
<td>A formative approach to developing and pre-testing a set of SMS text-messages for diabetes adherence support in Sub-Saharan Africa (StAR2D).</td>
<td>Natalie Leon (Kirsten Bobrow)</td>
</tr>
<tr>
<td>13</td>
<td>The comparative study on text messaging vs. pamphlets on diabetes towards self-care behaviour of diabetics in Zamboanga City</td>
<td>Fortunato Cristobal</td>
</tr>
<tr>
<td>14</td>
<td>The practices of rural physicians in the diagnosis and management of diabetes mellitus type 2</td>
<td>Raizel Ann Esteron (Fortunato Cristobal)</td>
</tr>
<tr>
<td>15</td>
<td>Development and evaluation of a diabetes risk assessment tool for diabetes type 2 in Zamboanga City, Philippines</td>
<td>Monserrat M. Guingona (Fortunato Cristobal)</td>
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</tbody>
</table>
List of Participants

**Guest Speakers**

<table>
<thead>
<tr>
<th>Guest Speaker</th>
<th>Institution</th>
<th>Email</th>
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<tbody>
<tr>
<td>Alex Brown</td>
<td>South Australian Health &amp; Medical Research Institute, Australia</td>
<td><a href="mailto:alex.brown@sahmri.com">alex.brown@sahmri.com</a></td>
</tr>
<tr>
<td>Sandra Eades</td>
<td>Baker IDI Heart &amp; Diabetes Institute, Australia</td>
<td><a href="mailto:Sandra.Eades@bakeridi.edu.au">Sandra.Eades@bakeridi.edu.au</a></td>
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**Alex Brown**

Prof Alex Brown is an Aboriginal medical doctor and researcher. Alex has established an extensive and unique research program focused on chronic disease in vulnerable communities, with a particular focus on outlining and overcoming health disparities. He leads projects encompassing epidemiology, psychosocial determinants of chronic disease, mixed methods health services research in Aboriginal primary care and hospital settings, and randomised controlled trials of pharmacological and non-pharmacological chronic disease interventions.

Alex has been involved in policy since he commenced as a doctor. He has been heavily involved in engaging government and lead agencies in setting the agenda in Aboriginal cardiovascular disease management and control and chronic disease policy more broadly. He sits on a range of national committees, including the Heart Foundation, chairs the Cardiac Society Indigenous Cardiovascular Council and was a member of the National Aboriginal and Torres Strait Islander Health Equality Council (2009-2012). In July 2012, Alex joined SAHMRI to lead Aboriginal health research.

**Sandra Eades**

Prof Sandra Eades is Domain Head of Aboriginal Health at Baker IDI Heart and Diabetes Institute. Sandra’s research career has focussed on the epidemiology of Indigenous child health in Australia. She is currently leading a randomised controlled trial to test the effectiveness of a systems based collaborative to improve treatment for type 2 diabetes in 18 Aboriginal Community Controlled Primary Health Care Services in Western Australia, the Northern Territory, South Australia and Victoria. Sandra is strongly committed to capacity building. She has previously led a NHMRC Population Health Capacity Building grant that funded a research training program for five Indigenous researchers and six non-Indigenous researchers involved in programs related to Indigenous health. She continues to supervise and mentor Aboriginal and non-Aboriginal researchers making a contribution to this field.
Louisa Jorm

University of New South Wales
Australia
l.jorm@unsw.edu.au

Prof Louisa Jorm is Director of the Centre for Big Data Research in Health at UNSW. She is an Australian and international leader in research using large-scale linked health data, including hospital inpatient, mortality, Medicare and cohort study data. She brings a unique combination of senior leadership experience both within and outside government and high-level technical expertise in epidemiologic methods, data linkage, biostatistics, use of large administrative data sets, methods for analysis of longitudinal and cohort study data and facilitating the policy and practice uptake of research. In the last 5 years she has published more than 60 scientific papers and been awarded almost $10M in research funding. She has played a key role in building infrastructure and capacity for health data linkage in Australia and is a high profile advocate for more and better use of routinely collected health data.

Louisa represents the NHMRC on the international Public Health Research Data Forum convened by the Wellcome Trust and chairs the NHMRC’s Data Reference Group.

Fiona Stanley

University of Western Australia
Australia
fiona.stanley@uwa.edu.au

Prof Fiona Stanley completed a medical degree at the University of Western Australia in 1970. Her early clinical experience convinced her of the need for better outcomes in child and maternal health. After studying epidemiology in Britain and the United States, she returned to Perth and forged a highly successful research career. She was the founding director of the Telethon Institute for Child Health Research, which helped show that folic acid before and during pregnancy can prevent spina bifida in babies. The multidisciplinary institute also became a leader in Aboriginal health research. In 2002 Fiona Stanley was a driving force behind the formation of the Australian Research Alliance for Children and Youth, which had signed up over 340 member organisations by 2009.

As Australian of the Year, Professor Stanley toured the country stressing the great value of scientific research in improving the lives of children and Aboriginal people.
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Email</th>
<th>Project Description</th>
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</table>
| Floro Dave Arnuco         | Ateneo de Zamboanga University            | davearnuco_14@yahoo.com   | **DM04: Community Health Assessment Program in the Philippines (CHAPP).**

Dave Arnuco’s research interests involves finding cost effective interventions to health problems in rural communities. He has conducted community health plans and research on rural communities in the Philippines. |
| Antonio Bernabé Ortiz     | Universidad Peruana Cayetano Heredia      | antonio.bernabe@upch.pe   | **HT11: Launching a salt substitute to reduce blood pressure at the population level in Peru.**

Antonio Bernabé Ortiz is a Research Associate with CRONICAS Center of Excellence in Chronic Diseases and the Epidemiology Unit of Cayetano Heredia University (UPCH). He graduated in Medicine from Cayetano Heredia University (UPCH) and holds a Master’s degree in Control of Infectious Disease (UPCH) and Public Health (University of Washington). |
| Kirsten Bobrow            | University of Cape Town                   | klobrow@gmail.com         | **DM12: Mobile phone text-messaging to support treatment for people with type 2 diabetes in sub-Saharan Africa: a pragmatic individually randomised trial.**

Kirsten is a post-doctoral researcher with the Chronic Diseases Initiative for Africa, and is currently completing her registrar training in public health at the University of Cape Town. Kirsten completed her undergraduate medical training at the University of Cape Town and her PHD in epidemiology in the Cancer Epidemiology Unit at the University of Oxford. Her current research is focused on using mobile-phone based technology to improve the management and outcomes in people with chronic diseases in low resource settings. Kirsten is currently working in the Western Cape Department of Health. |
Greet Cardon
Ghent University
Belgium
greet.cardon@ugent.be
Project
DM08: Feel4Diabetes - Developing and implementing a community-based intervention to create a more supportive social and physical environment for lifestyle changes to prevent diabetes in vulnerable families across Europe.

Greet Cardon is a full professor at the Department of Movement and Sports Sciences of Ghent University, Belgium. She leads the research group “Physical activity and Health”, mainly focusing on understanding the determinants of physical activity and sedentary behaviour, and identifying the most effective ways to promote more physical activity and less sitting in different age groups.

William Checkley
Johns Hopkins University
USA
wcheck11@jhmi.edu
Project
LD12: Case Finding and Effectiveness of a COPD Plan in Low and Middle Income Countries.

William Checkley is Associate Professor of Medicine, International Health, and Biostatistics in the Division of Pulmonary and Critical Care, School of Medicine at Johns Hopkins University. Dr. Checkley’s research has focused on the conduct of longitudinal cohort and population-based studies of obstructive lung diseases and Critical Care Epidemiology and in low- and middle-income countries. He is also Associate Director of the Global Health Fogarty Fellowship at Johns Hopkins University, and Director of the “Chronic Disease in Low- and Middle-Income Countries” Summer Institute Course at the Johns Hopkins Bloomberg School of Public Health.
Clara Chow
The George Institute for Global Health
Australia
cchow@georgeinstitute.org.au

Project
HT06: Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment.

Clara is Director of the Cardiovascular Division of The George Institute, Program Director Community Based Cardiac Services, Westmead Hospital and Professor with the Faculty of Medicine University of Sydney. She has a PhD in Medicine from the University of Sydney and completed a postdoc in cardiovascular epidemiology and clinical trials at McMaster University, Canada. Clara holds a Career Development Fellowship of the NHMRC co-funded by the National Heart Foundation. Her research focus is clinical and community approaches to cardiovascular disease prevention.

Elsa Cornejo Vucovich
El Colegio de Sonora
Mexico
elsa.cornejo@gmail.com


Elsa Cornejo is a research associate at El Colegio de Sonora, where she has collaborated on research-action projects on issues such as chronic disease prevention, community health promotion, sexual and reproductive health, and gender and health. In addition to her research, she is an activist and community promoter on health and human rights issues.

Fortunato Cristobal
Ateneo de Zamboanga University
Philippines
cristobalforl@adzu.edu.ph

Project
DM04: Community Health Assessment Program in the Philippines (CHAPP).

Fortunato's research interests include Public Health, Gastroenterology, Medical Education, Pediatric and Nutrition. He is currently working on the Community Health Assessment Program in the Philippines.
Meena Daivadanam  
Karolinska Institutet, Uppsala University  
Sweden  
meena.daivadanam@ki.se  
Project  
DM07: SMART2D - A people-centred approach through Self-Management and Reciprocal learning for the prevention and management of Type-2 Diabetes.

Meena is a medical doctor with experience in NCD surveillance and intervention research for more than ten years. Her research interests centre on behaviour change interventions in relation to NCDS from a community and health systems perspective.

Stella de Sabata  
International Diabetes Federation European Region  
Belgium  
stella.desabata@idf-europe.org  
Project  
DM08: Feel4Diabetes - Developing and implementing a community-based intervention to create a more supportive social and physical environment for lifestyle changes to prevent diabetes in vulnerable families across Europe.

Stella heads the European Region of the International Diabetes Federation. She has been involved in non-communicable disease prevention and control (cancer and diabetes) at the international level for over 15 years with both the NGO and UN, focusing on project implementation, capacity building, knowledge sharing and advocacy for policy change. She is especially interested in lessons learned and replication of successful methodologies and is a strong believer in cross-fertilization. Stella holds two Master degrees in the humanities from the University of Geneva and has a keen interest in epidemiology.

Catalina Denman Champion  
El Colegio de Sonora; University of Arizona  
Mexico, USA  
cdenman@colson.edu.mx  
Project  
DM17: Tools and Practices to Reduce CVD and Complications in Diabetics in Mexico.

Catalina is a Research Professor at El Colegio de Sonora and holds a PhD in Anthropology. She is currently Co-PI for Mexico of the NHLBI-funded, collaborative project with the University of Arizona to counter CVD in the diabetic population of Mexico working with community health workers. She has numerous publications on public health in border and urban areas in Northern Mexico, including reproductive health, NCD prevention, and health promotion from the salutogenic perspective.
Francisco Diez-Canseco
Universidad Peruana Cayetano Heredia
Peru
fdiezcanseco@upch.pe
Project
HT11: Launching a salt substitute to reduce blood pressure at the population level in Peru.

Francisco is a psychologist with Public Health training and Associate Investigator at CRONICAS Center of Excellence in Chronic Diseases at Universidad Peruana Cayetano Heredia (UPCH), in Lima, Peru. He has a 15-year experience leading complex interventions and in-depth qualitative studies in low-income settings. His research experience includes projects in NCDs, mental health, mHealth and human resources in health.

Lisa Dolovich
McMaster University
Canada
ldolovic@mcmaster.ca
Project
DM04: Community Health Assessment Program in the Philippines (CHAPP).

Lisa is a Professor in the Department of Family Medicine at McMaster University. Her main research interests are in medication management, community based primary healthcare interventions, pragmatic trials, ehealth, population health, quality improvement, pharmacist practice, epidemiology and biostatistics, and health services and policy research.

Clare Farrand
The George Institute for Global Health
Australia
cfarrand@georgeinstitute.org.au
Project
HT10: Cost effectiveness of salt reduction interventions in Pacific Islands.

Clare is a Public Health Nutritionist and the Senior Project Manager for Salt Reduction at the World Health Organisation Collaborating Centre on Population Salt Reduction supporting countries to develop and implement salt reduction strategies to achieve the global target to reduce salt by 30% by 2025.
Deksha Kapoor
All India Institute of Medical Sciences
India
deksha.kapoor@gmail.com
Project
DM16: A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus.

Over last 6 years, Deksha has held various roles at Centre for Chronic Disease Control and All India Institute of Medical Sciences (AIIMS), India. She currently works as Research Scientist at the Department of Endocrinology, AIIMS. Deksha’s research interests include: lifestyle interventions and NCDs, interactions between diet and etiology of these diseases and technologies for improving dietary intake measurement.

Francisco Gonzalez Salazar
Universidad de Monterrey
Mexico
fgonz75@hotmail.com
Project
DM10: Development of an interactive social network for metabolic control of patients with diabetes [Desarrollo de una red social interactiva para el control metabolico de los pacientes con diabetes].

Francisco Gonzalez is a professor and researcher IMSS-UDEM Mexico. His career is Pediatrician and a Master degree in Microbiology, additionally PhD in Microbiology. His main research experience is obesity and diabetes and tuberculosis. He has 15 years of experience as researcher and has 40 indexed publications, 6 book chapters, 3 books, 31 master students and two PhD graduated students.
Omarys Herasme-Parker  
Icahn School of Medicine at Mount Sinai  
United States  
Omarys.Herasme@mssm.edu  
Project  
HT13: Optimizing linkage and retention to hypertension care in rural Kenya  
DM15: Bridging Income Generation with Group Integrated Care (BIGPIC)

Omarys Herasme-Parker holds a Masters in Public Health with a focus on Epidemiology from New York Medical College in Valhalla, NY USA. Her work to-date has been focused on clinical drug and device studies - Phase I thru Phase IV trials- and implementation research in the fields of oncology, reproductive health, brain trauma, and global cardiovascular disease. Currently, she serves as the Program Manager for the Global Cardiovascular Research Program at Icahn School of Medicine at Mount Sinai in New York City, USA.

Sergio Hernandez-Jimenez  
Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran  
Mexico  
sergiohdzj@hotmail.com  
Project  
DM11: Development and validation of software to provide medical treatment and patient empowerment to type 2 diabetics, through interaction with medical staff and real-time recording [Desarrollo y validación de un software ligado a un portal de internet que facilite el tratamiento médico y el empoderamiento del paciente con diabetes tipo 2, la interacción con el personal médico y la generación de un registro en tiempo real].

Sergio holds a Medical Degree from the National Autonomous University of Mexico (UNAM), and was trained as Internist, Endocrinologist and Diabetes Specialist. Is currently coordinator of the Center for Comprehensive Care of Patients with Diabetes at the National Institute of Medical Sciences and Nutrition Salvador Zubirán, Mexico City.
Maia Ingram
University of Arizona, El Colegio de Sonora
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Project
DM17: Tools and Practices to Reduce CVD and Complications in Diabetics in Mexico.

Maia is Co-Director Arizona Prevention Research Center, University of Arizona and has been working on the US-Mexico Border for over 20 years in participatory action research projects with community health workers and their organizations. Their collaborations focus on health promotion, chronic disease prevention and control, hearing loss and mental health. Her research focus includes the impact of policy, systems and environmental change on health outcomes.

Vilma Irazola
Instituto de Efectividad Clinica y Sanitaria
Argentina
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Project
HT14: Comprehensive approach to hypertension control in Argentina.

Vilma is Co-Director of the South American Center of Excellence for Cardiovascular Health (CESCAS) at IECS, and Coordinator of Academic Affairs for the Master’s in Clinical Effectiveness at the University of Buenos Aires. Vilma is involved in several projects concerning NCD research in the region. Her areas of teaching and research are implementation studies, biostatistics, and survey development, cross-cultural adaptation and validation.

Hannah Jennings
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Project

Hannah has a background in health and medical anthropology. She has worked in both academic institutions and with local and international NGOs. Her research interests include international development, community-based health interventions, alternative and traditional health care systems and non-communicable diseases in low-income countries.
Claire Johnson  
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India  
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Project
HT09: Developing the evidence base for a national salt reduction program for India

Claire is a Research Associate in the Food Policy division at the George Institute, Australia and co-manages the NHMRC-GACD project ‘Developing the evidence for a national salt reduction program for India’. Claire’s primary research interests include nutritional epidemiology with a focus on the prevention of NCDs in low and middle income countries. She has a Masters degree in International Public Health from the University of Sydney and is in her final year of a PhD based on the salt reduction work being undertaken in India.

Rohina Joshi  
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Project
DM16: A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus
HT06: Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment
HT07: A smartphone-based clinical decision support system for primary health

Rohina is a public health researcher interested in the prevention and control of chronic diseases with a special focus on LMICs. Her research interests are in task-shifting for chronic disease management and readiness of health systems for chronic disease management and health information systems, focusing on causes of death.
Andre Kengne

South African Medical Research Council
South Africa
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Project
HT01: Utilizing HIV/AIDS infrastructure as a gateway to chronic care of hypertension in Africa

Andre is currently the Director of South African MRC’s Non-Communicable Diseases Research Unit, and holds conjoint appointments at the Faculty of Health sciences of the University of Cape Town, and the Department of Medicine of the Groote Schuur Hospital, Cape Town.

Renae Kirkham

Menzies School of Health Research
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Project
DM01: Improving the management of Diabetes in Pregnancy in Remote Australia.

Renae is a qualitative researcher with experience working in Aboriginal health – with particular interest in Aboriginal maternal and infant care. She has been employed by Menzies School of Health Research for the past three years - working in an Aboriginal parenting project and more recently with Diabetes in Pregnancy evaluating models of care across the Northern Territory, Australia.

Josephine Kisato

Academic Model Providing Access To Healthcare (AMPATH)
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Project
HT13: Optimizing linkage and retention to hypertension care in rural Kenya

Josephine has a background in environmental health as well as project management and planning. She has been involved with the LARK study among others as a program coordinator. She has been involved in hypertension management and is instrumental in mobilizing community health workers to get involved in linking and retaining patients into care.
Maria Lazo Porras
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Project
DM14: Implementation of foot thermometry and SMS to prevent diabetic foot ulcer
HT11: Launching a salt substitute to reduce blood pressure at the population level in Peru

Maria is a physician from Peru and candidate for a master degree in Epidemiology from Universidad Peruana Cayetano Heredia. She is a study coordinator from CRONICAS Center of Center of Excellence for Chronic Diseases and her research focus is in diabetes, with special emphasis in interventions to prevent foot complications.

Felix Limbani
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Project
HT05: Treating hypertension in rural South Africa: strengthening community-based outreach services for integrated chronic care

Felix Limbani is a research fellow and PhD student with University of Witwatersrand. He has over ten years of managing public health and research programmes. He has worked for several health and development NGOs, leading both projects and internal research programmes. His research interest includes sexual and reproductive health, maternal health, knowledge translation and process evaluation of chronic care interventions.

Xinyan Ma
Shijiazhuang Center for Disease Control and Prevention
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Project
DM02: Systematic Medical Assessment, Referral and Treatment for Diabetes care in China using Lay Family Health Promoters - SMART Diabetes

Xinyan is interested in the management of chronic non-communicable diseases in both rural and urban settings in China. She has a background in public health and over ten years work experience as a municipal CDC official in Hebei, China.
Louise Maple-Brown
Menzies School of Health Research
Australia
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Project
DM01: Improving the management of Diabetes in Pregnancy in Remote Australia

Louise is Head of Department of Endocrinology, Royal Darwin Hospital and an NHMRC Practitioner Fellow with Menzies School of Health Research. Louise leads the clinical research program within the Wellbeing and Preventable Chronic Diseases division of Menzies, with a focus on diabetes and related conditions in Indigenous Australians. She is currently the lead investigator on several large NHMRC-funded projects, including The eGFR study (Accurate assessment and progression of kidney damage in Indigenous Australians) and the Northern Territory and Far North Queensland Diabetes in Pregnancy Partnership. Louise is currently on the Australian Diabetes Society Council and has been providing clinical diabetes services to urban and remote NT communities for over 14 years, including more recently via telehealth.

Tara McCready
Population Health Research Institute
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Project
HT02: Developing an innovative strategy for hypertension detection, treatment and control in two middle income countries, HOPE-4.

Tara is the Program Director for the Canadian Network and Centre for Trials Internationally (CANNeCTIN) at the Population Health Research Institute. CANNeCTIN is a national network funded by the CIHR/CFI Clinical Research Initiative program to improve the prevention and treatment of cardiac and vascular diseases and diabetes. Previously the Executive Director of the Canadian Maternal, Infant, Child and Youth Research Network, Tara holds both a PhD in Biochemistry and a MBA in Technology Commercialization from the University of Alberta.
Jaime Miranda
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Project
HT11: Launching a salt substitute to reduce blood pressure at the population level in Peru
DM14: Implementation of foot thermometry and SMS to prevent diabetic foot ulcer
LD12: Household Air Pollution and Health: A Multi-Country Liquefied Petroleum Gas (LPG) Cook stove Intervention Trial

Jaime is Research Professor at the Department of Medicine, School of Medicine and Director of CRONICAS Center of Excellence in Chronic Diseases, both at Universidad Peruana Cayetano Heredia (UPCH) in Lima, Peru. His works brings together epidemiological and health policy aspects of chronic non-communicable diseases in low- and middle-income countries with emphasis on obesity, hypertension, and diabetes. Jaime trained in medicine at UPCH and earned a PhD in epidemiology at the London School of Hygiene and Tropical Medicine (UK).

Shiva Mishra
Nepal Development Society
Nepal
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Project
Nepal Development Society, Bharatpur-10, Nepal, for the project on Community Based management of hypertension In Nepal (COBIN) funded by Aarhus University.

Shiva has worked for almost five years in chronic disease research in Nepal. His interests include Primary Care Programmes in NCDs and Medicine Policies. He is part of a community-based project on the management of hypertension (COBIN) currently running in western Nepal. He is the founding Chief Editor of The Health Prospect and Editor of BMC Public Health and serves as a commissioner at The Lancet Youth Commission in Essential Medicine Policies.
Kishor Mogulluru
The George Institute for Global Health
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Project
HT07: A smartphone-based clinical decision support system for primary health.

Kishor is a public health graduate, currently pursuing a PhD, and working as Research fellow in the GACD funded project SMARTHealth India CVD, at George Institute for global health, India.

Sailesh Mohan
Public Health Foundation of India
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Project
HT09: Developing the evidence base for a national salt reduction program for India.

Sailesh is currently a Senior Research Scientist and Associate Professor at the Public Health Foundation of India (PHFI). He has academically trained in medicine, public health and cardiovascular epidemiology. At PHFI, he is involved in chronic non-communicable disease (NCD) research, teaching and training. He is also an Honorary Associate Professor at Deakin University, Australia.

Joanna Morrison
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Project

Jo is a Senior Research Associate at the Institute for Global Health. She currently works with partners in Nepal, Thailand and Bangladesh to build research capacity and conduct research on health systems, diabetes, and community based participatory approaches to health. She specialises in qualitative and process evaluation research methods.
Lorrein Muhwava
University of Cape Town
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Project

Lorrein is a 2nd year PhD student in the Department of Medicine at the University of Cape Town (UCT). She holds a Master’s in Public Health (MPH) degree from UCT and a BSc (Hons) in Biological Sciences from University of KwaZulu-Natal. Her research interests include non-communicable diseases and maternal & women’s health.

Olugbenga Ogedegbe
New York University School of Medicine
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Project
HT12: Task shifting and blood pressure control in Ghana - a cluster-randomized trial.

Benga is a hypertension specialist, clinical epidemiologist and behavioral scientist with expertise in Health Disparities Research. The programmatic focus of his research is the development, dissemination and translation into clinical practice and community settings, evidence-based interventions to reduce racial disparities in hypertension-related outcomes in minority populations.

Bruce Ovbiagele
Medical University of South Carolina
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Project
HT15: Tailored Hospital-based Risk Reduction to Impede Vascular Events after Stroke (THRIVES).

Bruce is an active researcher, and his research portfolio has included funding from the NIH, American Heart Association, and industry. Over the course of his career, Dr. Ovbiagele has served as a mentor to numerous faculty members, residents and fellows. He has served as an oral board examiner and as a member of the Vascular Neurology Examination Writing Committee for the American Board of Psychiatry and Neurology.
Evon Okidi  
Academic Model Providing Access To Healthcare (AMPATH)  
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**Project**  
DM15: Bridging Income Generation with Group Integrated Care (BIGPIC).

Evon holds a ScM in Biostatistics from Brown University, USA, where she handled missing data methods in a hypertensive population. She has been working as a biostatistician at AMPATH for two years primarily involved with diabetes and hypertension studies.

Brian Oldenburg  
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Australia  
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**Project**  
HT06: Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment.

Brian Oldenburg is Professor of Noncommunicable Disease Prevention & Control and Director, Centre for Health Equity, University of Melbourne. His research and knowledge translation program addresses health policy, global health and real world implementation trials in Australia, Finland, China, Malaysia, India, Sri Lanka and South Africa. He is a Visitor Professor with Beijing CDC, JiaoTong University and also Finland.

Mayowa Owolabi  
University of Ibadan  
Nigeria  
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**Project**  
HT15: Tailored Hospital-based Risk Reduction to Impede Vascular Events after Stroke (THRIVES).

Mayowa Owolabi is the pioneering regional vice president of the World Federation for NeuroRehabilitation in East, West and Central Africa. He is the Principal Investigator of the Stroke Investigative Research and Educational Network project. He proposed the stroke quadrangle to tackle stroke epidemic.
Anushka Patel  
The George Institute for Global Health  
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Project  
DM02: Systematic Medical Assessment, Referral and Treatment for Diabetes care in China using Lay Family Health Promoters - SMART Diabetes.  
DM16: A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus.  
HT07: A smartphone-based clinical decision support system for primary health.  
HT08: Randomised control trial of early use of a simplified treatment regimen incorporating a half-dose, three-in-one blood pressure lowering pill vs. usual care for improving hypertension control in Sri Lanka.  

Anushka Patel is a cardiologist and Chief Scientist at The George Institute for Global Health. Her research focus is improving evidence-based primary care for chronic diseases and health system integration of potentially successful health service innovation. She works in partnership with many collaborators in Australia and globally.

David Peiris  
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Project  
DM02: Systematic Medical Assessment, Referral and Treatment for Diabetes care in China using Lay Family Health Promoters - SMART Diabetes.  
HT07: A smartphone-based clinical decision support system for primary health.  

Associate Professor David Peiris is a physician and health services researcher at the George Institute with an interest in strengthening primary health care systems for underserved populations.

Arti Pillay  
Pacific Research Centre for the Prevention of Obesity and Non-communicable Diseases  
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Arti is a Research Fellow (FNU), Nutrition and NCD related research. She is responsible for the coordination of the Fiji Sodium Intervention Assessment Project and has experience in national field survey management, interventions, food frequency questionnaires, focus groups, knowledge attitude & beliefs and stakeholder collaborative research.
Jacob Plange-Rhule

Kwame Nkrumah University of Science and Technology
Ghana

Project
HT12: Task shifting and blood pressure control in Ghana - a cluster-randomized trial.

Jacob Plange-Rhule is a Ghanaian scientist at the Kwame Nkrumah School of Medical Sciences and the Komfo Anokye Teaching Hospital, where he is an Associate Professor of Medicine, and Chair of the Department of Physiology and Physician Specialist and Physician-in-Charge of the Hypertension and Renal Clinic, respectively.

Devarsetty Praveen

The George Institute for Global Health - India
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Project
DM16: A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus.
HT07: A smartphone-based clinical decision support system for primary health.

Praveen is a medical doctor and an epidemiologist by training. He is involved in planning and implementing large scale population based research projects in India and Indonesia. His current focus is in the areas of prevention of chronic illnesses, and health services research/health policy with a specific focus on chronic diseases in vulnerable populations.

Joseph Ramos Santos

The George Institute for Global Health
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Project
HT10: Cost effectiveness of salt reduction interventions in Pacific Islands.

Joseph Santos is a research assistant for The George Institute for Global Health’s Food Policy Division. His main roles are to provide support with data analysis and to support the research and advocacy work of the World Health Organization Collaborating Centre on Population Salt Reduction. Joseph has an undergraduate in Nursing and is completing his Master’s Degree in Epidemiology.
Thankappan Raman
Sree Chitra Tirunal Institute for Medical Sciences & Technology, Trivandrum
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Project
HT06: Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment.

Thankappan currently works as professor and Head, Achutha Menon Centre for Health Science Studies of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum. His areas of research are non-communicable diseases and their risk factors.

Michaela Riddell
University of New South Wales
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Project
HT06: Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment.

Michaela Riddell is a multidisciplinary scientist with training in medical laboratory infectious diseases diagnostics and Public Health epidemiology and biostatistics. She has managed and implemented two large community based intervention trials and is now the Senior Clinical Trial Coordinator for the WANTAIM trial in Papua New Guinea. She is skilled in community recruitment for research projects, statistical evaluation and is experienced in laboratory and epidemiological capacity building in Pacific Island countries and Papua New Guinea.

Samantha Sabo
University of Arizona
USA
sabo@email.arizona.edu
Project
DM17: Tools and Practices to Reduce CVD and Complications in Diabetics in Mexico.

For over a decade, Samantha has examined the social and political context of chronic disease among immigrant and migrating communities, of the US-Mexico borderlands and indigenous peoples of the region – and the role and impact of Community Health Worker (CHW) advocacy on the social determinants of health of such populations.
Ilisapeci Samisoni  Pacific Research Center for The Prevention of Obesity And Ncd (C-Pond)  Fiji  
Ilisapeci.kubuabola@fnu.ac.fj  
Ilisapeci is the Director of C-POND and has most recently been working with child obesity surveillance and monitoring and mental health. She is also interested in injury and disability research and cancer in the pacific islands.

Jon-David Schwalm  Population Health Research Institute  Canada  
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Project: HT02: Developing an innovative strategy for hypertension detection, treatment and control in two middle income countries, HOPE-4.  

J-D Schwalm is an interventional cardiologist, a Principal Investigator for the Knowledge Translation program at the Population Health Research Institute and an assistant professor at Hamilton Health Sciences/McMaster University. Dr. Schwalm completed his medical degree and clinical training at McMaster University and is completing a Master of Science in Epidemiology at the University of Ottawa. His area of interest is knowledge translation and he is Principal Investigator of two ongoing cluster-randomized controlled trials. He has published 50 peer-reviewed scientific papers, abstracts and book chapters.

Kamran Siddiqi  University of York  United Kingdom  
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Project  
LD02: TB and Tobacco: Tobacco cessation within TB programmes: A ‘real world’ solution for countries with dual burden of disease.  

Kamran is trained in chest medicine and public health and has conducted research in the UK, Latin America and South Asia in the field of lung health. He conducts randomised controlled trials to evaluate tobacco control interventions and is particularly interested in integrating tobacco cessation in health systems in south-Asia.
Trishul Siddharthan
Johns Hopkins University
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Project
LD: Case Finding and Effectiveness of a COPD Plan in Low and Middle Income Countries.

Trishul Siddathan is a post-doctoral fellow at Johns Hopkins. His research interests include epidemiology and management of chronic respiratory disease in LMIC settings. Specifically his current work assesses the role of urbanization and chronic lung disease in Peru and Uganda, as well as implementation science pertaining to chronic disease management.

Amanda Thrift
Monash University
Australia
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Project
HT06: Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment.

Mandy (Amanda) is a Professor of Epidemiology (Monash University) and a National Health and Medical Research Council Senior Research Fellow. Her research is focussed on the prevention and management of vascular diseases, with particular interest in novel and affordable models of care in remote regions.

Kathy Trieu
The George Institute for Global Health
Australia
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Project
HT10: Cost effectiveness of salt reduction interventions in Pacific Islands.

Kathy Trieu is a PhD student and research associate in the Food Policy Division at The George Institute for Global Health. Her research includes evaluating real world salt reduction interventions for the prevention and control of hypertension and CVDs, in HIC and LMICs.
Deborah Tulienge holds a Bachelor of science in Nursing. Since 2008, she has been working in programmes aimed at availing diabetes and hypertension services to especially rural communities; focusing on prevention, early diagnosis and control of these diseases. Her research interests include population screening and linkage and retention to care.

Ezinne Uvere holds a post graduate degree in Public health (MPH) from University of Ibadan, Nigeria with research interests in NCDs, adolescent reproductive health, HIV/AIDS prevention, health system research. She’s been involved in programs funded by DFID/APIN in Nigeria and currently coordinates a CVD project funded by NIH in Nigeria.

Rajesh Vedanthan earned his medical degree in 2002 from the University of California, San Francisco, and his Master of Public Health degree in 2000 from the University of California, Berkeley. Currently, Dr. Vedanthan is an Assistant Professor in Medicine/Cardiology at the Mount Sinai Medical Center in New York. His area of interest is global cardiology, global health delivery, capacity-building, and the intersection of health and development.
Ruth Webster

The George Institute for Global Health
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Project
HT08: Randomised control trial of early use of a simplified treatment regimen incorporating a half-dose, three-in-one blood pressure lowering pill vs. usual care for improving hypertension control in Sri Lanka.

Ruth Webster is the Head of Research Programs in the Office of the Chief Scientist at The George Institute for Global Health with a particular interest in the development of novel strategies to bridge the evidence-practice gap in Cardiovascular Disease prevention. She is actively involved in trials of various types of polypill strategies, as well as improving use of technology in Australian general practice.

Jacqui Webster

The George Institute for Global Health
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Project
HT09: Developing the evidence base for a national salt reduction program for India.
HT10: Cost effectiveness of salt reduction interventions in Pacific Islands.

Jacqui Webster is Director of the World Health Organization Collaborating Centre on Population Salt Reduction Division at the George Institute with a remit to support countries to achieve the new global targets to reduce salt by 30% by 2025. Jacqui is also a conjoint Senior Lecturer at the University of Sydney. Her primary research interests are implementation and evaluation of salt reduction interventions, public health advocacy, stakeholder engagement and research translation. She was awarded her PhD from Sydney Medical School at University of Sydney in 2011 and has since authored several international reviews of salt reduction initiatives.

Xiaofang Yan

National Center for cardiovascular diseases
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Project
DM05: Effects of information technology-based tools on long-term self management of diabetic and non-diabetic patients with coronary heart disease.

Xiaofang Yan is the Senior Project Manager of China PEACE studies in Fuwai Hospital, China. She has been engaging in clinical studies management career since 2006, and has worked on several International clinical trials, such as HPS2-THRIVE, HPS3/TIMI55:REVEAL & ISCHEMIA.
Karen Yeates
Queen’s University
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Project
HT03: DREAM-GLOBAL: Diagnosing hyperTension - Engaging Action and Management in Getting LOWer Bp in Aboriginal and LMIC.

Karen Yeates is a graduate of Queen’s Medical School and received Internal Medicine training in Toronto. She then completed a fellowship in Nephrology at Queen’s combined with a Master in Public Health from Harvard University. She is a Staff Nephrologist and Assistant Professor in the Department of Medicine at Queen’s University and is co-founder and co-director of the School of Medicine Office of Global Health. She is an implementation science researcher that runs a research program in Tanzania in collaboration with the Office of Global health at Queen's University. Most of her projects are in prevention, detection and management of NCD's and have community-based mHealth components.

Puhong Zhang
The George Institute for Global Health, China
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Project
DM02: Systematic Medical Assessment, Referral and Treatment for Diabetes care in China using Lay Family Health Promoters - SMART Diabetes.

Puhong Zhang is an associate professor and received his doctoral degree from Fuwai Hospital, majoring in cardiovascular disease intervention and health economic evaluation. He previously worked at Beijing Center for Disease Control, Beijing Management Center for Community Health Service and China Center for Disease Control, focusing on NCD prevention and control. He joined The George Institute for Global Health, China in 2011. Now, as the Associate Director, he leads the Diabetes Research Program and China Center for mHealth Innovation.
Khalid Yusoff

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Project
HT02: Developing an innovative strategy for hypertension detection, treatment and control in two middle income countries, HOPE-4.

Khalid Yusoff is currently conducting a large epidemiological study with McMaster University and is involved in a number of major clinical trials such as HOPE-3, ODYSSEY and COMPASS. The HOPE-4 study provides an opportunity for us to test the hypotheses that combination therapies with realigned health checking system could empower control of Hypertension in Middle Income Countries such as Malaysia.

Jing Zhang

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Project
HT04: A school-based education program to reduce salt intake in children and their families.

Jing Zhang is a research fellow at the George Institute China. His research focuses on CVD prevention and control. He has been responsible for trials related to salt reduction among older adults in rural areas and primary school students, using electronic devices to help people improve their health.

Xin Zheng

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Project

Xin is a cardiologist and associate professor in cardiology in National Center for Cardiovascular Diseases, Fuwai Hospital in China. Her research interest is focused on prevention and treatment of ischemic heart disease, coronary heart disease in women, clinical trials and registry studies in cardiovascular disease.
Tianqi Zhu
The George Institute, China
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Project
DM02: Systematic Medical Assessment, Referral and Treatment for Diabetes care in China using Lay Family Health Promoters - SMART Diabetes.

Tianqi is interested in mobile health and diabetes from public health perspective. I have public health and pharmaceutical science background.

Funding Agency Representatives

Reiko Akizuki
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Reiko Akizuki is Director, Japan Agency for Medical Research and Development (AMED) London Office. She studied health policy and management and earned her Master of Science from the Harvard School of Public Health in 2010. She worked for the Ministry of Health, Labour and Welfare in Japan for more than 10 years, including cancer control, health insurance, industrial health. She joined the AMED in 2016 and moved to London to establish its London Office in August 2016.
Karim Berkouk is the deputy head of unit of the European Commission Non-communicable Diseases and the Challenge of Healthy Ageing Unit in the Health Directorate of the Research & Innovation DG. He develops and implements research policies on ageing, cancer, brain, cardiovascular, chronic diseases, diabetes and obesity. Previously, he was head of sector for the EC Marie Curie Actions. Prior to joining the EC, he held various research positions on prosthesis specific to patients, improvement of nuclear brain images and brain connectivity, respectively in Exeter (UK), the French National Institute of Health and Medical Research (FR) and Cambridge (UK). He graduated in fluid mechanics at the University of Paul Sabatier (FR) and holds a PhD in bio-fluid mechanics from the University of Warwick (UK), where he developed a new mathematical model for the understanding of the pathogenesis of Syringomyelia, a rare disease of the spinal cord.

Fernando Cendes is Full Professor of Neurology at the Department of Neurology, State University of Campinas (UNICAMP), Brazil, and serves as the Coordinator of the Epilepsy Surgery Program, Department of Neurology. He is board certified in Neurology, in Clinical Neurophysiology and in Diagnostic Neuroradiology. Dr. Cendes is a former EEG (1989) and Epilepsy Fellow (1991-1997) at the Montreal Neurological Institute, and received his PhD degree in Neuroscience at McGill University in 1996. He is past Chair of Diagnostic Methods Commission of the International League Against Epilepsy (ILAE) and member of the Editorial board of several journals including Neurology, Epilepsia, Epilepsy Research and Epilepsy and Behavior. He is also a member of the Brazilian Academy of Sciences (ABC) and member of the Health Sciences area panel at FAPESP.
Jennifer Gunning

Canadian Institutes of Health Research
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Jennifer Gunning is the Acting Manager, International Relations and Executive Support at the Canadian Institutes of Health Research (CIHR). In this role, she is responsible for managing CIHR’s strategic engagement in international health research partnerships and foreign relations. Jennifer has worked at CIHR for over 15 years, primarily in the capacity of Associate Director, HIV/AIDS Research Initiative. Jennifer holds a Masters in Kinesiology from the University of Waterloo.

Greg Hallen

International Development Research Centre
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Greg Hallen leads the Food, Environment and Health program at Canada’s International Development research Centre (IDRC). The goal of this program is to develop evidence, innovations, and policies to improve health, build healthier food systems, and prevent non-communicable and infectious diseases. Greg joined IDRC in 2009 to manage the former Research for International Tobacco Control program (RITC) and later, the Non-Communicable Disease Prevention program. Previously, Greg was the Chief Executive Officer of the National Heart Foundation in Australia’s Northern Territory. He also spent five years with the World Health Organization in Cambodia. Greg’s public health experience has primarily been in international tobacco control and public health nutrition.
Anne Kelso

Anne Kelso AO has been the Chief Executive Officer (CEO) of NHMRC since 2015. After completing her PhD at the University of Melbourne, Anne undertook research in immunology at the Swiss Institute for Experimental Cancer Research and in Australia at the Walter and Eliza Hall Institute of Medical Research and the Queensland Institute of Medical Research (QIMR).

Prof Kelso has previously served as President of the Australasian Society for Immunology, as Secretary-General of the International Union of Immunological Societies and as a member of several governing boards and advisory groups, including committees advising the WHO and the Australian Government on influenza. She was appointed Officer in the Order of Australia in 2007 for service to science.

Johan Louw

Johan Louw is a Platform Director at South African Medical Research Council. He has been involved in diabetes research for over 25 30 years and specialises in disease prevention, the development of new therapeutics from plants, as well as foetal programming. Recent projects have involved identifying subcellular markers for early detection of diabetes, and the isolation of novel compounds with the potential of protecting pancreatic beta cells. He heads a multidisciplinary team, and actively collaborates with many local and international research organisations. Johan Louw is the GACD management committee representative for the SAMRC.
Sarojini (Ro) Mitchell has Bachelor of Arts (Hons), Bachelor of Science and Doctor of Philosophy degrees from the Australian National University. She has held senior positions in Australian and international government agencies and research organisations including the Department of Health, the Australian National University and the Royal Pharmaceutical Society of Great Britain and spent more than ten years at the National Health and Medical Research Council (NHMRC) managing research grant schemes and driving research funding policy. Her PhD focussed on research partnerships through investigating the effects of NHMRC funding schemes on international research collaboration content and conduct. Dr Mitchell represented Australia, on the Human Frontier Science Program Board (2004-2009). Dr Mitchell has recently returned to the NHMRC as Director of the Business Improvements and Partnerships Section responsible for a range of international and national partnerships schemes and the NHMRC Women in Science initiative.

Joshua Rosenthal is trained as an Ecologist and is a Senior Scientist at the Fogarty International Center of the NIH. He has worked for the past 20 years in drug discovery from natural products, ecology of infectious diseases and environmental health. His current primary research and policy interests are in reducing respiratory diseases related to household air pollution through clean cooking interventions. Dr. Rosenthal is the GACD management committee representative for the NIH.

Sandeep Sandhu completed her PhD at the University of Birmingham in Biochemistry before joining the MRC, where she has been for over 3 years. She initially worked at the Clinical Sciences Centre and then moved to Head Office to manage the Infections and Immunity portfolio within the UK. In May 2016 she was seconded to the International team to work on Global funding mechanisms, European funding, GACD and Newton fund activities.
Rupinder Singh Dhaliwal
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Rupinder Singh Dhaliwal currently heads the Division of Noncommunicable Diseases at ICMR. His activities include research, administration, coordination and management including reviewing, monitoring and conducting research activities in all areas of noncommunicable diseases. He has been actively involved in the area of environmental and occupational health for the last 20 years.

Sarah Turnewitsch
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Sarah is an Assistant Director in the Business Improvements and Partnerships Section of the Research Programs Branch. Sarah provides administrative support on all aspects of the NHMRC’s participation in the Global Alliance for Chronic Diseases as well as managing one of NHMRC’s flagship funding schemes, Centres for Research Excellence. Sarah joined the NHMRC in November 2010 and previously worked with the Department of Families Housing Community Services and Indigenous Affairs in the areas of Disaster Preparedness and Recovery, and Homelessness.

Salina Waddy
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Salina Waddy is a stroke neurologist and neurogeneticist who is the Health Disparities Program Director in the Office of Clinical Research at the National Institutes of Health. Her areas of interest are health disparities, issues related to stroke and the genetic determinants of stroke, as well as predictive health.
Tony Willis

Tony Willis is Executive Director, Research Programs Branch at the National Health and Medical Research Council (NHMRC). Tony completed a PhD in biology at the Australian National University in 1994, before moving to Imperial College, London, to continue research as a post-doctoral fellow. On returning to Australia in 1997, he worked as a research scientist at CSIRO for 5 years, before joining the Office of the Gene Technology Regulator. He joined the Department of Foreign Affairs and Trade in 2005. He played a leading role in establishing DFAT’s chemical, biological, radiological and nuclear (CBRN) counter-terrorism program, which he headed for most of 2008 before transferring to the Department of the Prime Minister and Cabinet. Tony joined NHMRC in March 2010.

Faye Bassett

Faye provides key administrative support and operations management for GACD. She provides Board and committee support to coordinate and document GACD meetings, and leads on the logistical and HR aspects of all GACD activities. Faye has a first class degree in English Language and Linguistics with Chinese from the University of Reading. After gaining previous experience in project management and marketing, including a placement in China, Faye has worked for UCL coordinating the communications, HR and finance functions of the Institute for Global Health, since January 2013.

Rosie Bartlett

Rosie Bartlett controls all communications functions for the GACD, including the website, social media, press outreach, advocacy with policymakers, as well as all internal communications within the Alliance. She also directs the alliance's communications strategy. A journalist by trade, Rosie comes from over 15 years at the BBC World Service and has reported for on international news and development around the world. She holds a BA Hons in French and Spanish from Manchester Metropolitan University.
Celina Gorre is the Executive Director of the Global Alliance for Chronic Diseases. In that role, she heads up the GACD Secretariat team based at UCL in London. Previously, Celina was the Managing Director of the Foundation for the United Nations Global Compact. From 2007-2009, Celina was in the field with UNFPA and UNICEF in Angola as a Senior HIV/AIDS Advisor, advising the government of Angola on its HIV strategy, child survival and nutrition programmes, and companies on their social and community investments. Celina holds a Masters in Public Health in Epidemiology from UCLA and a Masters in Public Administration from the Kennedy School of Government at Harvard University.

Dorothea Kanthack-Chan coordinates the joint activities of the GACD member agencies, which includes the support of Board and Management Committee activities such as research call development and joint peer review. In addition, she supports the Executive Director in the implementation of the strategic plan of the GACD. Dorothea has a Masters in Global Politics from the London School of Economics (LSE) and received her BA in Politics and Public Law from the University of Mannheim.

Gary is responsible for managing the joint activities of the funded research teams, particularly concentrating on the strategic, logistical and research management of the GACD research network. Previously, Gary worked at KwaZulu-Natal Research Institute for Tuberculosis and HIV (K-RITH) in Durban, South Africa; coordinating and managing randomized control trials, clinical trials and clinical observational studies primarily focused on issues around diagnosis, prevention and treatment of HIV and TB. He has worked in the area of clinical and public health research since 2008. Gary holds a Masters in Research Psychology from the University of KwaZulu-Natal, focusing on social network correlates of HIV voluntary counselling and testing.
Project Updates

DM01: Improving the management of Diabetes in Pregnancy in Remote Australia

Funded by: NHMRC; Duration: 5 years
Study location: Australia

Investigators
PI
Louise Maple-Brown, Menzies School of Health Research, Darwin, Australia

Research team
Federica Barzi, Menzies School of Health Research, Australia
Jacqueline Boyle, Monash University, Australia
Alex Brown, University of South Australia, Australia
Christine Connors, Top End Health Services, Australia
Sumaria Corpus, Danila Dilba Health Service, Darwin, Australia
Anthony Hanley, University of Toronto, Canada
Stewart Harris, University of London, Canada
Robyn McDermott, James Cook University, Australia
David McIntyre, University of Queensland, Australia
Anna McLean, Cairns Diabetes Centre, Australia
Jacki Mein, Apunipima Cape York Health Council, Australia
Elizabeth Moore, Aboriginal Medical Services Alliance Northern Territory, Australia
Jeremy Oats, University of Melbourne, Australia
Kerin O’Dea, University of South Australia, Australia
Jonathan Shaw, Baker IDI Heart and Diabetes Institute Holdings, Australia
Ashim Sinha, Cairns Hospital, Australia
Mark Wenitong, Apunipima Cape York Health Council, Australia
Cherie Whitbread, Menzies School of Health Research, Australia
Paul Zimmet, Baker IDI Heart and Diabetes Institute Holdings, Australia

Abstract:
Primary Research Aim
To improve systems of care and services for women with diabetes in pregnancy in remote Australia.

Research Objectives and Methodology
- To expand the Northern Territory (NT) Diabetes in pregnancy (DIP) Clinical Register across all regions of the NT, thereby scaling-up and extending coverage of an innovative clinical system.
- To establish a DIP Clinical Register in Far North Queensland (FNQ).
- To develop, expand and extend an enhanced model of care and augment health care professionals’ capacity for managing DIP across all regions of the NT and FNQ.
- To improve maternal health post-partum for NT and FNQ Indigenous women with DIP with a systems-based intervention.
- To build capacity in Indigenous health research and share knowledge with Canadian researchers in the field of diabetes and DIP among Indigenous populations.
Current Status
The project commenced in the Northern Territory of Australia in October 2015, with staff commencing in Cairns, Far North Queensland, in December 2015. The community consultation and ethics process in FNQ has taken considerable time, resulting in a delayed project start in that region.

In relation to the post-partum systems-based intervention component of the project, we have conducted formative post-partum data collection in NT during 2016. We have also commenced data collection for the pilot post-partum intervention for Aboriginal women with diabetes in pregnancy [named PANDORA (Pregnancy And Neonatal Diabetes Outcomes in Remote Australia) Mothers] in early 2016.

We are in the planning phase with Canadian colleagues regarding the knowledge sharing component of the project. Indigenous capacity building is an important aspect of the project with 2 Indigenous staff members employed with the research team in Darwin.

Engagement with Policy Makers
- Which policymakers have been engaged?
  Government and non-government policy makers are partners in the project and members of the Steering Committee.
- How have the policymakers been engaged?
  Through membership of the steering committee, they have been involved since early design of the project.
- What specific policies do you intend to influence?
  Improving health system integration in pregnancy and post-partum.
- Which stakeholders have been engaged?
  Government and non-government primary care & hospital clinicians, policy makers and researchers are all engaged.
- How have these stakeholders been engaged?
  Through membership of Steering Group &/or Clinical Reference Group

Plan for Dissemination of Data
- Purpose: keep stakeholders engaged & feedback results, including interim results with regular updates
- Audience: Government and non-government primary care & hospital clinicians, policy makers and researchers are all engaged. In addition scientific international audience via peer reviewed publications & conference presentations
- Message: updates re progress at this stage & later stages will involve interim results
- Methods: regular feedback to stakeholders via newsletters, workshops, education symposia
- Timing: twice yearly

Publications
Nil to date
DM02: Systematic Medical Assessment, Referral and Treatment for Diabetes care in China using Lay Family Health Promoters - SMART Diabetes

Funded by: CAMS, NHMRC; Duration: 4 years
Study location: China

Investigators
Pis
David Peiris, The George Institute for Global Health, Sydney, Australia
Puhong Zhang, The George Institute for Global Health - China, Beijing, China
Weigang Zhao, Peking Union Medical College Hospital, Beijing, China

Research team
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Stephen Jan, The George Institute for Global Health, Sydney, Australia
Linong Ji, Peking University People's Hospital, Beijing, China
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Yu Liu, Beihang University, Beijing, China
Serigne Lo, The George Institute for Global Health, Sydney, Australia
Anushka Patel, The George Institute for Global Health, Sydney, Australia
Jiachen Zhou, The George Institute for Global Health - China, Beijing, China
Maoyi Tian, The George Institute for Global Health - China, Beijing, China
Lei Sun, The George Institute for Global Health - China, Beijing, China

Abstract:

Primary Research Aim
To develop the SMARTHealth Diabetes system and determine its clinical impact for people with T2DM.

Secondary research aims
To conduct process and economic evaluations to understand intervention impact on patients, family health promoters (FHPs) and community healthcare providers, and to determine cost-effectiveness and scale-up opportunities. FHPs are lay family members who are willing to take the responsibility of supporting the disease/health management for the patients.

Research Objectives and Methodology
An interactive mobile health management system can support FHPs and community healthcare providers to improve clinical outcomes for patients with T2DM. This system will be affordable, acceptable and potentially scalable across China. After intervention development, a large-scale cluster randomised controlled trial will be conducted.

Current Status
The study has been approved by the IRB of Peking University. Barrier investigation among policy makers, community healthcare providers, patients and FHPs has been completed. A working team has been established and working on the development of the prototype of SMARTHealth Diabetes.

Decision support is essential for SMARTDiabetes, but the local policy, routine work of community health service providers, performance evaluation and habit of patients and/or their family members need to be considered when developing the prototype.
Engagement with Policy Makers
Local policy makers in the county/district health bureaus and government agencies such as CDC and management center for community health service have been interviewed during the barrier investigation and shown their intention to support the project. However, it is very hard to share the existing medical records to our study app at the beginning. The current medical record system is an intranet platform and cannot be opened to any other internet resources unless the SMARTDiabetes has shown its good acceptance, performance and safety already. Township hospital leaders/doctors, village doctors, patients with diabetes and their family members have been also interviewed before starting the development of the prototype of SMARTDiabetes. Their routine work/activities and needs will be considered in the prototype development. When the UI is finished, a second round interview will be conducted to make sure that the SMARTDiabetes is acceptable.

Plan for Dissemination of Data
Purpose: to guarantee the data established in DM02 is used efficiently and disseminated safely. Audience: the researchers within DM02 and GACD family, stakeholders and other researchers who have similar research background and have the intention to use the data to do addition research work.
Message: Based on the cluster randomised controlled trial (RCT) in 80 villages/communities with 2000 patients with diabetes, we will have two major data outputs in our research. One is the “App Data” generated automatically when the SMARTDiabetes platform is used by 1000 patients/families in intervention group to manage diabetes which include demographic characteristics, eating habits and physical activities, blood glucose/pressure/lipid monitoring, as well as data or App logs on the use of AppSalt. The other data output is the “RCT Data” which is generated by both intervention and control groups during the RCT to evaluate the effectiveness of SMARTDiabetes programme. The RCT data includes information on demographics, social-economic information, eating habit, lifestyle, height, weight, HbA1c, blood glucose/pressure/lipid as well as unit cost information for all the component of intervention
Methods: A data management committee will be established to monitor and oversee the data management and data sharing.
Timing: The full data package (including the full analysable data set, the full protocol, the full statistical analysis plan, and the analytic code) will be shared no later than 6 months after study publication, unless otherwise agreed by the committee.

Publications
DM03: INDIAGO (Integrated INtervention for DIAbetes risk after GestatiONal diabetes): An integrated health system intervention aimed at reducing type 2 diabetes risk in disadvantaged women after gestational diabetes in South Africa

Funded by: CIHR, IDRC, MRC-SA; Duration: 5 years
Study location: South Africa
Investigators
Pis
Naomi Levitt, University of Cape Town, Cape Town, South Africa
Christina Zarowsky, Centre de recherche du Centre hospitalier de l’Université de Montréal, Montreal, Canada

Abstract:

Primary Research Aim
To develop and evaluate a novel health system intervention to reduce the subsequent risk of developing T2D among women with recent gestational diabetes.

Secondary research aim
To identify opportunities and barriers to subsequent scale-up and sustainability within routine, community-based primary health care services.

Research Objectives and Methodology

- To assess the feasibility and acceptability of the proposed intervention among both women and healthcare providers and managers, through formative research and evaluation. The formative research, as well as the on-going process evaluation during the trial, will use qualitative methodologies and be based on conceptual and methodological frameworks from health systems and implementation research and will be informed by applied social science models.

- To develop and implement a novel health system intervention package for women with recent gestational diabetes, that links existing public hospital-based antenatal care with postnatal community-based care at well baby clinics and which incorporates postpartum screening and evidence-based brief behaviour change counselling on the lifestyle risk factors for diabetes.

- To evaluate the risk for diabetes and its risk factors at baseline and at 12 months post-partum.

- To assess the process of implementation, including the possible system facilitators and barriers to integrating the intervention into routine, community-based primary healthcare services should the pilot prove successful.

- To assess the cost-effectiveness of the proposed intervention package.

Current Status
Ethics clearance has been obtained at UCT and Wits University, for the overall project and the formative research. Additional approvals were obtained from the provincial Department of Health and local municipality as required. The formative research is close to completion; 11 key informant interviews have been conducted with clinicians working in the public sector, public health specialists and health service managers. Nine focus group discussions and five in-depth interviews have been completed with a total of 39 women diagnosed with GDM between 2014/2015. The last component of the formative research is currently underway in Cape Town but will need to be undertaken in Soweto. This involves direct observation of care and interviews with health care workers (including
facility managers and nursing staff) involved in maternal and childcare services at primary level. To date, eleven interviews have been completed in 5 primary health clinics.

1. The management of GDM in South Africa is based on international guidelines adapted to local context and dependent on resource availability.
2. Lack of follow-up care for GDM women is a significant problem in South Africa. Health systems barriers to follow-up include shortage of dieticians in public health services and poor communication between tertiary and primary care services where women are referred postpartum.
3. GDM women receive adequate to excellent clinical care from health services and substantial support from partners and family members during the pregnancy.
4. There is a need for educational resources and social support for GDM women from the health system.

A standardized but contextualized approach to post-partum care for GDM women has been recommended by key informants and supported by women with previous GDM. Respondents’ recommendations will inform the design and implementation of a feasible and sustainable intervention for women with GDM postpartum, within the context of existing public health services in South Africa. This is planned to commence in mid 2017.

**Engagement with Policy Makers**

We are continuing to engage with health service managers including the Chief Director for Health Programmes, the Deputy Director of Women’s Health in Western Cape Department of Health, and Chairperson of the Provincial Clinical Governance Committee (PCGC) – a group of specialists responsible for the development and review of clinical guidelines in the Western Cape.

These individuals have either been interviewed as key informants on the project or requested to serve on the Stakeholders Advisory Committee which will collaborate with the research team and provide ongoing input into the development and implementation of the intervention, advise on scale-up, and support active dissemination.

**Plan for Dissemination of Data**

We anticipate four peer-reviewed journal articles as products of the formative research to be written up in fulfilment of the requirements for a doctoral degree (Lorrein Muhwava) and to add to the body of knowledge on gestational diabetes and health systems research. Another PhD project (Tawanda Chivese) on the prevalence, risk factors, screening and prevention of T2D after GDM is currently underway and four additional publications, including a systematic review, are anticipated from this project. A third PhD project (Jean-Claude Mutabazi) on health system actors’ perspectives and process evaluation of integration of vertical programmes in primary health care in South Africa will result in four peer-reviewed publications, including a systematic review. In preparation for the dietary component for our intervention, a Masters student (Stephanie Krige) is also completing a longitudinal study to compare the dietary intake of women with GDM during their third trimester of pregnancy and their dietary intake 6 months postpartum. Additional publications will result from the trial. The findings of the studies will be presented at academic seminars and conferences as a means to network and share information with other researchers in the field. A stakeholders meeting will be convened with members of the Stakeholders Advisory Committee to communicate the findings. A
community forum will be held to communicate the findings to the study participants and to distribute educational material such as pamphlets and flyers designed for GDM women. These will also be placed in the reception areas of diabetes clinics where women attend antenatal care, CHCs and Well Baby clinics.

A policy brief will be prepared to advocate for the provision of integrated health services for GDM women in the postpartum period to help prevent or delay the onset of Type 2 Diabetes.

**DM04: Community Health Assessment Program in the Philippines (CHAPP)**

*Funded by: CIHR, IDRC; Duration: 5 years*

*Study location: Philippines*

*Investigators*

*Pis*

Fortunato Cristobal, Ateneo de Zamboanga University, Zamboanga, Philippines
Lisa Dolovich, McMaster University, Hamilton, Canada
Gina Agarwal, McMaster University, Hamilton, Canada
Ricardo Angeles, Ateneo de Zamboanga University, Zamboanga, Philippines
and McMaster University, Hamilton, Canada
Janusz Kaczorowski, University of Montreal, Montreal, Canada

*Research team*

Rodelin Agbulos, Zamboanga City Health Office, Zamboanga, Philippines
Rosemarie Arciaga, Ateneo de Zamboanga University, Zamboanga, Philippines
Jerome Barrera, Ateneo de Zamboanga University, Zamboanga, Philippines
Agnes Fernando, Department of Health Philippines, Manila, Philippines
Dale Guenter, McMaster University, Hamilton, Canada
Servando Halili, Ateneo de Zamboanga University, Zamboanga, Philippines
Norvie Jalani, Department of Health Philippines, Manila, Philippines
Daria O’Reilly, McMaster University, Hamilton, Canada
John Smith, Khon Kaen University, Khon Kaen, Thailand
Karl Stobbe, McMaster University, Hamilton, Canada
Lehana Thabane, McMaster University, Hamilton, Canada
Sheldon Tobe, Sunnybrook Research Institute, Toronto, Canada

*Abstract:*

**Primary Research Aim**

To adapt the elements of the expanded Cardiovascular Health Awareness Program (CHAP) intervention model to low- and middle-income countries (LMICs) and evaluate its effectiveness in preventing diabetes and its complications

*Secondary research aims*

To foster uptake of findings from the CHAPP program to other organizations and groups in the Philippines and other LMICs

*Research Objectives and Methodology*

1. To identify optimal ways to adapt elements of the CHAP model to fit local LMIC conditions (sociocultural, economic, environmental) while focusing on the prevention and management of diabetes.
2. To evaluate the effectiveness, feasibility/acceptability, and cost-effectiveness of the CHAPP intervention for use in rural communities in LMICs.

- Methodologies: We will use a mixed-methods approach in multiple phases.
Phase 1: Adaptation of CHAPP to the sociocultural and economic setting

- Design: Qualitative inquiry to modify and incorporate the CHAP intervention model to best fit the local setting in Zamboanga Peninsula.
- Participants: Department of Health Personnel; Provincial Health Office Personnel; Municipal Mayor and barangay (local term for a small village) officials; Municipal Health Officers, Public Health Nurses and Midwives; Local Lead Organization representatives; CHAPP target participants (residents 40 years and older). Three municipalities will be selected from each province for the KII.
- Research Instruments: Interview guides for use in individual and group interviews, document abstraction forms (to be developed once key documents have been identified).
- Data Gathering Procedure: Document review, Key Informant Interviews (KII), Focus Group Discussions (FGDs), and envirnomentnal scan including food survey and community resource mapping.
- Data analysis and outcome: Thematic Framework Analysis.

Phase 2: Pilot project of CHAPP in selected rural communities

- Design: 2 step 7-month prospective pilot project. The CHAPP intervention protocol developed in phase 1 will be pilot tested in selected municipalities in the Zamboanga Peninsula.
- Primary Objective: To pilot test feasibility of the CHAPP
- The setting and study population: Multiple eligible urban and rural communities in Region IX. Target participants are permanent resident of qualified municipalities 40 years and older.
- Community Participant Sampling: A random sample of 150 residents 40 years of age and older will be generated for each of the pilot sites.
- Other participants: CHAPP Local Lead Organizations (LLO) and volunteers, selected CHAPP participants, health workers (doctor, nurse, midwife).
- Pilot Structure:
  - A) One month pre-pilot in three settings to conduct a pragmatic feasibility assessment of appropriate blood pressure devices for BP measurement and a comparison of data input modalities for capture of participant clinical data
  - B) Two month mini-pilot in three settings to assess other critical aspects of the newly adapted model and test newly established intervention protocols
  - C) Four month full pilot in same three settings to test full operations in preparation for the RCT in Phase 3
- CHAPP intervention: The proposed CHAPP intervention will include:
  - Diabetes risk assessment (modified FINRISK and assessment of lifestyle risk behaviours) sessions at least every 2 weeks in accessible community locations, manned by trained volunteers of LLO
  - Volunteers educate CHAPP participants regarding their diabetes risk factors and ways to practice healthy lifestyle (including referral to local resources/activities) using diabetes education materials adapted for local context
  - Use of an accepted process to have participant data transmitted to a central web database system through a combination of cell-phone and computer-based technology
  - Have participant assessment result forwarded to the Municipal Health Officer (doctor) for follow-up and screening
Data Gathering Procedures: Participant survey (risk profile, physical activity, diet), data collected during CHAPP sessions, Community Process Evaluation

Data Analysis and Outcomes: Ease of conduct, difficulties encountered, revisions needed

Phase 3: Effectiveness of CHAPP

- Design: Stepped Wedge cluster RCT
- Objective: To determine if CHAPP program will significantly improve behaviours related to the prevention and treatment (physical activity, diet, medication use for diabetic patients) of diabetes among residents 40 years of age and older compared to usual care.
- Randomization: The CHAPP will be implemented in 20 communities that will be randomly selected, stratified by district and population size and randomly assigned to 1 of 4 wedges (5 communities per wedge).
- Participant sampling: A cluster random sample of 400 residents 40 years of age and older will be generated for each of the 20 Municipalities at the onset.
- Intervention: The CHAPP intervention will be implemented during intervention periods of selected communities. During control periods, communities will follow usual practice.
- Research Instruments: Same research instruments will be used as in Phase 2
- Primary outcome: For the general population, outcomes that will be assessed are physical activity measured by the International Physical Activity Questionnaire (IPAQ), Diet measured by the portions of the diet survey lines from the Behavioral Risk Factor Surveillance System (BRFSS) questionnaire. For diagnosed diabetics, outcome will also include medication compliance.
- Secondary outcomes: Hospital admission rates and mortality rates due to diabetes and diabetes-related illness (based on International Classification of Disease-9 codes), number of newly diagnosed residents with diabetes, and changes in the BP and BMI of CHAPP participants.
- Data collection: All data collection procedures will be similar to Phase 2 or may be modified based on the results of the pilot study and advice from the Advisory Committee.
- Statistical analysis: The primary analysis will be to compare communities receiving the CHAPP intervention to those receiving regular care according to the stepped wedge schedule.

Phase 4: Knowledge Translation Activities

Current status
Phase 1 of the project has received REB approval in the Philippines and Canada and is complete. Qualitative analysis of initial community interviews was conducted to identify appropriate CHAP model adaptations and initial barriers and facilitators to program implementation in the Philippines. The project team members from the Philippines and Canada have had two face-to-face planning meetings and a large project meeting in the Philippines for face to face discussion of the Phase 1 findings which included local, national and international stakeholders and project advisory group members.

Current status: Phase 2 is currently being conducted.
**Lessons Learnt/Conclusions to Date**

- Phase 1 qualitative work has identified numerous ways to implement the CHAP intervention model to best fit the local setting in Zamboanga Peninsula including maximizing the use of Barangay Health workers and Community Health Teams, developing a computer based registry system that can be used beyond the project, consideration of improvements to the process of how blood pressure is currently measured and consideration of how variations in diet between rural and urban settings will affect diabetes lifestyle management recommendations.
- Development of relationships and using a participatory approach with participating communities has been an important step for project development.
- Ramping up an international collaboration takes time.

**Engagement with Policy Makers**

We included representatives of the Philippines provincial Department of Health (DoH) as KIIs in our data collection in Phase 1. Also, local Municipal Health Officers from the DoH from our selected pilot sites for Phase 2 participated in the large project meeting to collectively discuss Phase 1 findings and model adaption for the pilot stage.

We commenced communications to collaborate with the Philippines Society for Hypertension to jointly explore gold standard BP measurement device use and patient management protocols to update national guidelines.

We continue to include representatives from other low-to-middle-income countries who participate as members of the research team and as Project Advisory Group members, as we plan to expand the CHAP model to other LMICs.

We continue to work closely with MD-MPH students and graduates from the School of Medicine at Ateneo de Zamboanga who will be assisting with and supporting some of our Phase 2 pilot endeavours.

**Plan for Dissemination of Data**

A large project meeting took place in the Philippines in June 2016 that included multiple local and international stakeholders to review and discuss the Phase 1 qualitative findings. Publications are underway for reporting of Phase 1 findings and interpretations. Presentations to selected stakeholders will be undertaken towards the conclusion of the pilot phase.

**Publications**


DM05: Effects of information technology-based tools on long-term self management of diabetic and non-diabetic patients with coronary heart disease

Funded by: CAMS; Duration: 3 years
Study location: China
Investigators
Pis
Jing Li, National Center for Cardiovascular Diseases, China, Beijing, China
Weigang Zhao, Peking Union Medical College Hospital, Beijing, China

Abstract:
Primary Research Aim
The primary aim of this project is to evaluate the effectiveness of information technology-based tool (short message services) on improvement of long-term adherence to secondary prevention and risk factors control among patients with established coronary artery disease (CAD), including those with diabetes.

The secondary aims are:
1. To determine the factors affecting the adherence to secondary prevention and risk factors control rate among the patients with CAD, including those with diabetes.
2. To evaluate the effectiveness, safety and cost-effectiveness of long term strategies of management on the patients with CAD, including those with diabetes.
3. To provide an overview of long term prognosis of the patients with CAD, including those with diabetes, to estimate the overall disease burden.
4. To investigate the association of blood pressure, serum glucose and lipid level with long term prognosis among the patients with CAD, including those with diabetes.

DM06: iHEALTH-T2D - Family-based intervention to improve healthy lifestyle and prevent Type 2 Diabetes amongst South Asians with central obesity and prediabetes

Funded by: EC; Duration: 5 years
Study location: India, Pakistan, Sri Lanka, United Kingdom
Investigators
PI
John Chambers, Imperial College London, London, United Kingdom
Research team
Sajjad Ahmad, Punjab Institute of Cardiology, Lahore, Pakistan
Heather Gage, University of Surrey, Guildford, United Kingdom
Gary Frost, Imperial College London, London, United Kingdom
Khadifa Irfan Khawaja, Services Institute of Medical Sciences, Lahore, Pakistan
Marjo-Riitta Jarvelin, University of Oulu, Oulu, Finland
Sujeet Jha, Devki Devi Foundation, Delhi, India
Prasad Katulanda, University of Colombo, Colombo, Sri Lanka
Jaspal Kooner, Imperial College London, London, United Kingdom
Ravindra Rannan-Eliya, Institute for Health Policy Sri Lanka, Colombo, Sri Lanka
Ninha Silva, Imperial College London, London, United Kingdom
Karien Stronks, University of Amsterdam, Amsterdam, Netherlands
Rajitha Wickremasinghe, University of Kelaniya, Kelaniya, Sri Lanka

Abstract:
iHealth-T2D is a multi-centre, cluster randomised clinical trial to compare intensive lifestyle modification vs usual care for prevention of T2D amongst non-diabetic South Asians with central obesity and / or prediabetes. The study comprises one year intervention and 3 years follow-up.

Our general goal is to identify approaches to risk stratification and health promotion through lifestyle modification that are acceptable, effective and efficient for prevention of T2D in South Asian communities from diverse settings.

The specific aims of the proposed iHealth-T2D study are:

1. Determine whether intensive lifestyle modification vs usual care reduces risk of T2D (primary endpoint) amongst South Asians with i. central obesity; ii. prediabetes and iii. overall (with central obesity and / or obesity).

2. Investigate secondary endpoints, including health gains in family members. Identify social, demographic and environmental factors influencing primary and secondary endpoints.

3. Carry out a health economic analysis of lifestyle modifications vs usual care for prevention of T2D on the Indian subcontinent and Europe. Quantify the cost-effectiveness of screening by waist circumference vs HbA1c.

Methodology
In order to achieve the above goals the study team has designed a structure that allows the recruitment of 3,600 South Asian men and women aged 40-70 years with i. central obesity (waist≥100 cm) and/or ii. prediabetes (HbA1c 6.0-6.4%) to the study (index cases). Recruitment has been undertaken in the Indian subcontinent (India, Pakistan, Sri Lanka) and Europe (UK). Index cases will receive either i. intensive lifestyle modification (N=1,800); or ii. usual care (N=1,800). Intensive lifestyle modification follows clinically accepted, evidence based strategies to achieve >7% reduction in weight through improved diet and increased physical activity, and is delivered as 9 face-face and 13 telephone contact sessions over 12 months. Index cases are the focus for the intervention, but lifestyle modification encourages the whole family to adopt healthy living. Usual care group will comprise one diabetes prevention session and written material.

Current status:
Following a detailed and complex period of identification of field work sites and creation, adaptation and translation of the study materials, the study team started piloting the different stages of the study in UK, India, Sri Lanka and Pakistan.

Piloting the screening, recruitment and clinic sessions was crucial for the study team to analyse the feasibility, acceptability and suitability of the procedures in the different countries and optimise them accordingly.

Screening and recruitment of patients was initiated early 2016, in the 4 country partners. Each country is expected to enrol 900 participants by end of the year 2016.
In order to engage as many participants as possible and to reduce drop out rates, eligible participants are enrolled to the intensive lifestyle modification within 2 weeks after enrolment date.

The lifestyle modification comprises 22 clinic visits spread throughout 1 year. Key objectives of the lifestyle intervention is to achieve 7% reduction in body mass and a 10cm reduction in waist circumference through improved diet and increased physical activity.

All screening, recruitment and clinic visit data is entered in a local and anonymised database, in order to facilitate management and analysis of the data.

**Lessons Learnt/Conclusions to Date**
This clinical trial study has been a strong learning experience and has allowed the study team to explore and develop new areas of intervention studies. Gender is a strong component of this study and it has been interesting to observe the different recruitment tendencies in the 4 countries, especially in the Indian subcontinent.

The investigators have observed that the number of women recruited in Sri Lanka was higher and growing faster than the numbers of men recruited. This observation led to a change in recruitment strategy, such as time and days of screening sessions, in order to optimise male recruitment. On the other hand, in Pakistan, India and UK the numbers of men and women recruited have been proportional. Furthermore, a study involving 4 diverse countries requires a huge and continuous communication and coordination structure as well as building a team mind-set across the participating countries.

**Plan for Dissemination of Data**
In the last months the study team has been focusing in planning and participating in dissemination activities in order to disseminate the study’s methods and achievements since the start of the project to date.

iHealth-T2D main dissemination activities to date are as below:

- Delhi (India) April 2016
- Mumba (India) April 2016
- Chandigarrh (India) August 2016
- Muzzafapur (India) August 2016

There are another 2 talks confirmed for September and October in Colombo and Cochin, respectively. We aim to start divulging the study’s achievements and observations to date, therefore the talks are mainly directed at the scientific, academic and policy-makers communities. In addition, we plan to publish the study findings in open access journals and disseminate results to local and national experts and policy makers upon completion of the study.

**Publications**
Global Alliance for Chronic Diseases
Research Network

5th Annual Scientific Meeting
17 – 21 October 2016
Sydney, Australia


DM07: SMART2D - A people-centred approach through Self-Management and Reciprocal learning for the prevention and management of Type-2-Diabetes

Funded by: EC; Duration: 4 years
Study locations: South Africa, Sweden, Uganda
Investigators and research teams
PIs
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Thandi Puoane, University of Western Cape School of Public Health, Cape Town, South Africa
Pilvikki Absetz, Collaborative Care Systems Finland, Helsinki, Finland
Josefien Van Olmen, Institute of Tropical Medicine, Antwerp, Belgium
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Elizabeth Ekirapa-Kiracho, Makerere University School of Public Health, Kampala, Uganda
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Barbara Kirunda, Makerere University School of Public Health, Kampala, Uganda  
Max Walusimbi, Makerere University School of Public Health, Kampala, Uganda  
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Agneta Andersson, Uppsala University, Uppsala, Sweden  
Stefan Peterson, Karolinska Institutet & Uppsala University, Sweden  
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Carl Johan Sundberg, Karolinska Institutet, Stockholm, Sweden  
Göran Tomson, Karolinska Institutet, Stockholm, Sweden  
Helle M. Alvesson, Karolinska Institutet, Stockholm, Sweden  
Juliet Aweko, Karolinska Institutet, Stockholm, Sweden  
Linda Timm, Karolinska Institutet, Stockholm, Sweden  

Abstract:  
Problem statement and overall aim  
Formal Health Services will be overwhelmed by the magnitude of the T2DM burden. In addition healthcare services are often poorly accessible, acceptable, available, affordable or adequate (5As of access) to the needs of the target population in low- and middle-income countries and, especially among the urban vulnerable immigrant groups, in high-income countries, resulting in poor prevention and management of T2DM.  

Our overall aim therefore is to strengthen capacity for T2DM care (both prevention and management), through proven strategies like task-shifting to non-physician health care providers and community health workers, and expanding care networks through community-based peer support groups. Our target population is adult men and women at high-risk for or diagnosed with T2DM, i.e., individuals with pre-diabetes and diabetes in the three settings.  

To this end, we propose the following overall and specific objectives:  
Primary research objectives  
- *To formulate and implement* a contextually appropriate self-management approach through facility and community components for prevention and control of T2DM in three settings  
- *To evaluate* the outcome of the self-management approach and the added benefit of the community component compared to the facility component; and in dialogue with stakeholders  
- *To translate* the research findings at each stage into relevant input for national guidelines and policies in each setting and for reciprocal transfer of knowledge across sites.  

Study settings  
In order to demonstrate the feasibility of this project in diverse settings, the proposed project will have three field sites: 1) The Iganga-Mayuge Health & Demographic Surveillance Site (IMHDSS), which is a largely rural setting in eastern Uganda, a low-income country; 2) Langa and Khayelitsha in South Africa, representing urban townships in a middle-income country; and 3) four urban communities in Stockholm county with a predominant immigrant population representing vulnerable urban groups in Sweden, a high-income country.
The study has a strong social innovations component that is leveraging existing networks and platforms, to empower patients, their families and communities through the self-management approach. It will embed research into policy and practice from the beginning; and enable cross-lessons from other chronic conditions and reciprocal learning between sites. While strengthening existing facility-based care in Uganda and South Africa, it will reintroduce the essential but ‘missing’ community component in Sweden through an integrated community and facility component with the active support and cooperation of relevant stakeholders. This is highly relevant for Europe in tackling T2DM and other chronic conditions.

**Current Status**
An in-depth formative phase has been conducted in each of the three settings focusing on individuals (with diabetes or pre-diabetes and their families); health care professionals (both providers and managers; and community members and networks (including members employed in relevant public, private or non-governmental organizations). In-depth interviews, focus group discussions and stakeholder workshops have been conducted. A phased, consultative participatory approach has been used to discuss the findings from the formative phase and develop a complex but contextualized framework of interventions for each setting. This includes linked facility and community strategies that together address prevention (for pre-diabetes) and care and management (for T2DM). Currently, the sites are preparing for the pilot phase when an iterative process of modifications and improvements will be made to finalize the intervention framework. Additionally, environment challenges particularly those relating to the food environment will be dealt with in more detail in South Africa and Sweden. The intervention trial is set to start in Jan 2017 with at least two arms, a facility-only vs. a combined facility and community arm.

**DM08: Feel4Diabetes: Promoting healthy lifestyle in families across Europe**

*Funded by: EC; Duration: 4.5 years*

*Study location: Belgium, Bulgaria, Finland, Greece, Hungary, Spain*

*Investigators*

**Coordinator:** Yannis Manios, Harokopio University, Athens, Greece  
Greet Cardon, Ghent University, Ghent, Belgium  
Violeta Iotova, Medical University of Varna, Varna, Bulgaria  
Jaana Lindstrom, National Institute for Health and Welfare, Helsinki, Finland  
Kostas Makrilakis, University of Athens, Athens, Greece  
Remberto Martinez, Extensive Life Oy, Tampere, Finland  
Luis Moreno Aznar, University of Zaragoza, Zaragoza, Spain  
Lala Rabemananjara, International Diabetes Federation Europe, Brussels, Belgium  
Imre Rurik, University of Debrecen, Debrecen, Hungary  
Peter Schwarz, Dresden University of Technology, Dresden, Germany

**Abstract:**

**Aim**

Feel4Diabetes is aiming to develop, implement and evaluate an evidence-based and potentially cost-effective and scalable intervention program to prevent type 2 diabetes among families from vulnerable groups across Europe.
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Background
Any risk factors associated with type 2 diabetes tend to cluster within a family since its members share common genetic background, lifestyle habits, social and physical environment. Promoting healthy behaviours and supportive environmental changes when the family is approached as a whole seems to be more effective compared to targeting the family members individually. Furthermore, since the prevalence of type 2 diabetes is higher in low and middle income countries and among low socioeconomic groups in the high-income countries, these vulnerable groups need to be identified and prioritized.

Methodology
Feel4Diabetes will be implemented in two high-income countries (Belgium and Finland), two countries under economic crisis (Greece and Spain) and two low/middle-income countries (Bulgaria and Hungary). During the implementation of the programme the following steps will be taken:

- Identify vulnerable groups within these six European countries. Within these subpopulation groups use schools as the entry point in the community and identify the families at high risk for type 2 diabetes.
- Using the multi-actor approach develop and implement a school and community-based intervention of low-cost and applicable in low resource settings, aiming to create a more supportive social and physical environment and promote healthy lifestyle changes for children and their families. Furthermore, invite the parents or other adult members of the high-risk families to attend out of school counselling sessions, in order to further support them in adopting a healthier lifestyle for them and their children.
- Evaluate and disseminate the results of the study and develop recommendations for health policy makers, aiming at embedding the learnings derived from the project into policies and practices on a local, national and international level.

Current Status
During the first 21 months of the project (Start: Dec 2014) the following tasks have been conducted.

WP2 identified the (sub)behaviours related to risk factors for the type 2 diabetes and their barriers and facilitators. More specifically, the following deliverables were completed:

- Systematic literature review for the definition and identification of vulnerable groups.
- Systematic literature review on the most important behaviours and sub-behaviours related to risk factors for type 2 diabetes in vulnerable groups.
- Execution of focus groups with parents and grandparents and focus groups with teachers and local community workers across the six intervention countries.

WP3 identified the best evidence-based strategies for the prevention of obesity and promotion of healthy eating and physical activity at school (especially in vulnerable groups), as well the those for the prevention of type 2 diabetes in high risk adults. More specifically, the following deliverables were completed:

- Review of intervention programs applied in the school setting for the prevention of obesity and the promotion of healthy lifestyle, with emphasis on vulnerable groups.
- Review of intervention programs targeting adults at high risk for type 2 diabetes.

WP4 assessed policies, practices and available infrastructure in the six intervention countries. More specifically, the following deliverables were completed:
- Systematic analysis of the national type 2 diabetes prevention guidelines, policies and practices.
- Descriptive overview of available human resources and infrastructure for promoting healthy and active lifestyle in low socioeconomic status municipalities from each country.

WP5 developed and tested the tools to be used for the impact and outcome evaluation of the Feel4Diabetes-intervention.
- A workshop for the training of fieldwork personnel was conducted in Ghent, Belgium in September, 2015. During this workshop the intra- and inter- observer reliability regarding the anthropometric (weight, height, waist circumference) and clinical (blood pressure) indices was tested among fieldwork researchers from the six intervention countries.

WP6 developed the intervention materials and developed and assessed test-retest reliability of the questionnaires and tools which will be used to evaluate the process and impact of the Feel4Diabetes-intervention and to assess its cost-effectiveness.

WP6 is finalizing the baseline data collection for the effect evaluation of the F4D intervention.
- A workshop for the training of the researchers was conducted in Helsinki, Finland in February, 2016. During this workshop motivational interviewing was trained in preparation of the intervention counseling sessions in the High Risk families.
- A workshop for the training of the researchers was conducted in Sofia, Bulgaria in August, 2016. During this workshop the interventions for the teachers and the parents were practiced, including “targeting all families” and “targeting high risk families”.
- Baseline data collections (per country 1500 families and 350 high risk families) are getting finalized (all families: questionnaires, antropometrics; High risk families: questionnaires, accelerometry, antropometrics, blood indices).
- All intervention countries to start implementing the intervention (“school”-component, “high-risk families”-component and “community”-component) October 2016.

Website: [www.feel4diabetes-study.eu](http://www.feel4diabetes-study.eu)

As also outlined in the literature targeting low SES populations is very challenging, with low response rates. Specific and locally adapted strategies are needed (e.g. for baseline data collection: in Belgium home visits were needed, while in Bulgaria parents were very willing to come to the hospital).

**Engagement with Policy Makers**

The Feel4Diabetes intervention holds a community-based component. Currently, in the intervention regions of the Feel4Diabetes intervention, local policy makers (e.g. local sports services) are getting contacted and asked to do efforts to offer activities adapted to the needs of the target population. Specific needs are derived from the focus groups with the target populations (e.g. need for women only activities).

**Plan for Dissemination of Data**

Lead by IDF Europe an “International Stakeholder Advisory Board” is currently being developed, including international and national stakeholders as well as representatives from the GACD, WHO (Global Action Plan on NCDs) and United Nations Millennium Development (some responses still pending). Recommendations for the potential scalability of the Feel4Diabetes intervention will be developed.
and disseminated. Available deliverables and results from the project will be disseminated both to the local/national and international, Stakeholder Advisory Board as well as to the scientific community, DG-Sanco, DG-Research, patient associations, etc.

Publications
First publication proposals have been approved.

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**DM09: Evaluation of a pilot project to prevent diabetes in the workplace using information technology [Evaluacion de un programa piloto de prevencion de diabetes usando tecnologias de la informacion en una poblacion basada en el sitio de trabajo]**

**Funded by:** CONACYT; **Duration:** 2 years

**Study location:** Mexico

**Investigators**
- **PI:** Clicerio Gonzalez Villalpando, Instituto Nacional de Salud Publica, INSP Cuernavaca, Mexico
- **Research team**
  - Socorro Parra Cabrera, Instituto Nacional de Salud Pública, Mexico
  - Ruy Lopez Ridaura, Instituto Nacional de Salud Pública Mexico
  - Concepcion Peres de Celis Herrero, Benemérita Universidad de Puebla, Mexico
  - Enrique Sucar, Instituto Nacional de Astrofísica Óptica y Electrónica, Mexico
  - Maria Elena Gonzalez, Centro de Estudios en Diabetes, Mexico
  - Ruth Fuentes, Universidad Nacional Autonoma de Mexico, Mexico
  - Felipe Orihuela, Instituto Nacional de Astrofísica Optica y Electronica, Mexico

**International Collaborators**
- Jakko Tuomiletho, Universidad de Madrid, Spain
- Rafael Gabriel Sanchez, Hospital la Princesa, Spain
- Beatriz Rodriguez, University of Hawaii, USA
- Kathia Sharbeck, University Jagiellonian, Poland

**Abstract:**

**Primary Research Aim**
Evaluate on a pilot basis the performance of a work based e-intervention to prevent diabetes using information technology as means to deliver the intervention.

**Secondary research aims**
Explore the feasibility and scalability of an internet platform designed to intervene in a work based community in order to prevent diabetes.

**Research Objectives and Methodology**
Evaluate the feasibility of using information technology resources to deliver a family centered preventive program in order to reduce the overall cardiovascular risk at work based community. Evaluate the performance of risk factors questionnaires in order to estimate overall cardiovascular risk at a work based community.

**Current status**
Study is in the preliminary phase.
DM10: Development of an interactive social network for metabolic control of patients with diabetes [Desarrollo de una red social interactiva para el control metabólico de los pacientes con diabetes]

Funded by: CONACYT; Duration: 2 years
Study location: Mexico
Investigators:
PI
Francisco González Salazar, Universidad de Monterrey, San Pedro Garza García, México
Research Team
Alfonso Fernández Pozas, Universidad de Monterrey, San Pedro Garza García, México
Leticia Neira, Universidad de Monterrey, San Pedro Garza García, México

Abstract:
Primary Research Aim
Our Primary Research Aim is to develop a smartphone app, in order to minimize risk-related attitudes and in order to change the behavior towards their disease of people who suffer from type 2 Diabetes. Most people in Mexico who suffer from type 2 Diabetes don’t take the appropriate care of themselves, so here’s our app in order to help them out. Besides being fun, our app is mainly a complete social and emotional experience, in order to make it easy for people with type 2 Diabetes to constantly remain interested in using our app. The more frequently they use it, the more probabilities for their health to improve.

Our smartphone app is called “SomosDiabetes” (which translates into “WeAreDiabetes”). Our app uses gamification, which makes it real fun to use. Gamification is the concept of applying game mechanics and game design techniques to engage and motivate people to achieve their goals.

Secondary Research Aims
The community of people with type 2 Diabetes needs to learn how to follow the guidelines from the CDC (Centers for Disease Control and Prevention) in order to take better care of their type 2 Diabetes. Many of the CDC guidelines are re-enforced in our app, which therefore increases the diabetes level of education of the community (the amount of appropriate information that the community has available).

To improve preventive care measurements. If people start to be preventive, they might avoid (or at least delay) a lot of health problems that come through type 2 Diabetes.
Research Objectives and Methodology

With SomosDiabetes, we plan to make life easier for people who suffer from type 2 Diabetes. Our smartphone app will help people with type 2 Diabetes to learn how to take better care of their disease on a daily basis. And they will do so while having fun at the same time, via their smartphone, which people are used to always carrying around with them.

Another objective of our app is also to make life easier both for the doctors and the families of the persons with type 2 Diabetes. Our app will make it easier for doctors to know the daily statistics of how the patient who uses our app has been really taking care of him or herself. Our app will also educate the family of the person with type 2 Diabetes about the disease. The lifestyles of the complete family will change once they all know all how they should eat, exercise, and so on.

Our app uses “gamification” in order to create a dynamic, interactive and emotive experience. Participants constantly enter the status about how they currently feel (happy, extremely happy, a bit sad...). The better they feel, the faster they will advance and have more fun in our app.

The SomosDiabetes app is able to gather enough statistical data in order to let us know who and how uses our online community, and therefore us being capable of constantly maintaining their interest in any future versions and updates of our app.

Our app is based on the CDC guidelines for taking better care of type 2 Diabetes. With all the statistical information that we gather, we will also evaluate how helpful our app was towards improving our user’s health.

Current Status

- Our first prototype of the SomosDiabetes smartphone app has been completed.
- The last details of the smartphone app functionality and usability are being tested and optimized before starting the testing process of the app at the controlled clinical trial.
- The clinical trial population is already identified and noticed. They are glad to become a part of our project.
- In order to increase the probability of people using our app to monitor themselves on a daily basis, our app has to be extremely friendly and easy to use. The monitoring registration should also be remarkably quick and focused.
- The information provided by our app should be of good use not only to the patient, but also to the patient’s family and to their doctor.
- One of the most important features is the education course inside our app, due to the facts that there´s a lot of ignorance about Diabetes in Mexico. Many people also do not accept having diabetes. This misinformation and denial is an extremely common attitude. Our app is here to help. People need to be well informed and well-motivated in order for their health to get better.

Engagement with Policy Makers

- Which stakeholders have been engaged?
  - Doctors and Diabetes education department at Clinica NOVA in Monterrey, México
Doctors and Diabetes education department at Clinica #5 IMSS (Instituto Mexicano del Seguro Social) in Monterrey, México

How have these stakeholders been engaged?
- Surveys and interviews
- Our app has used some of the educational material developed by our stakeholders
- Permission to observe patients at their medical consultation and Diabetes educational courses.
- Advances on the SomosDiabetes smartphone app have been constantly revised and validated by our stakeholders.
- Testing and validation (Clinical trial interventions).

DM11: Development and validation of a software linked to an internet site to facilitate medical treatment and empowerment of the patient with type 2 diabetes, interaction with the medical personnel and the generation of a real time registry [Desarrollo y validación de un software ligado a un portal de internet que facilite el tratamiento médico y el empoderamiento del paciente con diabetes tipo 2, la interacción con el personal médico y la generación de un registro en tiempo real]

Funded by: CONACYT; Duration: 3 years
Study location: Mexico and United States
Investigators
- Sergio Hernandez-Jimenez, Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran, Mexico
- Enrique Caballero, Joslin Diabetes Center, United States
Research team
- Paloma Almeda-Valdes, Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran, Mexico
- Cristina Garcia-Ulloa, Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran, Mexico
- Juan Manuel Medina---Almazán, Telmex, Mexico

Abstract
Primary Research Aim
Create, validate and export the use of a technological tool that contributes to empowerment in patients with diabetes, the provision of care according to quality standards, and generate real—time information required to measure the effectiveness of interventions.

Secondary research aims
To have an open information system, robust and interoperable on diabetes and its comorbidities to allow recovery, handling, processing, analysis and publication of specialized information according to the newest social and semantic tools of the digital era.

Research Objectives and Methodology
Designing an online information system, minding primarily a database relating interventions, designed in progress or SQL permissions at different levels, allowing records, process and retrieving information at different levels:
- Medical
- Administrative
- Patient
Current Status
We had previously created the modules for the different interventions of the multidisciplinary program. To date, we have entered complete data from 1200 patients with consistency of the information, upper and lower values of alerts and the format to download the information. Data has been processed according to the indicators of the National Quality Assurance Program in diabetes care. The last year we have been working in the platform to allow other clinics (diabetes, obesity and dyslipidemia) to start using the system. Users and passwords have been elaborated for each member of the clinic. We have also been working in the platform for the patients. This system will allow the patient to upload their glucose monitoring registries, food registry, body measurements and main metabolic parameters. The patient will be able to visualize their own metabolic evolution and the data will also be available for the primary care physician in order to analyse and make changes in the clinical practice.

Many changes have been made according to specific needs. The platform for each of the different clinics has to have specific changes in order to work. To make a universal platform, the minimum, most consistent and important variables have to be kept. A very cautious selection of variables has to be done to make it work in different areas.

Engagement with Policy Makers

- What specific policies do you intend to influence?
  - We intent to influence the attention model and quality for the patient with diabetes. The electronic registry will help to have a national registry of the patients with diabetes.

- Which stakeholders have been engaged?
  - We started conversations with a specific company to start the analysis of socio-economic benefits of the CAIPaDi model. In this attention model the electronic registry will be included. The companies included will be FUNSALUD (Fundación para la Salud), IMS Consulting Group and some Pharmaceutical Industries.

- How have these stakeholders been engaged?
  - IMS Consulting Group has engaged in the economical analysis. The other partners have engaged in funding the analysis and will be in part in charge of writing a publication of the results.

Plan for Dissemination of Data

- Purpose: The purpose of the publication will be to show the experience and usage of the platform, the benefits of having real-time information, the possibility of having the patient participate in their treatment and show how e-health can have a positive result in the quality of attention of patients with diabetes.

- Audience: Any healthcare professional

- Message: The conformation of a multidisciplinary team and the usage of electronic system registries improves the quality of the health attention.

- Timing: Results from the CAIPaDi program will be published late 2015 – beginning of 2016. Publication of the software will be 2017 from the first phase of the development and in 2018 a second publication with the results of the different platforms.
**Global Alliance for Chronic Diseases**  
*Research Network*

**5th Annual Scientific Meeting**  
17 – 21 October 2016  
*Sydney, Australia*


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**DM12: Mobile phone text-messaging to support treatment for people with type 2 diabetes in sub-Saharan Africa: a pragmatic individually randomised trial**

*Funded by:* MRC-SA, MRC-UK; *Duration:* 3.5 years  
*Study location:* Cape Town, South Africa; Johannesburg, South Africa; Malawi  
*Investigators*

**PIs**  
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Naomi Levitt, University of Cape Town, Cape Town, South Africa  
Shane Norris, University of the Witwatersrand, Johannesburg, South Africa  
Moffat Nyirenda, London School of Hygiene and Tropical Medicine, London, United Kingdom

**Research team**  
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Emmanuelle Daviaud, South African Medical Research Council, Cape Town, South Africa  
Natalie Leon, South African Medical Research Council, Cape Town, South Africa  
Lionel Tarassenko, University of Oxford, Oxford, United Kingdom  
Ly-Mee Yu, University of Oxford, Oxford, United Kingdom

**Abstract:**  
**Primary Research Aim**  
The overall aim of this project is to test the effectiveness of sending short message service (SMS) texts in improving health outcomes and supporting medication adherence in patients with type 2 diabetes in the context of implementing a low-cost, mobile-health communication infrastructure in an operational setting.

**Research Objectives and Methodology**  
Failure to take diabetes medicines regularly is a major problem in sub-Saharan Africa. There are many different causes for this, and more support for better use of medicines is needed. However, resources to identify and support patients who are not making best use of medicine are scarce in low-income settings. One way of getting additional help to people is through mobile phone based support. This technology is widely available in low resource settings including among people with diabetes. Linked technologies such as SMS text messaging can sometimes be successful delivering low cost interventions efficiently. However, using text messages does not work consistently and we need more information about the best messages to use and when they work best. Although there is enthusiasm for using SMS text messaging, systematic development and testing of messages is not commonly done and studies need to measure the costs and benefits of these systems.

A randomized controlled trial of SMS text messaging for people with diabetes will begin in October 2016. It will provide information about the extent to which carefully developed messages might inform people about the benefits of their diabetes treatment, and motivate and prompt them to take it regularly. We will also collect detailed information about how the systems for sending messages are set up and used in the three different health care settings. This will guide future attempts to implement similar systems more widely elsewhere and for other long-term conditions.
We will carry out a detailed study of the costs of wider implementation and the potential value for money of such a system.

Participants will use the system for twelve months. The primary outcome is the change in HbA1c and the proportion of patients collecting >= 80% of their agreed diabetes related medication. Secondary clinical outcomes are change in systolic blood pressure, proportion of participants reaching treatment goals, self-reported measures of health status, self reported medication taking, and satisfaction with care.

**Current Status**
In October 2015 we will start working with our clinical collaborators and patients with diabetes to ensure that the system to deliver messages, and the message content, can be used in routine clinical care. We will work with a wide group including industry and policy makers to make sure that content of the text messages is appropriate for each of the planned study sites. We will continue to work with patients, clinical staff, and the wider community during and after the main trial to see how the technology was used and how people felt about it.

Ethical and governance approvals are now in place with the sponsor (OXTREC), University of Cape Town and Western Cape. Ethical approval has been received from University of the Witwatersrand and governance approval is being sought. Ethical approval has been given in Malawi. Contracting procedures between partners and the study sponsor are nearly complete. The coordinating centre for the project will be established in Cape Town by November 2015 and local project coordinators will be in place by April 2016.

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*Funded by:* MRC-UK; *Duration:* 3 years  
*Study location:* Bangladesh  
*Investigators*  
*PIs*  
Kishwar Azad, Diabetic Association of Bangladesh, Dhaka, Bangladesh  
Edward Fottrell, University College London, London, United Kingdom  
*Research team*  
Anthony Costello, University College London, London, United Kingdom  
Hassan Haghparast-Bidgoli, University College London, London, United Kingdom  
Hannah Jennings, University College London, London, United Kingdom  
Azad Khan, Diabetic Association of Bangladesh, Dhaka, Bangladesh  
Abdul Kuddus, Diabetic Association of Bangladesh, Dhaka, Bangladesh  
Joanna Morrison, University College London, London, United Kingdom  

*Abstract:*  
**Primary Research Aims**  
To evaluate the impact of a) a participatory community mobilisation intervention and b) an mHealth health promotion and awareness intervention on:  

i) the prevalence of intermediate hyperglycaemia and diabetes in rural Bangladesh and  
ii) the two year cumulative incidence of diabetes mellitus among individuals with intermediate hyperglycaemia in rural Bangladesh
Secondary research aims
To evaluate the effect of a) a participatory community mobilisation intervention and b) a mHealth health promotion and awareness intervention on:

1. Chronic disease risk factors of high body mass index, hypertension, physical inactivity and fruit and vegetable consumption;
2. Quality of life;
3. Psychological distress among self-reported diabetics;
4. Self-awareness of diabetic status;
5. Population knowledge about diabetes risk factors, symptoms and complications;
6. Proportion of diabetics receiving medical care or advice.

Research Objectives and Methodology
Project objectives are presented by project phase.

Formative Phase
1. To describe local understandings of diabetes and identify issues of stigma/status around body size, physical activity and diet among different genders.
2. To conduct an epidemiological study of diabetes and its risk factors and care-seeking in Faridpur;
3. To conduct a situation analysis and describe healthcare workers’ knowledge and current practices, available equipment, current service uptake, the presence of referral systems and the use of guidelines related to diabetes in Faridpur district and compare these to international guidelines and current practice at a large national apex diabetic hospital in Dhaka.
4. To design and document the development and implementation of community mobilisation and mHealth interventions within the study context.

Evaluation Phase
1. To test the effect of a participatory community mobilisation intervention and an mHealth health promotion intervention on intermediate hyperglycaemia and diabetes disease occurrence, management and risk factors in Faridpur district, Bangladesh.
2. To describe the implementation of mHealth and participatory community groups interventions in Faridpur district in terms of replication and scale up, including the necessary roles and responsibilities of different stakeholders.
3. To cost the interventions and evaluate their potential cost-effectiveness.
4. To assess equity impact (benefit incidence) of intervention in reducing diabetes and risk factors prevalence.

Dissemination Phase
To promote implementation and scale-up of community interventions (as appropriate depending on evaluation findings) through public symposia, engagement with media and through academic and health policy literature.

Current Status
As of August 2016, the formative study phase has been completed and the community mobilisation intervention implementation has started. The mHealth intervention implementation is scheduled to begin within the next month. Data from the baseline epidemiological survey are currently being analysed.
Plan for Dissemination of Data and Engagement with Policy makers
Throughout the project we will have consultations with policy and implementation stakeholders, as well as community and civil society representatives. Engagement activity at the start of the project is an essential component of the participatory nature of our interventions’ design and will provide opportunities to explain the project, incorporate learning from stakeholders, and build a platform for ongoing engagement. Subsequent targeted dissemination of project activities and findings will allow ongoing interaction with policy-makers, implementers and advocacy networks. In this way we will seek to increase awareness of chronic, non-communicable diseases in Bangladesh and effective interventions to address them, with a particular focus on diabetes. Engagement with stakeholders at all levels throughout will ensure local relevance of the interventions and enhance generalisability and scalability nationally. Advocacy and dissemination activities (e.g. announcement of study, presentations, posters for conferences and events, webpage at partner websites) at national chronic disease, diabetes, endocrinology, and public health meetings will complement policy briefs, press activity and traditional academic publications.

Publications
Trial Registration ISRCTN41083256 DOI 10.1186/ISRCTN41083256
http://bit.ly/2cWPfwj

DM14: Implementation of foot thermometry and SMS to prevent diabetic foot ulcer

Funded by: FIC, NIH; Duration: 2 years
Study location: Peru
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Abstract:
Primary Research Aim
Compare the incidence of diabetic foot ulcer (DFU) between the arm that receives thermometry alone and the arm that receives thermometry + messages (SMS and voice message).

Secondary research aims
Compare compliance with foot thermometer use between the arm using thermometry alone and the arm that receives thermometry + messages.

Methodology
Design
Physician-blinded, randomized, 12-month trial.
Intervention
Participants in both groups will receive enhanced education about diabetic foot ulcer at the beginning of the study and will also be provided with TempStat, equipment that capture a thermal image of feet
with different colors that represent different temperatures. When a yellow spot is detected, subjects will be instructed to contact the research nurse by phone or text message. The nurse will then ask about the patient’s activity on the previous two days, and will then make recommendations on how to decrease activity. In addition to everything provided to the other intervention group, this enhanced intervention arm will receive SMS and voice message reminders via mobile phones five times a week at 8 o’clock during the first week and then twice a week until the end of the trial. These SMS and voice message will remind patients to use the TempStat and perform foot care.

Outcome
The primary outcome is foot ulceration occurring at any point during the 12 month study duration.

Current Status
1) Recruitment: (concluded)
We started the recruitment of participants in October of 2016 in site 1 (Hospital Cayetano Heredia) and in December 2016 in site 2 (Hospital Nacional Arzobispo Loayza). We recruited 172 participants (86 in each study arm) in both hospitals.

2) Follow up period: (in progress)
We evaluated participants every 2 months and our follow rates are between 80 and 85%. Up to the end of August 2016 (between 7 and 10 months after randomization), 13 participants have presented foot ulceration. The follow up period will last until March 2017.

Stakeholder’s engagement:
- Start early communication with the hospitals and their physicians during the development of the proposal to facilitate fieldwork and recruitment process.

Development of an intervention:
- It is difficult to involve elderly people in interventions using technology. Two recommendations to deliver mHealth interventions in this group are: involve caregivers or deliver the messages by phone calls (more elderly people know how to answer a phone call than open a SMS in our context).

Recruitment process:
- At the beginning of our recruitment process, we had some problems with one of the recruitment’s sites, so keep close communication with the health workers of the recruitment’s site and encourage them to collaborate with the study.

Engagement with Policy Makers
At this moment we have not engaged policymakers. We believe that with the study results we will be able to engage policymakers. Also, we would like to promote diagnosis of people with high risk of ulceration and improve foot care in primary and secondary care.
Nowadays, we are working with clinicians from the Endocrinology Service of the Hospital Nacional Cayetano Heredia and Hospital Nacional Arzobispo Loayza, both located in Lima. Also, some communication with the Peruvian Society of Endocrinology has been started. Clinicians from the sites were engaged previous to the beginning of the intervention. They have actively participated in the recruitment process. The Peruvian Society of Endocrinology is currently collaborating by supporting the study and new proposals related to diabetes care.

Plan for Dissemination of Data
1. **The Ministry of Health in Lima;** after the end of the intervention. We will present the results of the study to the National Strategy to Prevent and Control Non-communicable Disease (La Estrategia Sanitaria Nacional de Prevencion y Control de Daños No Transmisibles,) in formal meetings.

2. **Local clinicians;** the results will also be present in the National Congress of Endocrinology and the Peruvian Congress of Diabetes.

3. **Scientific community;** we will publish the results of the study in scientific papers by May 2017.

**Publications:**


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**DM15: Bridging Income Generation with Group Integrated Care (BIGPIC)**

*Funded by:* NHLBI, NIH; *Duration:* 5 years

**Study location:** Kenya

**Investigators**

**PIs**

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**Abstract:**

Over 80% of cardiovascular disease (CVD) deaths occur in low- and middle-income countries (LMICs). Diabetes Mellitus (DM), a major risk factor for CVD, is also responsible for substantial morbidity and mortality in LMICs. Elevated blood pressure (BP) increases CVD risk among individuals with diabetes and pre-diabetes; **BP control is therefore a powerful way to reduce CVD risk.** Cost-effective, culturally appropriate, and context-specific approaches are critical. Two promising strategies to improve health outcomes are group medical visits and microfinance. Both can increase quality of care, clinician-patient trust, self-efficacy, health savings, self-confidence, group cohesion, and social
support. While these strategies have been successful in other contexts, their impact on CVD risk reduction among diabetics and pre-diabetics in low-resource settings is not known.

**Primary Research Aims:**

**Aim 1:** Identify the contextual factors, facilitators, and barriers that may impact integration of group medical visits and microfinance for CVD risk reduction, using a combination of qualitative research methods: 1) baraza (traditional community gathering) form of inquiry; and 2) focus group discussions among individuals with diabetes or at increased risk for diabetes, microfinance group members, and rural health workers.

**Subsidiary Aim 1.1:** Use identified facilitators and barriers to develop a contextually and culturally appropriate integrated group medical visit-microfinance model to reduce CVD risk among individuals with diabetes or at increased risk of diabetes. We will assess this model’s acceptability and feasibility by conducting focus group discussions with patients, microfinance group members, and health workers.

**Secondary research aim**

**Aim 2:** Evaluate the effectiveness of group medical visits and microfinance groups for CVD risk reduction among individuals with diabetes or at increased risk for diabetes, by conducting a four-arm cluster randomized trial comparing: 1) usual clinical care; 2) usual clinical care plus microfinance groups only; 3) group medical visits only (no microfinance); and 4) group medical visits integrated into microfinance groups. The primary outcome measure will be one-year change in systolic blood pressure (SBP), and a key secondary outcome will be change in QRISK2 CVD risk score, which has been validated for Black Africans.

**Subsidiary Aim 2.1:** Conduct mediation analysis to evaluate the influence of changes in social network characteristics on intermediate factors and intervention outcomes and moderation analysis to evaluate the influence of baseline social network characteristics on effectiveness of interventions.

**Aim 3:** Evaluate the incremental cost-effectiveness of each intervention arm of the trial, in terms of costs per unit decrease in SBP, per percent change in CVD risk score, and per disability-adjusted life year saved.

This research project will add to the existing knowledge base on innovative, scalable, and sustainable strategies for reducing CVD risk in diabetes and other chronic diseases in LMICs and other low-resource settings. If proven to be effective, we are poised to expand the approach beyond the trial, thus ensuring that this research will have a significant and positive health impact on a larger population.

**Research Objectives and Methodology:**

The objective of this research study is to utilize a transdisciplinary implementation research approach to address the challenge of reducing CVD risk in low-resource settings. The central hypothesis is: group medical visits integrated into microfinance groups will be effective and cost-effective in reducing CVD risk among individuals with DM and those at an increased risk for DM in western Kenya, and that the key modifiable CVD risk factor to be addressed is blood pressure (BP). We hypothesize that group medical visits and microfinance may each reduce CVD risk, but the integration of group medical visits and microfinance will yield the largest gains. We further
hypothesize that changes in social network characteristics may mediate the impact of interventions on the primary outcome, and that baseline social network characteristics may moderate the impact of interventions.

**Current Status**

This study is currently in the recruitment and data collection phase. Efforts for meeting recruitment and project milestones are ongoing. Below is a delineation of progress to-date by study aim.

**Aim 1- Barriers/Facilitators/Contextual Factors**
- Data collection and transcription complete
- Qualitative analysis ongoing

**Aim 1.1- Development of Integrated Group Medical Visit-Microfinance Model**
- Integrated Group Medical Visit-Microfinance Model developed and finalized
- Acceptability FGDs and feasibility pilot complete

**Aim 2- Cluster RCT**
- Randomization scheme finalized
- Process evaluation protocol nearing completion
- Recruitment soon to start

**Aim 2.1- Mediation a& Moderation Analysis**
- Social Network Survey finalized

**Aim 3- Cost-effectiveness Analysis**
- Costing Questionnaire finalized

**Challenges:**
There have been some challenges encountered over the course of this research study. Below is a bulleted list of those challenges and conclusions to-date.
- Programming: Form development and testing switched from mUzima to REDCap; the latter application’s streamlined process has facilitated project development
- Data collection tools: Fine tuning of data collection tools laborious; cultural competence in the evaluation of tools requisite
- Procurement: Procurement delays due to extensive and time-consuming administrative procedures; rates and cost of equipment substantially greater in Africa; may be more practical to procure point of care testing equipment in the USA and then ship or transport to study site

**Engagement with Policy Makers**
This research study utilizes a community-based participatory methodology in which both the community members and stakeholders are empowered to inform the research, influence the intervention, and ultimately impact research products. AMPATH’s Community Strategy Initiative routinely engages with existing community-based governance structures to gather input and feedback on any community-based initiative. In addition, the AMPATH Safety Net Program routinely gathers feedback from community members, and the microfinance intervention has evolved as a result of that input.

**Plan for Dissemination of Data**
Potential Conference Presentations:
- Global Alliance for Chronic Diseases
Publications


Pastakia SD, Manyara SM, Kamano JH, Vedanthan R, Menya D, Andama B, Laktabai J. Impact of Microfinance-Based Group Care on Linkage to Chronic Disease Care in Rural Western Kenya. Under review.

**DM16: A lifestyle intervention program for the prevention of type 2 diabetes mellitus among South Asian women with gestational diabetes mellitus**

*Funded by: ICMR, NHMRC; Duration: 5 years*

*Study location: Bangladesh, India, Sri Lanka*

*Investigators*

*Pis*

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*Abstract:*

**Primary Research Aim**

To determine whether a resource- and culturally-appropriate lifestyle intervention program in South Asian countries, provided to women with gestational diabetes after delivery, will reduce the incidence of type 2 diabetes, in a manner that is affordable, acceptable and scalable.

**Secondary research aims**

To determine the effects of the intervention on intermediate biological outcomes and lifestyle behaviours, as well as the proportion of women with a change in glucose metabolism status.

**Research Objectives and Methodology**

We have taken the learnings from previous diabetes prevention programs to develop a new lifestyle program that has a high probability of being feasible, acceptable and cost-effective in the South Asian context for women with prior GDM. We will optimise this intervention using an iterative, systems-based and user-centred approach. The intervention will be delivered by auxiliary nurse midwives or their equivalent in each participating hospital, representing a strategy of within-system task-shifting. We will then evaluate the intervention in a randomised controlled trial (1414 women from 24 centres) to determine whether it will reduce the incidence of T2DM at a median of 20 months follow-up. This project focuses on generating new knowledge around implementation of a preventive strategy embedded within existing health systems, using mixed-methods evaluation to inform on cost-effectiveness, acceptability and scalability. It incorporates a science component (a
program based on behaviour change theory that supports a multi-level approach to prevention by combining individually targeted strategies with social support, a social component (an innovative workforce strategy) and a sustainability component (a systems perspective for integration with existing health system infrastructure).

**Current Status**
The grant was awarded in August 2015. Ethics approvals have been obtained for most jurisdictions. The formative phase to refine the intervention has commenced in India and is expected to be completed in all countries by the end of October 2016. Recruitment of participants is expected to commence in November or December 2016.

**Engagement with Policy Makers**
We are still in the process of establishing, separately in each participating country, an Advisory Panel that will be chaired by a representative of the relevant end-user government agency. In India, we are engaging with the senior administrators of the Reproductive and Child Health Program and the National Program for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke. In Sri Lanka, relevant partners are administrators in the Non-communicable Diseases Directorate at the Ministry of Health. In Bangladesh, the Director General of Health Services and the Institute of Child and Mother Health are key government stakeholders. The Advisory Panels will also include representatives of relevant professional organisations and NGOs (e.g. Federation of Obstetric and Gynaecologist Societies in India, Sri Lanka College of Obstetricians & Gynaecologists and the Marie Stopes Clinic in Bangladesh). The first meeting of the Advisory Panels will be to consider the findings of the formative phase.

**Plan for Dissemination of Data**
In addition to peer-reviewed publications, we have committed to develop a report for each country utilising the RE-AIM framework. We will seek substantial input from each of the Advisory Panels in formulating these reports.

**Publications**
None to date. We expect to submit a paper on the design and formative phase of research at the end of 2016.
DM17: Tools and Practices to Reduce CVD and Complications in the Diabetic Population in Mexico

Funded by: NIH
Study location: Mexico
Investigators:
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Maia Ingram, University of Arizona, USA
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Abstract:

Primary Research Aim
This 5-year research project, currently beginning its second year, focuses on the prevention of cardiovascular disease (CVD) and its complications among adults with diabetes who use public health services in Sonora, Mexico. One major component of the study will assess the effectiveness of an adapted evidence-based community health worker intervention, Meta Salud Diabetes, a 13-week intervention aimed at reducing behavioral and clinical risk for cardiovascular disease among adults with diabetes. The second component is an implementation study that will consist of systematic engagement of local, state and national decision makers essential to scale up and sustain the intervention into the standard package of services offered by government-run health centers in Sonora and other Mexican states.

Research Objectives and Methodology
The first component of the study is a cluster-randomized trial among adult patients with diabetes sampled from 24 Grupos de Ayuda Mutua (support groups for patients with chronic disease) in Secretaría de Salud (Ministry of Health)-operated health centres in Sonora, Mexico. Community health workers and other personnel at each of 12 health centres randomized to the intervention condition will be trained in the Meta Salud Diabetes (MSD) curriculum. The health centre personnel will then enrol 20 participants with diabetes at each site into the 13-week intervention. Clinical risk factors (i.e., BMI, blood pressure, lipids, blood sugar, HbA1c), psychosocial (e.g., knowledge, attitudes, and beliefs) and behavioural (e.g., smoking, healthy eating, physical activity) risk factors for cardiovascular disease will be assessed via tests and a survey during the first of the 13 weekly educational sessions. We will then assess changes that occur at three months (immediately after the intervention) and at 12 months. Changes in the intervention sites will be compared to changes over the same time period among adult patients with diabetes in each of 12 health centres randomized to the control condition. For the second component of the study, extensive qualitative and descriptive data will be collected on the facilitators and barriers to adopt and integrate community health worker chronic disease interventions in Sonoran health centres and throughout Mexico.

Current status
The finalized Meta Salud Diabetes curriculum, which consists of 13 interactive educational sessions, was designed to engage participants in a process of developing healthy lifestyle habits and
identifying realistic self-management goals. Issues related to emotional wellness and gender and health are woven throughout the sessions. The research team completed baseline data collection for Cycle 1 of the intervention in 12 Centros de Salud (six intervention and six control). Personnel from the Ministry of Health who coordinate the Grupos de Ayuda Mutua (GAM) were trained to facilitate the MSD educational sessions and are currently implementing the intervention in six sites. Process evaluation includes documentation of both context and implementation, beginning with stakeholder meetings held at each one of the 12 health centers recruited for Cycle 1. Research staff are also conducting observation of the educational sessions at all six intervention sites, focusing on the interaction between the GAM coordinator and the curriculum, the GAM coordinator and participants, and among the participants themselves.

Stakeholder meetings:
Meetings were carried out with health center staff at each of the 12 participating sites with the purpose of getting buy-in for the project and encouraging a collective discussion to identify the conditions necessary for carrying out research activities.

Meta Salud Diabetes (MSD) curriculum design and training:
MSD was designed according to the Ministry of Health’s regulations and program guidelines for GAM support groups.

Effective training for GAM coordinators requires not only one-time instruction on the information component of the program, but also practice in executing the participative methodology required to implement program activities, including periodic booster sessions.

Data Collection:
Conducting a cluster randomized trial within the health care system requires flexibility and creativity to meet the competing needs of existing Ministry of Health policies, protocols, personnel, as well as limitations of physical space, resources and respect for the Ministry of Health’s desire not to exclude members of existing diabetes and hypertensive support groups even if they are not eligible for the study.

Data Management:
Empowered a binational team of data managers who can work seamlessly to identify and solve data related issues and improve data management flow and quality.

Team Building and Communication:
- Developed a meaningful communication plan that includes not only project management issues but technology that is effective and allows for the free flow of all types of information and ideas.
- Spend time to build communication and trust among members of the research team.
- Identified strengths and challenges of team members to better delegate roles and responsibilities

Engagement with Policy Makers
The research PIs initiated engagement with policy makers in the first months of the project when they shared project goals with the Ministry of Health in the state of Sonora. The results of the stakeholder meetings were also shared with policy makers, and the ongoing support of the Ministry
at the state and local level, as well as the involvement of the health center staff, were essential to the process of gaining access to the Centros de Salud.

**Plan for Dissemination of Data**

We are currently in the early stages of data collection, and will develop a data dissemination plan during year three of the project. We are committed to disseminating our project to the scientific community, to health professionals at all levels of government, as well as to the wider community of health promotion. We envision developing journal articles, book chapters, websites, short communications and use of social media.

**Publications**


**HT01: Utilizing HIV/AIDS infrastructure as a gateway to chronic care of hypertension in Africa**

*Funded by:* CIHR, CSN, GCC, IDRC; *Duration:* 5 years

*Study location:* Rwanda, South Africa, Uganda

*Investigators*

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**Abstract:**

**Background**

Antiretroviral therapy for the treatment of HIV has greatly improved life expectancy but has also been found to increase the risk of hypertension, and cardiometabolic diseases in general. Limited data is available on local trends in cardiovascular disease risk and how non-communicable diseases (NCDs), more generally, are screened, assessed and managed in people living with HIV in sub-Saharan Africa.

**Primary Research Aim**

The study aims to evaluate the effectiveness of active-case finding and to investigate the presence of cardiovascular disease risk factors in patients attending antiretroviral treatment services. These findings are to inform intervention programs seeking to ensure optimum integrated HIV and NCD care to HIV+ individuals.

**Research Objectives and Methodology**

In Uganda, trained clinical teams are responsible for identifying patients with HIV and non-communicable disease (NCD) co-morbidities each clinic day and link the patient to support and care services (the first objective) and collect data to inform second objective, which includes identifying the prevalence and correlates of hypertension. In South Africa these objectives were slightly expanded and included an assessment of the readiness of the health system in dealing with co-incident non-communicable diseases (NCDs) in people with HIV infection. A further aim of the South African arm is to investigate whether an automated hypertension treatment adherence support delivered via mobile-phone short message system (SMS) text-messages, adapted from a previously tested intervention in the general population, can also improve the uptake of medications and outcomes of hypertension care, without compromising ongoing ARV treatment in people with co-morbid HIV and high blood pressure.

**Current Status**

The study was officially launched in Rwanda at the School of Public Health at the University of Rwanda in December 2013. The aim in Rwanda is to conduct an assessment to determine the prevalence of hypertension in HIV-positive patients on antiretroviral therapy compared with ART-naïve and HIV-negative controls. The Rwandan team has completed 10% of total data collection and preliminary analysis and data cleaning is underway to inform the next phase of collection beginning September 2015.

The study in Uganda is further along. Phase one of data collection is complete and phase two is now collecting additional information on patient quality of life and provider quality of care.

In South Africa we have complete three waves of the project:

Wave 1: Investigating the prevalence, awareness, treatment and control of chronic non-communicable disease risk factors, particularly hypertension, in patients attending HIV-treatment centres in the Western Cape Province of South Africa.
Wave 2: Integrating HIV and NCD care: Perceptions, attitudes and practices of healthcare providers in the Western Cape Province of South Africa

Wave 3: Health Systems Readiness to Manage the Hypertension Epidemic in the primary health care facilities in the Western Cape, South Africa

We about to embark on the final wave, study 4 will entail the following: Mobile phone text messages to support high blood pressure treatment adherence in adults attending HIV treatment centres in the Western Cape Province of South Africa: a pilot study

**Engagement with Policy Makers**

Health facilities managers, Western Cape Province and National health authorities in charge of non-communicable diseases in South Africa have been extensively sensitised on the project. We have had several formal and informal meetings with these authorities before and during the execution of the project. Because the project fall in an emerging area where policy formulation is a work in progress, the overall purpose of engaging policymakers and stakeholders, is to contribute to policy formulation in the area of integration of HIV and non-communicable disease care.

**Plan for Dissemination of Data**

The ongoing plan for dissemination of data include publication in peer-reviewed journals, presentation at scientific conferences, submission as PhD thesis at universities, progress reports for health authorities and policy makers, feedback to health facilities. Peer-reviewers publications target the global scientific community. As of now 5 such outputs have been produced from the project (see list below), four other are under review while a few other are in planning or different stages of the writing process. Presentations at conferences also target the global scientific community, and numerous such communications have been done so far at both local and international conferences including those of the European Society of Hypertension, and the International Society of Hypertension. One PhD thesis has been submitted and approved from the project, another is at the advanced stage for submission early in 2016.

**Uganda:** 939 out of 1036 (93.5%) of patients with NCD-HIV co-morbidity 1.8% have been managed for stroke and 0.2% for Deep Venous Thrombosis; 97(6.5%) of the patients are diabetic while 51(4.9%) are both hypertensive and diabetic. Of the hypertensive patients, 845(90%) are on Anti Retro Viral Therapy (ART), of whom, 64((7.6%) are on protease inhibitor specific ART regimen. Protease inhibitors are known to predispose to dyslipidaemia, which is a risk factor for cardiovascular disorders.

**South Africa:** The distribution of body size phenotypes in people with human immunodeficiency virus (HIV) infection has yet to be characterized. We assessed the distribution of body size phenotypes overall, and according to antiretroviral therapy (ART), diagnosed duration of the infection and CD4 count in a sample of HIV infected people recruited across primary care facilities in the Western Cape Province, South Africa. Adults aged ≥ 18 years were consecutively recruited using random sampling procedures from 17 different HIV/AIDS public facilities in the Western Cape, and their cardio-metabolic profile were assessed during March 2014 and February 2015. They were classified across body mass index (BMI) categories as normal-weight (BMI < 25 kg/m²), overweight (25 ≤ BMI < 30 kg/m²), and obese (BMI ≥ 30 kg/m²), and further classified according to their metabolic status as "metabolically healthy" vs. "metabolically abnormal" if they had less than two vs. two or more of the following abnormalities: high blood glucose, raised blood pressure, raised
triglycerides, and low HDL-cholesterol. In this relatively young sample of HIV-infected individuals (n=748), metabolically abnormal phenotypes were found to be frequent across BMI categories.

Blood pressure profiles were collected for 827 HIV positive participants and preliminary analysis of the screening data conducted during the first phase of our own study showed that 31% of the HIV/ART participants in the survey suffered from hypertension with only 33% being aware of their condition, and among whom 89% were on anti-hypertensive treatment, with only about half of these achieving target blood pressure control levels.

In the qualitative part of the study we investigated the perceptions of healthcare providers regarding the integration of HIV and NCD care. A total of 40 interviews were conducted. Integration of chronic care is seen as important by providers but implementation could be influenced by the availability of resources and physical structures across facilities

Publications


Submitted for peer-review:
1. Treatment Outcomes of Patients with HIV and NCD Comorbidities Receiving care from Mildmay Uganda. Health, Education and Behavior Journal
2. Outcomes of Self-Management Education for Patients with Non-Communicable Diseases including; Hypertension, Diabetes, Mental illness and Cardiovascular Diseases and HIV and AIDS comorbidity at Mildmay Uganda - Preventing Chronic Diseases Journal.
HT02: Developing an innovative strategy for hypertension detection, treatment and control in two middle income countries, HOPE-4

Funded by: CIHR, CSN, GCC, IDRC; Duration: 5 years
Study location: Colombia, Malaysia
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Abstract:
Primary Research Aim
The Primary Research Aim is to evaluate whether the cardiovascular (CV) disease risk detection, treatment, and control programme can substantially improve hypertension control and overall Framingham Risk Score (FRS) at 1 year.

Research Objectives and Methodology
The overall objective of the Hypertension Phase of the HOPE-4 programme is to develop and field-test an evidence-based, contextually appropriate model for hypertension detection, treatment and control. This program will be evaluated in a cluster randomized control trial (cRCT) with a formative research strategy. More specifically, the program involves: (a) simplified WHO-supported algorithms that are implemented by non-physician health workers (NPHWs) and further supported by pre-programmed e-health tablet technologies; (b) evidence-based CV medications that includes a combination of anti-hypertensives and a lipid-lowering agent, and (c) patient-nominated treatment supporters (friends or family members) to help optimize long-term lifestyle modification and adherence. The results of this study will be submitted for peer review to a scientific journal. Further, results will be fed back to patients, physicians and health policy makers as deemed appropriate by experts.

Current Status
To date, HOPE-4 has recruited and trained 20 NPHWs and expanded screening to 11 international communities, of which 6 have fully recruited the required number of participants. Based on the data collected so far, approximately 3379 homes have been visited, 1281 participants have been screened, and with an enrollment rate of approximately 32% (36% in Colombia and 26% in Malaysia), a total of 406 participants have enrolled.
However, prior to the study’s expansion we want to note two significant developments that we have had to recently address. First, based on the data we analyzed from our pilot communities we have had to tighten our participant selection criteria because a significant portion of our recruited population (over 50%) had average systolic blood pressures below 140 mmHg, and therefore low CV disease-risk profiles of whom would receive little, if any, benefit from our 1 year hypertension programme. Second, due to complications with obtaining our combination of CV medications in a single pill we have instead secured our combination CV medications from local pharmacies of participating regions.

Lastly, as reported in the previous update, two systematic reviews on health systems and patient-physician barriers to hypertension awareness and management have already been published in PloS Med 2013 and PloS ONE 2014, respectively. We have also published a health systems inventory and appraisal for Colombia in PloS ONE 2015 and Malaysia in BMC Health Services Research 2015, which was led by our affiliates at the London School of Hygiene and Tropical Medicine.

Although we structured and designed our research model to eliminate system-wide barriers to healthcare access, ensuring gender equity in participant recruitment has been a challenge. In our attempt to improve the study’s low uptake of males relative to females we tried varying the times at which community screening is conducted so that working individuals also have a chance to be screened. Since this attempt, an initial 34% difference in male-female recruitment (44 male: 88 female from 2 pilot communities) has reduced to 28% (100 male: 144 female from 6 communities) in Colombia. Similarly, in Malaysia the difference was reduced from 27% (72 male: 126 female from 2 pilot communities) to 10% (73 female: 89 male from 5 communities).

**Publications**


HT03: DREAM-GLOBAL: Diagnosing hypeRtension - Engaging Action and Management in Getting LOwer Bp in Aboriginal and LMIC

Funded by: CIHR, CSN, GCC, IDRC; Duration: 5 years

Study location: Canada, Tanzania

Abstract:
Primary Research Aim
The primary objective of the study is to assess the effect of SMS messages on BP control in aboriginal people in Canada and rural Tanzania with hypertension. Secondary objectives include evaluating the efficacy of community BP measurement and SMS messaging for diagnosing hypertension in Aboriginal Canadian and rural Tanzanian people at risk of developing this health problem. A third objective is to document and explore associations between SMS messaging and community BP measurement with patient and healthcare provider satisfaction and interest in the program during the study.

Research Objectives and Methodology
The primary objective of the study is to assess the effect of SMS messages on BP control in aboriginal people in Canada and people in rural Moshi region in Tanzania with hypertension. This is a prospective, randomized blinded allocation study of BP control with SMS messaging in patients with uncontrolled hypertension.

The project is being carried out in five aboriginal communities in Canada and two in Tanzania. Adult patients with uncontrolled hypertension can be enrolled into the BP control study, and those without hypertension but at high risk of developing this condition into the BP screening study if they meet the study inclusion criteria and have none of the exclusion criteria. Participants will be screened prior to enrollment and undergo a follow-up period of at least 12 months. We have introduced and will test the efficacy of an SMS (e-voucher) model of drug access/distribution in Tanzania through private partnerships with drug distributors.

Lessons Learnt/Conclusions to Date
It is critical to develop multi-faceted, and realistic health interventions in collaboration with the communities. Based on community-based participatory research (CBPR), we aimed to develop
implementation tools to guide complex interventions. As a result, the I-RREACH tool was designed by the research team to facilitate implementation of the intervention and to identify existing strengths and areas requiring further development for an effective implementation. I-RREACH has been found to be easily adaptable to diverse geographical and cultural settings and can be further adapted to other complex interventions. As recruitment and retention with communities is a priority, regular engagement with communities and site visits can help to maintain partnerships and sustain community interest.

**Current status**

The project is enrolling patients in both countries. Process evaluations have been underway, and the final analysis expected in 2016-2017.

**Publications:**


**HT04: A school-based education program to reduce salt intake in children and their families**

**Funded by:** MRC-UK; **Duration:** 2 years (Project Completed)

**Study location:** China

**Investigators**

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Abstract:

**Primary Research Aim**

To determine whether an education program targeted at primary school children could lower salt intake in children and their families.

**Methodologies**

**Design:** Cluster-randomised controlled trial in 28 primary schools in urban Changzhi, northern China. 279 children in Grade 5 of primary schools with mean age of 10.1 years will be enrolled, and 553 adult family members (age 43.8 years) will also participate in the assessments.

**Intervention:** Schools will be randomly assigned to either the intervention or control group. Children in the intervention group will be educated on the harmful effects of salt and how to reduce salt intake using the schools’ usual health education lessons. Children will then deliver the salt reduction message to their families. The intervention duration is one school term (≈3.5 months).

**Main outcome measures:** The primary outcome will be the difference between the intervention and the control group in the change of salt intake (measured by 24h urinary sodium) from baseline to the end of the trial in children and adults. The secondary outcome will be the difference between the two groups in the change of blood pressure.

**Current Status**

The study has been successfully completed. The main paper has been published in BMJ. Cost-effective analysis is completed and manuscript is to be submitted shortly. Process evaluation analysis is in progress.

Iodine sub-study: Iodine measurement completed and paper published in BMJ Open.

The study demonstrates that an education programme delivered to primary school children as part of the usual curriculum, is effective in lowering salt intake in children and their families. This offers a novel and important approach to reducing salt intake in the population where most of the salt in the diet is added by the consumers. The reduction in salt intake lowers blood pressure, but does not compromise iodine status in northern China where universal salt iodisation is mandatory.

**Engagement with Policy Makers**

This could include the following elements:

- Which policymakers have been engaged?
- How have the policymakers been engaged?
- What specific policies do you intend to influence?
- Which stakeholders have been engaged?
- How have these stakeholders been engaged?

A book on the intervention program has been sent to 20 members of the National Committee of the Chinese People’s Political Consultative Conference who have interests in salt and health. Policies to promote salt reduction and salt substitute are expected to be proposed through the committee.

**Plan for Dissemination of Data**
This could include the following elements:

- Purpose
- Audience
- Message
- Methods
- Timing

Upon publication of the BMJ paper, both WASH (World Action on Salt and Health) and The George Institute issued press releases which were picked up by many media outlets, generating wide media coverage in the UK, China and many other countries. The research has had a wide reach, and has been disseminated to policy makers, health professionals and a large proportion of the general population.

**World Salt Awareness Week 2015:** The main paper (BMJ) was published coinciding with the World Salt Awareness Week 2015, the theme of which was “Salt and Children”. The Week highlighted the importance of reducing salt intake in children. Over 30 countries took part in the salt awareness week. Many countries expressed interest in the School-EduSalt programme.

**Publications**


**HT05: Treating hypertension in rural South Africa: A clinic-based lay health worker trial to enhance community-based outreach services for integrated chronic care**

*Funded by:* MRC-UK; *Duration:* 3 years

**Study location:** South Africa

**Investigators**

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Abstract:

Primary Research Aim

The aim of the trial is to reduce population levels of uncontrolled hypertension, especially in those individuals at greatest risk, by supporting and strengthening the management of hypertension in primary care clinics.

Research Objectives and Methodology

The research objectives of the trial are to:

• Compare the effectiveness of clinic based lay health workers to ‘usual care’, in improving the management of hypertension (including access to care, adherence to treatment, and management), in rural South Africa.
• Conduct a realist evaluation to understand the patient, intervention, implementation, health system and community barriers and facilitators that explain patient outcomes in the intervention and ‘usual care’ clinics.
• Contribute specific recommendations to strengthen policy and practice in similar rural settings of South and Southern Africa.

Methods

The trial involves randomising clinics to receive support from lay health workers (LHW). Four clinics will be randomised to receive the LHWs, and four will be control clinics. The outcome of the trial will be assessed by two population based cross sectional surveys; one at baseline and one at the end of the intervention. The surveys will collect data on cardiovascular risk factors, use of clinics, and current medication, as well as measuring blood pressure. The hypothesis is that the LHWs will improve clinic functioning, thus encouraging more use of the clinics and more consistent use of medication for high blood pressure. Alongside the trial there will be a system linking the clinic records and the existing Health and Demographic Survey System database, enabling us to collect patient specific data on clinic use. There will also be an extensive process evaluation involving interviews with nurses, clinic managers and supervisors, LHWs, and our implementation manager. We are also carrying out observations in the clinics, conducting patient exit interviews and interviewing three purposely selected samples of clinic users.

Current Status

Our intervention phase is complete and we have also completed the second cross sectional survey. Blinded data analysis is well underway, and we are hoping to know very soon whether there is evidence of an effect on population levels of blood pressure. Once the preliminary analysis is complete, the data will be provided in a form where intervention and control clinics can be identified, so that we can carry out secondary analyses. Analysis of the large amount of qualitative and quantitative process evaluation data is on-going, but we have experienced serious logistic
problems which have meant some serious delays. We hope that our first paper, reporting the primary result will be ready for submission by the end of the year.

So far, the process evaluation has shown primary care clinics under enormous strain due to the rapid increase in the numbers of patients with chronic diseases attending the clinics. This is partly due to the rollout of ARV medication for people who are HIV positive, but also due to health authority policy to refer chronic patients routinely attending hospital outpatients back to local clinics. Equipment in the clinics, especially blood pressure machines and cuffs fail repeatedly due to very heavy use. The table below, taken from last year’s report, still stands.

<table>
<thead>
<tr>
<th>Why we might have an effect</th>
<th>Why we might not have an effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>More patients turn up for their appointments</td>
<td>Demand for ARVs for HIV swamps the clinics</td>
</tr>
<tr>
<td>Shorter queues in clinics</td>
<td>Shortage of nursing staff</td>
</tr>
<tr>
<td>More newly diagnosed hypertension</td>
<td>Drug outages for anti-hypertensives</td>
</tr>
<tr>
<td>LHWs giving active support and advice</td>
<td>Constant problems with BP machines breaking down</td>
</tr>
</tbody>
</table>

(ARVs: anti-retroviral drugs, HIV: Human immunodeficiency virus, BP: blood pressure)

**Engagement with Policy Makers**

Policy makers and stakeholders at Provincial and local levels have been engaged in different ways;

1. There were initial consultation meetings with the Directorate of chronic diseases at Provincial level in the design and development of the intervention.
2. As part of the stakeholder consultation process, the research team engaged and presented at the Mpumalanga chronic disease forum and Provincial conference on hypertension on 28th November 2013.
3. Midway the implementation period (13th February 2015), the Provincial Directorate on chronic diseases was invited and toured the intervention clinics to experience the intervention in operation. This was followed by a discussion on the progress of the intervention.
4. The research team sent out quarterly implementation progress reports to the provincial and sub district departments of health on the progress of the intervention and the need to address short term challenges experienced during implementation i.e. breakdown of BP machines
5. There were frequent meetings between the implementation manager and the sub district manager for the BBR sub district that resulted in addressing challenges that required short term intervention i.e. in-service training for nurses, clinic managers, clinic supervisors in managing acute patients with elevated BP.
6. As part of the Agincourt HDSS, their stakeholder engagement office engaged local leadership and community members in presenting the progress of the intervention through community feedback meetings.

**Plan for Dissemination of Data**

We intend to disseminate the results to various audiences. We will provide peer reviewed papers and conference presentations for the academic community, feedback meetings for the local community in the research site, and written briefings and, if they desire, workshops, for the local and national health policy makers.
Publications

HT06: Improving the control of HT in rural India: overcoming the barriers to diagnosis and effective treatment

Funded by: NHMRC; Duration: 3 years
Study location: India
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Fabrizio D’Esposito, University of Melbourne, Melbourne, Australia

Abstract:
Primary Research Aim
There are significant barriers to the diagnosis and treatment of hypertension in both urban and rural regions of India, and there is some evidence that individual and system barriers differ according to the stage of transition of the population. Our research is being undertaken in three diverse rural regions in India, each of which is at a different stage of economic and epidemiological transition (early, middle, late) to identify and explore these potentially different barriers and knowledge gaps in the diagnosis treatment and management of hypertension.

Research Objectives and Methodology
We are employing common recruitment and study methods across these settings in order to address the following aims:
Quantify and identify the determinants of the prevalence, awareness, treatment, and control of hypertension in three different rural populations in India.

Identify barriers to hypertension control.

Develop and pilot intervention strategies to improve the control of hypertension. The pilot program is based on those factors identified as contributing to hypertension control in these settings and includes both management and prevention strategies aimed at the individual, health service delivery and policy levels.

We have obtained ethics approval from all institutes, including ICMR and each sponsor partner (n=5). We have successfully harmonised the cross sectional survey across three disparate rural settings (English plus two additional languages), and trained staff to administer the survey and collect anthropometric data using identical techniques.

Project achievements

1) Approximately 14,000 total participants from the three study regions have been recruited and surveyed. Participants had their blood pressure (BP) measured, either in their homes or at a mobile centre, in strict accordance with the WHO Steps protocol for measuring BP. Weight, height, and waist circumference were also assessed in addition to risk factors and other comorbidities, family history, health care utilisation, current medication, socioeconomic position, diet, physical activity, smoking, other tobacco use and quality of life. Barriers associated with the assessed domains were also investigated. Data entry, data cleaning and analysis is continuing.

2) Focus Group discussions have been undertaken to explore people’s experiences with health care systems, particularly related to their experience in the diagnosis and management of hypertension as well as their perceptions and beliefs about hypertension. In addition in-depth interviews have been carried out with health care providers (Primary Health Centre Clinician, Staff nurse, and other associated non-physician health care workers) in these rural settings. These interviews were conducted to explore care practices for hypertension, and perceptions of the health care system in relation to screening and management of hypertension and other chronic conditions.

3) We have conducted an audit of pharmacies at each site to capture availability and cost of medicines in the public and private sector. This information was used to identify opportunities for the inclusion of pharmacological activities within the intervention plan.

4) For the intervention, we have developed a low cost community-based group intervention that is culturally and economically appropriate for each setting. Villages were randomised to receive the intervention or to act as a control villages. For villages randomised to the intervention, participants with hypertension were invited to attend group meetings. Content for the intervention components was driven by preliminary analysis of the cross-sectional data which reflected poor knowledge of hypertension. The resources developed specifically for the intervention are primarily pictorial to ensure consistency of information at each site and to account for disparities in educational levels across the three sites. Content included strategies to increase knowledge and understanding of the disease, promote healthy behaviour change and clinical interaction through goal setting. At each of the six group meetings, which lasted approximately 90 minutes, participants were weighed, had their blood pressure measured and received self-management and lifestyle education from locally sourced “expert” advisers. These advisers included clinicians from the primary health centre servicing the region, pharmacists, and nutritional advisors. The groups provide social support and practical solutions for the “how to” implementation of the suggested behavioural and clinical changes required for effective
control of hypertension. Next of kin or additional support persons were encouraged to accompany and support the person with hypertension at each group meeting.

Prior to the commencement of the intervention, Accredited Social Health Activits (ASHAs) in each location were trained to deliver the self-management sessions of the intervention and to collect data regarding the implementation of the intervention. These ASHAs are local health workers who reside in the villages. Training of ASHAs was standardised and undertaken by the site supervisors at each site in accordance with the study specific ASHA training manual to ensure consistency of training between sites. Materials and resources for training ASHAs, as well as standardised resources and education material for delivering the intervention were initially developed in English. These materials were refined following feedback from ASHAs involved in a pilot training programme in the Rishi Valley region. Once these resources were finalised, they were translated/back translated into site specific language (Telugu and Malayalam).

**Preliminary intervention outcomes**
Participants attending the group meetings were revisited approximately 6 to 8 weeks after the last meeting to complete final data collection. In these participants, and in those in the control arm, we re-measured BP and anthropometry and re-assessed health care utilisation, attitudes to behaviour change and activities related to self-management of hypertension. Changes in continuous and categorical variables were assessed relative to their values determined at the time of the cross-sectional survey. Barriers to attending the meetings were assessed, as were engagement and utilisation of health services during the period of the intervention. Perceptions by participants of the level of support obtained from the ASHA were assessed, including usefulness of advice, self-management assistance, encouragement and support received by the participant.

**Process Evaluation.** Assessment of fidelity of the meeting structure, content and implementation was assessed using two meeting reports:
1. The ASHA completed a report about the number of enrolled participants and community members attending the meeting, and major activities undertaken during the meeting.
2. Members of the research team completed a report to provide further information about the meeting activities and detail the shared experiences or difficulties of the participants in managing their hypertension or achieving their goals.
ASHAs also completed surveys at the commencement and end of the intervention to assess changes in knowledge.

**Methodological challenges**
- To develop common recruitment and study methods that take into account the great diversity of culture, systems, and communities.
- Across three sites with divergent cultural attitudes it has been challenging to promote and maintain consistency of anthropometric measurements.
- Investigating divergent and varied potential barriers and gaps with respect to diagnosis and management of hypertension whilst minimizing participant burden.
- Developing the training material for ASHAs, intervention resources and meeting content that was suitable/relevant across all sites, particularly because each site has significantly diverse levels of general and health specific literacy.
Entering the data for analysis has also been a major challenge. This has been partly attributable to the large number of surveys completed. Delays to the start of recruitment also contributed reducing the timeframe available for rapid data entry so that entry has now been prolonged. Cleaning the data is another major challenge.

**Critical lessons from last 12 months**

We identified a need to allocate specific manuscripts to each of the research team. This will enable publications to be prepared in a more timely fashion. Each of the lead authors will be responsible for data cleaning manuscript-specific variables to maximise data quality. There was also a need to develop a database that could be used by each site to enter data from the intervention. This enabled us to reduce the data entry load on one site.

**Aims/priorities for next 12 months**

Analysis of the extensive data base of the baseline data will be ongoing in order to investigate our original hypotheses:

1. Knowledge/awareness of the presence of hypertension and about risk factors associated with hypertension is greater in the late transition region than in the early transition region.
2. Prior BP measurement is less common in the early transition region (Rishi Valley) than in the late (Kerala) and medium transition region (Andhra Pradesh Rural Health Initiative: APRHI).
3. In those previously identified as having hypertension, costs of treatment are the greatest barrier to ongoing management of hypertension in all settings.
4. Poor management of hypertension is more common in women, people living below the poverty line, and in those who did not finish high school.
5. High salt intake is a major risk factor for hypertension in both men and women in the late transition region, but its effect is limited to men in the early transition setting.

We will also finalise assessment of the facilities of health care providers serving the communities. This is to identify how equipment and staffing could be supported to improve diagnosis, treatment and ongoing management of hypertension.

We further aim to complete focus group discussions with people in the intervention group who did not attend the group sessions. This will enable further identification of barriers to this type of management.

We also aim to disseminate our findings within the local communities and health system (see below).

**Other research impact**

Our findings might impact on other research activities for other non-communicable diseases in the region, as we will have self-reported data on diabetes, hyperlipidaemia, and memory loss. The intervention designed might be applicable to managing these other conditions. The research will also enable us to determine how non-physician health workers can be utilised to control hypertension in rural communities.

**Lessons Learnt/Conclusions to Date**

We have completed a comprehensive community based survey of approximately 14000 participants. Representative communities were randomly selected for participation in the baseline survey and
sampling was defined by age group (18-24, 25-34, 35-44, 45-54, 55-64, 65+) and sex with the goal of including comparable numbers of individuals from each group. As hypothesised, we have encountered differences in the prevalence of hypertension and barriers to its control across these three rural settings. There is also variation in both lifestyle factors and availability of goods and services, including health care services and food variety. We will be able to explore how the variability in lifestyle and services impacts on hypertension and associated health outcomes.

An audit of available pharmaceuticals for the treatment and clinical management of hypertension has been completed at each site. This information was used to develop the intervention content and will be published separately to enhance and disseminate knowledge regarding this significant aspect of clinical management of hypertension.

Focus group discussions of participants from each location have been conducted and are currently being analysed for recurrent and divergent themes. In-depth interviews with health care providers have enabled identification of barriers to accessing health care services and other system barriers. Training of ASHAs was found to be feasible and acceptable. Intervention materials have been developed and utilised in the intervention. Process evaluation measurements have been collected to monitor the intervention. This comprehensive process evaluation will enable us to further engage with major stakeholders from the Ministry of Health and Family Welfare, and potentially enhance scalability. These data are ready for data analysis and write-up.

**Current Status**

Final focus group discussions and assessment of health centres are currently underway. When these are completed, all data will be ready for final checking and analysis.

**Engagement with Policy Makers**

In the initial phases of setting up the baseline survey, each site used their own approach to engage stakeholders. All involved local government (sarpanch) and village elders, while at least one site also engaged the rural health care system (e.g. Auxiliary Nurse Midwives and ASHAs). One site also obtained a letter from the Additional Director of Health (ADH) and the District Health & Medical Officer (DH&MO) in support of the study. These were difficult letters to obtain as these officials were often away from their offices, but were important to obtain as the health care system did not provide support until the letter was obtained. There were no barriers in involving sarpanches and village elders.

At the end of the second year of the study, when most of the baseline surveys were complete, we organised an investigator meeting to design the intervention. We also invited major administrative and health policy stakeholders to contribute to the development of the intervention. These stakeholders included representatives from the Indian Council of Medical Research, Public Health Foundation India, as well as the State Program officer from the National Programme for Prevention and Control of Cancer, diabetes Cardiovascular diseases and stroke, Director of Andhra Pradesh Public Health and Family Welfare.

Before their arrival at the investigator/stakeholder meeting we spent a day and a half discussing the findings from the baseline surveillance, and designing a draft intervention based on these findings. We then presented the draft intervention plan to the stakeholders to gain their input. This approach worked well as the policy makers were able to provide some insight into the functioning of the health system and comment on how (or whether) our planned intervention could fit within the
current health system. The intervention was refined to maximise potential uptake within the health system should the intervention be successful.

Through our survey of the availability of medicines, we have also engaged with pharmacies and health centres. Further engagement with health centres is ongoing through a survey of equipment, resources, and expertise within each health centre. Clinicians and other healthcare workers have been engaged through our in-depth interviews. They will further be engaged through feedback from our surveys.

Importantly, as a direct consequence of our research efforts, one of our team, Dr Kartik Kalyanram, was invited to participate in a working group, led by the National Health Mission, to standardise treatment guidelines for hypertension. This has resulted in publication of a Ready Reckoner for Standard Treatment Guidelines by the Ministry of Health and Family Welfare, Government of India (May 2016).

Following the intervention we plan on feeding back our findings to the policy makers to enhance uptake.

**Plan for Dissemination of Findings and Learnings**

Feedback from focus groups, in depth interviews and medicines availability survey will be consolidated after the intervention and disseminated to public health systems to inform health provision services. Based on medicines availability and qualitative feedback from focus groups and in depth interviews a treatment algorithm/guideline, which is consistent with the Indian Hypertension Management Guidelines, will be developed. In order to strengthen the integration of community-based and delivered education programmes for self-management of health into the local primary health care system, we will disseminate the following information to benefit local health services through:

1. Sharing of information gained from the cross-sectional survey;
2. Developing resources for use by health system staff for assessing and treating hypertension;
3. Providing details to health centres about the resources and training they require to support such an intervention.

We will also disseminate the following information to improve availability of pharmaceutical preparations:

1. Inform pharmacies about medicine availability and possibilities for providing medications to suit the local communities;
2. Discuss options for enhancing or improving medication adherence (by addressing availability, dosing and packaging options).

Results will be shared with the Ministry of Health & Welfare and officials of the National Health Mission and relevant local health care providers and communities at each of the sites. Further dissemination of the results to research, clinical and health communities will be pursued via international peer-reviewed journal articles and conference presentations. The Global Alliance of Chronic Diseases (GACD) will also be informed of the findings of the study.

**Publications**

D’Esposito F, Sathish T, Alim M, Thrift AG. Cluster randomised feasibility trial to improve the Control of Hypertension In Rural India (CHIRI): a study protocol. *BMJ Open* Accepted 16 August 2016.

**HT07: A smartphone-based clinical decision support system for primary health**

*Funded by: NHMRC; Duration: 3 years*

*Study location: India*

*Investigators*

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- Rohina Joshi, The University of Sydney, Sydney, Australia & The George Institute for Global Health, Sydney, Australia
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*Abstract:*

**Primary Research Aim**

To test whether an electronic clinical decision support system will assist non-physician health workers and doctors in making evidence-based management decisions to lower their patients’ CVD risks.

**Research Objectives and Methodology**

The two specific objectives of this project are:

- To develop a multifaceted primary healthcare worker intervention that utilises a mobile device-based clinical decision support system to improve optimal BP control in high risk individuals.
- To evaluate this program utilising a mixed methods evaluation in a cluster randomised trial involving 54 villages in rural Andhra Pradesh.

The intervention is being evaluated using a stepped-wedge cluster randomised, controlled trial (cRCT) of two years duration.

**Current status:**

- Intervention successfully completed by June 2016.
- Around 226 health workers and 18 doctors from 54 villages belonging to 18 PHCs have been using the SMARThealth platform for 18 months.
- The health workers have screened a total of 53381 eligible adults above the age of 40 years and 8504 high-risk individuals are referred to the doctor till 30th June 2016.
- Process evaluation currently undergoing.
Challenges
- Doctor availability at the PHC is the key challenge.
- The work of the health workers is impeded by the seasonal agricultural work.
- Monthly reports and online refresher training helps keep up the motivation of the health workers.
- Government support for availability of medications at PHCs mandatory.
- The model of task shifting with use of mHealth technology for CVD risk estimation is well accepted to the rural community.

Engagement with Policy Makers:
- District government authorities responsible for the delivery of healthcare in the villages involved in the study.
- Study findings to be shared with village heads, doctors, district and state level authorities.
- Plans to engage national level policy makers to use components of SMARTHealth for the NPCDCS program.

Plan for Dissemination of Data:
- Dissemination planned through a consensus conference on mHealth in India represented by peer research community, regional and national level policy makers, technology experts, partners and collaborators, media. Funding has been secured for this.
- Publications of the study results for peer research community.
- Village level meetings to raise awareness about NCDs with the communities.

Publications:


HT08: Randomised control trial of early use of a simplified treatment regimen incorporating a half-dose, three-in-one blood pressure lowering pill vs. usual care for improving hypertension control in Sri Lanka

Funded by: NHMRC; Duration: 3 years
Study location: Sri Lanka
Investigators
Pis
Stephen Jan, The George Institute for Global Health, Sydney, Australia
Pallab Maulik, The George Institute for Global Health - India, New Delhi, India
Anushka Patel, The George Institute for Global Health, Sydney, Australia
Dorairaj Prabhakaran, All India Institute of Medical Sciences, New Delhi, India & Public Health Foundation of India, New Delhi, India
Anthony Rodgers, The George Institute for Global Health, Sydney, Australia
Simon Thom, Imperial College London, London, United Kingdom
Ruth Webster, The George Institute for Global Health, Sydney, Australia
Research team
Abdul Salam, The George Institute for Global Health - India, New Delhi, India

Abstract:
Primary Research Aim
To investigate effectiveness, cost-effectiveness, and acceptability of Triple pill (Triple BP lowering therapy) compared to usual care for early management of high BP in Sri Lanka.

Research Objectives and Methodology
Participants: Adults with high BP despite diet and lifestyle advice or single drug therapy.
Intervention: Triple pill vs. usual care.
Outcome: Proportion of participant achieving target BP at 6 months follow-up.
Sample: n=700, power = 90%, 2α = 0.05, 12% improvement in control rates from 50%.

Current Status
Recruitment commenced in March, 2016 and as of July 31st had recruited 346 of 700 patients.

Challenges thus far have included administrative hurdles in getting a trial set up in South Asia. We have also had to implement a large amount of education to study staff as well as local investigators around the role and conduct of pragmatic ‘real-world’ trials which vary quite significantly from traditional, strict, efficacy drug trials. Valuable lessons have been learned around resilience and perseverance in dealing with unexpected barriers.

Engagement with Policy Makers
Engagement with policymakers has been limited thus far due to delays in getting the trial underway. Ultimately if the trial is successful our aim would be to change clinical guidelines and disseminate information to prescribers around early use of multidrug combinations for blood pressure control. Several of our investigators are key opinion leaders in the Sri Lankan medical community and our Sri Lankan representative on the steering committee of the trial was recently appointed as Chair of the Medicines Regulatory Agency of Sri Lanka. We are therefore well positioned to engage with policymakers locally at the end of the study.

**Plan for Dissemination of Data**

Our plan for dissemination of data at this stage will include the usual channels of publication in an academic journal as well as presentation at international academic conferences. However we will also use the data to approach key opinion leaders to incorporate the outcomes of this study into national and international guidelines.

**Publications**


**HT09: Developing the evidence base for a national salt reduction program for India**

*Funded by: NHMRC; Duration: 3 years*

*Study location: India*

*Investigators*

Bruce Neal, The George Institute for Global Health, Sydney, Australia
Dorairaj Prabhakaran, Public Health Foundation of India, and Centre for Chronic Disease Control, New Delhi, India
Sailesh Mohan, Public Health Foundation of India, New Delhi, India
Pallab Maulik, The George Institute for Global Health - India, New Delhi, India
Jacqui Webster, The George Institute for Global Health, Sydney, Australia
Anand Krishnan, All India Institute of Medical Sciences, New Delhi, India
K Srinath Reddy, Public Health Foundation of India, New Delhi, India
Graham MacGregor, Queen Mary University of London, London, United Kingdom

*Research team*

Feng He, Queen Mary University of London, London, United Kingdom
Claire Johnson, The George Institute for Global Health, Sydney, Australia
Roopa Shivashankar, Public Health Foundation of India, New Delhi, India
Thout Sudhir, The George Institute for Global Health - India, New Delhi, India
Priti Gupta, Centre for Chronic Disease Control, New Delhi, India

*Abstract:*

**Primary Research Aim**

The overall goal of this 3-year project is to develop the evidence base required to formulate a national salt reduction program for India. This will be done by conducting an integrated, multifaceted research program comprised of stakeholder assessments, population surveys and food supply evaluations. It is hoped this research will then provide the data required to formulate and implement a plausible national salt reduction program for India.
Research Objectives and Methodology
The specific objectives for each research component are:

Stakeholder survey: To obtain a comprehensive understanding of consumer and other stakeholder opinions in relation to the most effective mechanisms for reducing salt intake: Face-to-face in-depth interviews with stakeholders from academia, industry, government, non-government and focus group discussions with consumers.

Population survey: To estimate the mean daily salt consumption of the Indian population, the main sources of salt in the diet, and population knowledge about the adverse effects of salt on health: 24hr urinary sodium excretion/spot urine samples; 24hr dietary recall survey; demography and anthropometry; knowledge, attitudes and behaviors on salt intake using a questionnaire.

Food survey: To estimate the mean and variation in the nutritional quality of common processed and restaurant foods: shop survey to capture nutrition information on packaged food available in Hyderabad and Delhi supermarkets.

Current Status
All the research components have been completed. Population surveys including 1395 participants in North and South India are complete with 24hr urine samples available for 637 individuals from Delhi and Haryana and 758 participants from Andhra Pradesh (65% and 68% response rate, respectively). Weighted mean population 24-hour urine excretion of salt was 8.6 g/day (95% CI 7.7 - 9.5) in Delhi and Haryana and 9.5 g/day (95% CI 9.0 – 10.0) in Andhra Pradesh. Approximately 50 stakeholder interviews and 8 focus group discussions have been completed and the analysis and identification of emergent major themes indicate that creating and increasing awareness among the public, reformulation of food by the food industry, assessment and monitoring of salt intake at population level and a regulatory policy, to be the essential elements of a national salt reduction effort.

The survey of processed foods captured 5686 packaged food products. Thirty-two percent (1812) reported sodium values and 43% (2468) had nutrient labelling compliant with local regulations. Mean sodium concentrations were estimated for products in 14 food groups, 33 food categories, and 90 food subcategories and the highest in sodium were sauces and spreads (2,217 mg/100 g) and convenience foods (1,344 mg/100 g). Sugar, honey and related products (44 mg/100 g) and confectionary (98 mg/100 g) had the lowest sodium content.

Population based assessment of salt intake using the Gold Standard method of 24 hour urinary sodium excretion is feasible in large studies in low and middle income countries like India, despite high participant burden, with proper preparatory work and quality control measures.

Engagement with Policy Makers
During the next year, we intend to purposefully engage with policy makers to disseminate the findings and help implementation of the National Multisectoral Action Plan on NCDs for India, which mandates salt reduction one of the focus areas for initiating action.

Plan for Dissemination of Data
The findings will be targeted primarily at public health policymakers and advocates, but will also be disseminated widely through other mechanisms including conference presentations and peer-reviewed publications, as well as to the participating communities. We plan to disseminate the findings to health policy makers and other key stakeholders in 2017 and at a major International Conference on Public Health that the Public Health Foundation of India is organizing in Delhi, 21-25 October, 2017.

**Publications**


### HT10: Cost effectiveness of salt reduction interventions in Pacific Islands

**Funded by:** NHMRC; **Duration:** 3 years  
**Study location:** Fiji, Samoa

**Investigators**

Pis  
Jacqui Webster, The George Institute for Global Health, Sydney, Australia  
Wendy Snowdon, Pacific Centre for the Prevention of Obesity and Non-communicable Diseases, Suva, Fiji  
Marj Moodie, Deakin University, Melbourne, Australia  
Bruce Neal, The George Institute for Global Health, Sydney, Australia

**Research team**  
Kathy Trieu, The George Institute for Global Health, Sydney, Australia  
Merina Ieremia, Samoan Ministry of Health, Apia, Samoa  
Junior Sitiia, Samoan Ministry of Health, Apia, Samoa  
Arti Pillay, Pacific Research Centre for the Prevention of Obesity and Non-communicable Diseases, Suva, Fiji  
Jimaima Schultz, Fiji Ministry of Health and Medical Services, Suva, Fiji  
Arleen Sukhu, Pacific Research Centre for the Prevention of Obesity and Non-communicable Diseases, Suva, Fiji  
Christina Ulberg, Samoan Ministry of Health, Apia, Samoa  
Satupaitea Viali, Samoan Ministry of Health, Apia, Samoa  
Colin Bell, Deakin University, Melbourne, Australia

**Abstract:**

**Research aims and methodology**  
The aim of the project is to evaluate the impact and cost-effectiveness of multi-faceted intervention strategies to reduce salt in the Pacific Islands. With parallel projects in Fiji and Samoa, the objectives were to measure current salt consumption patterns, develop an intervention program to reduce salt in each country and then monitor progress against key indicators. The study used a before and after design and was powered to detect a different of 0.7 grams/day in population salt intake. A cost-effectiveness analysis is also been undertaken as part of the program.

**Current Status**  
The project is nearing completion. The follow up monitoring and in-depth process evaluation has been undertaken in each country. Changes in salt intake as well as consumer attitudes and behaviour and frequency of consumption of different foods were measured. The process evaluation
obtained qualitative and quantitative data to assess how well the different interventions had been implemented and other contextual factors that might have impacted on the results. Routine monitoring data including implementation plans, annual expenditure reports and activity reports, was collated and supplemented through semi-structured interviews with key stakeholders including government ministries, food industry, media and community organisations. A joint meeting to bring together collaborators from both countries was held in Sydney in June and provided a useful opportunity to exchange and document learning for the project plus further visits are planned to both Fiji and Samoa to train and build capacity in relation to data analysis. The analysis of the data from Samoa has been completed but due to the cyclone which delayed the post-intervention monitoring in Fiji, data analysis is still underway.

**Lessons Learnt/Conclusions to Date**

Whilst there has been no reduction in salt intake in Samoa, and analysis for Fiji is still underway, the process evaluation has increased our understanding of the contextual factors underlying intervention implementation. These included the impact of natural disasters (cyclones), political influence, and staff and governance changes on program delivery, as well as the need for more time to fully implement the program. In both countries, whilst consumer awareness has been raised, it is not clear if it has translated into behaviour change. Likewise standards for salt levels in foods (targets) have been integrated into policy but have not yet been fully enforced. This project has contributed to the development of longer term salt reduction initiatives. Salt is now mainstreamed into government policies including through voluntary or regulatory salt standards and salt education as part of national NCD or nutrition strategies. Longer term monitoring of impacts of sustained programs is planned through future WHO STEPS surveys.

Next steps for the project team are to analyse the Fiji data, complete the cost effective analysis and to publish a series of papers to communicate the results of the project. In addition, lessons from the project will be integrated into tools and resources for other countries produced and disseminated through the World Health Organization Collaborating Centre on Population Salt Intake at the George Institute in line with its remit to support Member States towards achieving the global target of reducing average population salt intake by 30% by 2025.

**Engagement with Policy Makers**

Policy makers have been involved throughout the project from the outset through participation on project advisory groups, through stakeholder focus groups to inform the intervention and in the implementation of the interventions. The Ministry of Health coordinated the research project in Samoa. In Fiji, in contrast, it was led by the research centre (C-POND) and policy makers are involved through a Food Action Group which meets regularly to provide advice. Involvement and commitment of high level policy makers from the outset in both countries has been one of the key enablers for the program. In Fiji, the research project boosted capacity and enabled more effective targeting of existing programs run through government. In Samoa, recruiting qualified research staff into the MOH was a challenge at the outset, but local project staff are now a key and there is strong commitment to maintaining the project positions after the end of the project. These factors have helped to sustain momentum on this issue and ensure that salt reduction is mainstreamed into government policy going forwards.

**Plan for Dissemination of Data**
Objective:
- To ensure that the results of the project and lessons learned are communicated widely to both scientists and practitioners and where possible translated into relevant policies.

Audience:
- Public health experts and program implementers including Ministries of Health and related health organisations. World Health Organization, World Action on Salt and Health, World Hypertension League

Messages:
- Multi-faceted national salt reduction programs require 3-5 years to implement fully, particularly in low and middle income countries where a range of social, environmental and political factors have an influence on program implementation
- The project has supported the mainstreaming of salt into government policies and programs
- Longer term monitoring through WHO Steps will enable us to assess impact on salt intake

Approach:
- Peer review publications; presentation at conferences (Sydney Food Law and Governance and World Public Health Congress, Melbourne) and dissemination through WHO CC stakeholder networks

Timing:
- October 2016-April 2017

Publications
Webster J et al "Salt intakes, knowledge and behaviours in Samoa: monitoring salt consumption patterns through the World Health Organization’s surveillance of non-communicable disease risk factors (STEPS), Journal of Clinical Hypertension first published online: 3 FEB 2016
DOI: 10.1111/jch.12778 [IF 2.851]


HT11: Launching a salt substitute to reduce blood pressure at the population level in Peru

Funded by: NHLBI, NIH; Duration: 5 years

Study location: Peru

Investigators

• Robert Gilman, Johns Hopkins School of Public Health, Baltimore, United States
• Jaime Miranda, Universidad Peruana Cayetano Heredia, Lima, Peru

Research team

• Antonio Bernabe-Ortiz, Universidad Peruana Cayetano Heredia, Lima, Peru
• Maria Cardenas, Universidad Peruana Cayetano Heredia, Lima, Peru
• Francisco Diez-Canseco, Universidad Peruana Cayetano Heredia, Lima, Peru
• Katie Sacksteder, Johns Hopkins School of Public Health, Baltimore, United States
• Vilarmina Ponce-Lucero, Universidad Peruana Cayetano Heredia, Lima, Peru

Abstract:

Primary Research Aim

To implement and assess the impact of an intervention using a salt substitute on blood pressure at the population level using a stepped wedge trial design.

Research Objectives and Methodology

Phase 1: To assess predisposition patterns towards incorporating the new salt substitute into daily cooking among villagers, authorities and other potential stakeholders, in order to inform and construct the structure of the intervention in the local communities and ensure successful implementation. For this, we will use focus groups and in-depth interviews techniques.

Phase 2: To implement and assess the impact of an intervention using a salt substitute on blood pressure at the population level using a stepped wedge trial design.

Current status

Phase 1: Exploratory Phase (concluded)

1.1. Triangle Taste Test (TTT): We used the sensory discrimination test to assess if the use of potassium-enriched salt substitutes leads to perceived differences in taste. Sample: 156 subjects. Procedure: Samples of cooked rice prepared with different salts: 100% NaCl (regular salt) and salts where sodium was replaced by 50%, 33% or 25% KCl (potassium-enriched salt). Result: Samples with 25% potassium-enrichment were indistinguishable from regular salt, whereas samples with 33% and 50% were distinguishable.

• Salt Substitute Combination for Intervention: 25% KCl - 75% NaCl.

1.2. Formative Research: Qualitative Study & Questionnaire to define Product Identity

We used in-depth interviews and focus groups (6 villages, 170 male and female dwellers).

Main Results: Women are the family cooks but men opinions about food quality and taste are relevant for women.Salt is considered a key ingredient for food flavor. Even when a high consumption of salt is considered unhealthy there is no association between salt intake and hypertension. Available salt is very cheap (USD 0.20 p/kilo) and has very low-quality (grey color). Salt substitute is not available in the area and participants in focus groups showed high interest on use it.

Phase 2: Implementation Phase

2.1. Recruitment of participants & baseline: (concluded)
In April 2014, enrollment and baseline data collection began in the 6 villages. It took 3.5 months. A total of 2365 adults of 2575 potential participants accepted to be enrolled. The random selection of the 1st village to be intervened was done in July 2014.

2.2. Production & distribution of salt substitute: (in progress)
Salt substitute with 25% KCl is not available in the market in Tumbes. As a result, a small factory was built to produce the salt substitute by simple combination. The ingredients (common salt and 50% potassium-enriched salt) are bought in Lima, and then transported to Tumbes. As the first step, exchange of common salt for salt substitute is performed in the intervened villages. The salt substitute is freely distributed and delivered to participants. The first delivery is undertaken using plastic pots to guarantee appropriate salt conservation.

2.3. Social Marketing Campaign: (in progress)
The implementation started in August 2014. Entertainment-Education activities are used to create favorable conditions to promote the consumption of the substitute (sal Liz).

2.4. Clinical assessment: (in progress)
We are in the middle of a new clinical assessment of the total participants as part of the study design proposed. This is the 5th follow-up we are conducting in our study. Only the final assessment is pending, scheduled for February 2017.

Since the beginning of the intervention, on average, families were asking for 1 kg. bag per month. Our study encouraged that participants from each village will use salt exclusively for their personal (family) consumption. However, after 8 months, we realized the wide variation in the number of bags requested by families each month. This made us think that families were storing the salt for future use. Later, we learned from our project staff that some participants were sharing the salt with relatives from other villages (these villages are not part of the study, and hence, they will not have an impact in our outcome). We are now in the process of confirming this data through a qualitative study to explore family networks and salt distribution.

Engagement with Policy Makers
In our intervention site, the Directorate of Health, part of the Ministry of Health in Tumbes, has been informed about the outline of the intervention. In addition, they have been invited to participate in some activities in the villages. One important stakeholder in Tumbes was local authorities (at the village level), whom were also informed on the intervention to ask for their support and permission in the implementation of activities in the villages.

Plan for Dissemination of Data
Mainly, the dissemination of data will focus on presenting the intervention outcomes to our audiences:

1. **The Ministry of Health in Tumbes and Lima**: through formal meetings at the end of the intervention. This information will be based on empirical data collected during and after the intervention, basically under a clinical approach. The presentation of the information to the Ministry of Health will also include recommendations and lessons learned of the intervention and how salt substitute issue can be included in the current health public policy.

2. **Participants and local authorities in Tumbes**: the results will also be delivered to people in the villas who participated in this study through the specially reunions of return of information.

3. **Scientific community**: by last, as all research project, we plan to publish different manuscripts with the results of the study for scientific audience.

**Publications**


**HT12: Task shifting and blood pressure control in Ghana - a cluster-randomized trial**

*Funded by: NHLBI, NIH; Duration: 5 years*

**Study location:** Ghana

**Investigators**

Olugbenga Ogedegbe, MD, New York University School of Medicine, New York, United States

Jacob Plange-Rhule, MD, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Richard Cooper, MD, Loyola University Health System, Maywood, United States

**Research team**

Joyce Gyamfi, MS, Senior Research Coordinator, New York University School of Medicine, New York, US

Michael Ntim, MSc, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Kingsley Apusiga, BSc, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

**Abstract:**

**Primary Research Aim**

Countries in sub-Saharan Africa (SSA) are experiencing an epidemic of cardiovascular disease (CVD) propelled by rapidly increasing rates of hypertension. Barriers to hypertension control in SSA include poor access to care and high out-of-pocket costs. Although SSA bears 24% of the global disease burden, it has only 3% of the global health workforce. Given such limited resources, cost-effective strategies, such as task shifting, are needed to mitigate the rising CVD epidemic in SSA. Ghana, a country in SSA with an established community health worker program integrated within a national health insurance scheme provides an ideal platform to evaluate implementation of the World Health Organization (WHO) task-shifting strategy. This task-shifting strategy for hypertension (TASSH) study will evaluate the comparative effectiveness of the implementation of the WHO Package targeted at CV risk assessment versus provision of health insurance coverage, on blood pressure (BP) reduction.
Global Alliance for Chronic Diseases
Research Network

5th Annual Scientific Meeting
17 – 21 October 2016
Sydney, Australia

Research Objectives and Methodology
Using a cluster randomized design, 32 community health centers (CHCs) and district hospitals in Ghana will be randomized to either the intervention group (16 sites) or the control group (16 sites). A total of 640 patients with uncomplicated hypertension (BP 140-179/90-99 mmHg and absence of target organ damage) will be enrolled in this study (20 patients per site). The intervention consists of WHO Package of CV risk assessment, patient education, initiation and titration of antihypertensive medications, behavioral counselling on lifestyle behaviours, and medication adherence every three months for 12 months. The primary outcome is the mean change in systolic BP from baseline to 12 months. The secondary outcomes are rates of BP control at 12 months; levels of physical activity, percent change in weight, and dietary intake of fruits and vegetables at 12 months; and sustainability of intervention effects at 24 months. All outcomes will be assessed at baseline, six months and 12 months. Trained community health nurses will deliver the intervention as part of Ghana’s community-based health planning and services (CHPS) program. Findings from this study will provide policy makers and other stakeholders needed information to recommend scalable and cost-effective policy with respect to comprehensive CV risk reduction and hypertension control in resource-poor settings.

Current Status
We have recruited and randomized 32 health facilities (16 district hospitals, 16 health centers) into four cohorts; and trained 64 community health nurses (CHNs) in hypertension diagnosis and treatment of uncomplicated cases. Baseline recruitment and analyses is complete with a total of 757 patients. Final patient recruitment was ~18% more than the estimated recruitment target of 640. A total of 649 patients have completed 12 months follow up, with an 86% overall retention rate. 24 months follow-up is currently on-going.

Keeping community health nurses abreast of study protocol and measurements by conducting bi-annual group re-training and onsite refresher trainings regularly may help to ensure study fidelity across sites. Some of the challenges include: maintaining high retention rates for usual care group who receive only health insurance; additionally, some nurses find it difficult to maintain patient documentations since that task is not part of their regular job duties. Lastly, transitioning patients back to usual care post trial intervention termination, has been a challenge due to Ghana’s National Health Insurance Scheme (NHIS) policy that restrict certain facilities from prescribing certain classes of antihypertensive.

Engagement with Policy Makers
We engaged policymakers at various levels (from the Ghana ministry of health including the Deputy Minister of Health, the Director of program planning and evaluation for the Ghana Health Services, and the Deputy Director of National Health Insurance Scheme (NHIS). We conducted a one-day formal Workshop. Feedback was elicited from the various policymakers through brief surveys and focus group sessions about their experiences with TASSH, and their perspectives on the barriers and facilitators likely to influence the scale-up of the task-shifting strategy for blood pressure control (TASSH) in Ghana. Discussions were also around Ghana’s national policies for NCD management, medication procurement and training of nurses. We hope to recommend task-shifting strategy for hypertension as part of the nurses’ formal educational training and also for national implementation in an attempt to reduce hypertension.
Plan for Dissemination of Data

Purpose
To share TASSH study findings with the various stakeholders and to consolidate knowledge, identify clear practices and recommendations, and propose strategies for the long-term continuation and sustainability of TASSH in Ghana.

Audience
Stakeholders and policymakers at various levels. Convene patients, nurses, site directors from the various community health centers and district hospitals involved in TASSH, representatives from the Ministry of Health and Ghana Health Service, including the Regional Director of Health for the Ashanti region.

Message
Training nurses in hypertension screening and management is crucial, however, national policies that guarantees the sustainability of the training is also important

Methods
One-day formal workshop to provide an overview of study findings. Conduct brief surveys and focus group sessions about the barriers and facilitators for the scale-up of TASSH.

Timing
5th year of the study. First workshop occurred on Friday July 8, 2016. The meeting was co-organized by the Kwame Nkrumah University of Science and Technology School of Medical Sciences, in collaboration with New York University Langone School of Medicine. It took place at Ghana College of Physicians and Surgeons, Ridge Roundabout, Accra from 8:30am to 4:30pm.

Publications


Abstracts


HT13: Optimizing linkage and retention to hypertension care in rural Kenya

Funded by: NHLBI, NIH; Duration: 5 years
Study location: Kenya
Investigators
PIs
Valentin Fuster, Icahn School of Medicine at Mount Sinai, New York, United States
Jemima Hoine Kamano, Moi University, Eldoret, Kenya
Abstract:
Hypertension awareness, treatment, and control rates are low in most regions of the world. A critical component of hypertension management is to facilitate sustained access of affected individuals to effective clinical services. In partnership with the Government of Kenya, the Academic Model Providing Access to Healthcare (AMPATH) Partnership is expanding its clinical scope of work in rural western Kenya to include hypertension and other chronic diseases. However, linking and retaining individuals with elevated blood pressure to the clinical care program has been difficult. To address this challenge, we propose to develop and evaluate innovative community-based strategies and initiatives supported by mobile technology.

Primary Research Aim:
The objective of this project is to utilize a multi-disciplinary implementation research approach to address the challenge of linking and retaining hypertensive individuals to a hypertension management program.

Research Objectives and Methodology
Aim 1: Identify the facilitators and barriers to linking and retaining individuals with high blood pressure to a hypertension care delivery program, using a combination of qualitative research methods: 1) baraza (traditional community gathering) form of inquiry; 2) focus group discussions among individuals with elevated blood pressure during home-based testing; and 3) focus group discussions among CHWs.
Subsidiary Aim 1.1: Using identified facilitators and barriers, develop a tailored behavioral communication strategy guided by the Health Belief Model modified by incorporating emotional elements for the CHWs to use with hypertensive patients, focusing on regular and timely attendance at hypertension clinic. We will test the communication strategy for face and content validity using focus group discussions with CHWs and individuals with elevated blood pressure.
Subsidiary Aim 1.2: Using identified facilitators and barriers, develop a smartphone-based tool linked to the AMPATH Medical Record System (AMRS) to be used by CHWs to optimize linkage and retention of hypertensive patients to the care program, and evaluate the usability and feasibility of this tool using think-aloud technique, mock patient encounters, focus group discussions, and participant observation.

Aim 2: Evaluate the effectiveness of CHWs equipped with a tailored behavioral communication strategy and a smartphone-based tool in improving linkage and reducing blood pressure among hypertensive patients, by conducting a cluster randomized trial comparing: 1) usual care (CHWs with standard training on recruitment of individuals with any chronic condition); 2) CHWs with an additional tailored behavioral communication strategy; and 3) CHWs with a tailored behavioral communication strategy an also equipped with smartphone-based tool linked to the AMRS. The co-primary outcome measures will be: 1) documented linkage to care following home-based testing, and 2) one year change in systolic blood pressure among hypertensive individuals.

Aim 3: Evaluate the incremental cost-effectiveness of each intervention arm of the cluster randomized trial. Cost effectiveness will be presented both in terms of costs per unit decrease in blood pressure and in terms of costs per reductions in cardiovascular disease (CVD) risk by extrapolating one-year blood pressure reductions to CVD risk reductions based on the QRISK®2-2011 CVD risk calculator specific for Black African populations.

Current Status
This study is currently in the follow-up and data collection phase. Efforts for meeting project milestones are ongoing. Below is a delineation of progress to-date by study aim.

Aim 1: Barriers and Facilitators to Linkage and Retention
- All research related activities are complete
- Manuscript published in the Journal of General Internal Medicine this year

Aim 1.1: Behavioral Assessment and Communication Strategy
- Content validity complete
- Manuscript is in preparation

Aim 1.2: Smartphone-based Tool
- Study databases/servers (Virtual Machine, AMRS & Redcap) launched
- Field implementation of smartphone-based tool underway

Aim 2: Cluster RCT
- Enrollment complete
- 12-month follow-up visits ongoing
- Process evaluation complete
- CHW and CHEW training complete
- Data Management ongoing

Aim 3: Cost-effectiveness analysis
- Administration of Costing Questionnaire at 12-month follow-up ongoing
- Cost tracking for intervention delivery ongoing
Challenges
There have been a number of challenges encountered over the course of this research study. Below is a bulleted list of those challenges and conclusions to date.

- Difficulty in tracing participants for 12 months follow-up due to several factors: distance to the household, competing roles by the study participant limiting possibility of getting the participants at their households, adverse weather conditions like rain, among others.
- CHWs at times are not pro-active in their study implementation which in turn deters study progress.
- Data management: Data management and data cleaning has been challenging and time-consuming, due to multiple data streams (paper-based costing questionnaires to be entered with tablet-based data entry platform, paper-based behavioral assessment tools to be entered with web-based data entry platform, tablet-based costing questionnaires, smartphone-based behavioral assessment tools, and AMRS database).
- Data entry: Completion of retrospective data entry has experienced delays due to missing data on paper forms.
- Procurement: Procurement delays due to extensive and time-consuming administrative procedures.

Engagement with Policy Makers
This research study utilizes a community-based participatory methodology in which both the community members and stakeholders are empowered to inform the research, influence the intervention, and ultimately impact research products. AMPATH’s Community Strategy Initiative routinely engages with existing community-based governance structures to gather input and feedback on any community-based initiative. In addition, the AMPATH Safety Net Program routinely gathers feedback from community members, and the microfinance intervention has evolved as a result of that input.

Plan for Dissemination of Data
Next Steps/Six Months
- Complete 12-month costing follow-up aligned with BA administration.
- Scale up utilization of data management protocol aimed at realizing data integrity, aligned with continuous data cleaning, matching and merging among other scope of work related to data.
- Continue error resolution/prevention and identification of the missing variables.
- Continue capacity building: Study personnel to be considered for any future trainings/workshops.
- Continue with abstracts, posters and manuscripts preparation and submissions.

Publications


Presentations
1. Abstract accepted to the 2016 American Heart Association conference
   Title: Sex differences in poverty, health care utilization, and health care costs among hypertensive individuals in western Kenya: LARK Hypertension Study

   Title: Fidelity of Hypertension-Related Skills Among Rural Western Kenya Community Health Workers: Process Evaluation of the LARK Hypertension Study

3. Abstract presentation at the World Congress of Cardiology Conference, June 2016.
   Title: Hypertension Knowledge Retention Among Community Health Workers in Rural Western Kenya: Process Evaluation of the LARK Hypertension Study

   Title: Identifying Barriers to Hypertension Care: Development and Validation of a Behavioral Assessment Tool for Optimizing Linkage and Retention to Hypertension Care in Kenya (LARK Hypertension Study)

5. Abstract presentation at the American Heart Association conference, November 2015.
   Title: Perceptions of the Role of Community Health Workers in Hypertension Management: A Qualitative Analysis of the LARK Hypertension Study

**HT14: Comprehensive approach to hypertension and control in Argentina**

*Funded by:* NHLBI, NIH; *Duration:* 5 years

*Study location:* Argentina

*Investigators*

**PI**

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Abstract:

**Primary Research Aim**
The Primary Research Aim is to test whether a comprehensive intervention program within a national public primary healthcare system will improve hypertension control among uninsured hypertensive patients and their families in Argentina.

**Research Objectives and Methodology**
The research objectives are to test whether a comprehensive intervention program will lower blood pressure and improve hypertension control among uncontrolled hypertensive patients over an 18-month period compared to usual care and to estimate the cost-effectiveness of the comprehensive intervention program compared to usual care. A cluster randomized trial design was used to randomize 18 public primary care clinics to the intervention and control groups. The trial aims to recruit about 2,000 clinic patients with uncontrolled hypertension, their spouses and hypertensive family members. The 18-month comprehensive intervention program will target the primary care system through health care provider education, audit and feed-back; a home-based intervention among patients and their families provided by community health workers (education and counseling on lifestyles changes and self-monitoring of blood pressure, and improving adherence to antihypertensive medications), and individualized SMS to promote healthy lifestyles and adherence to medication and contact to the primary care doctor.

**Current Status**
The study has just finished the intervention program, assessments and follow-up. We are now working in the cleaning and closing-up of the dataset for the final analysis. From 1951 participants enrolled, 94% completed the assessment at baseline, 6, 12 and 18 months, and 6% were lost-to-follow-up (included deaths).

Our preliminary results indicate a net change in systolic and diastolic BP from baseline to 18 months that was significantly reduced in the intervention group compared to the control group. In addition, the proportion of controlled hypertension at 18 months was significantly increased in the intervention group compared to the control group. Furthermore, high patient’s adherence to antihypertensive medications and physician’s intensification of antihypertensive treatment over the 18-month intervention period, were significantly higher in the intervention group. In conclusion, our study shows that this multilevel comprehensive intervention program is effective for BP control among uninsured hypertensive patients from low-income settings in Argentina.

**Engagement with Policy Makers**
Authorities of REDES, the public primary care network of the National Ministry of Health in Argentina, as well as health authorities at the participating districts, have been fully involved in the design and implementation of the study.

**Plan for Dissemination of Data**
Our study was accepted for oral presentation at the Late Breaking Trial Session (clinical science) of the American Heart Association (AHA), to be held in New Orleans on November 14th, 2016. Communication of the main findings of the study in national scientific conferences, as well as dissemination and knowledge translation activities with policy makers, professional societies, health care organizations, the media and other key stakeholders at local and regional level are being planned to be implemented in the first quarter of 2017. A scientific manuscript with the main results will be submitted to a high-impact scientific journal in the first quarter of 2017. Other papers describing and analysing process indicators and secondary outcomes will be published after the main manuscript.

Publications

HT15: Tailored Hospital-based Risk Reduction to Impede Vascular Events after Stroke (THRIVES)

Funded by: NIH, NINDS; Duration: 5 years
Study location: Nigeria
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Stephanie Warth, Medical University of South Carolina, Charleston, United States

Abstract:
Primary Research Aim
The need to improve stroke preventative care is particularly pressing in developing countries where resources are few and the burden of stroke is disproportionately heavy. The overall aim of Tailored Hospital-based Risk Reduction to Impede Vascular Events after Stroke (THRIVES) is to determine whether a culturally-sensitive multipronged post-discharge intervention can significantly reduce blood pressure, enhance achievement of guideline recommended targets for risk factor control, and lower recurrent vascular events in Nigeria. THRIVES has unfolded into five distinct phases:
- Pretest qualitative
- Main qualitative (focus group discussions and semi-structured interviews)
- Intervention tailoring and redesign
Randomized clinical trial
Translation to institutional/governmental policy

Research Objectives and Methodology
The research objective for the RCT phase of the THRIVES project is to conduct a randomized clinical trial of the developed THRIVES intervention vs. standard post discharge management in stroke patients discharged from four hospitals in Nigeria. The primary outcome will be a significant reduction in systolic blood pressure at one year. Other study objectives will evaluate whether the intervention shows a signal of potential efficacy in reducing the rate of subsequent primary vascular events and investigate whether the intervention compared with usual and customary care will reduce functional disability and enhance quality of life at one year. The final objective is to estimate, in a preliminary fashion, the cost-impact and cost-effectiveness of the THRIVES post discharge intervention, compared with usual and customary care. The multi-pronged intervention involves the use of a patient video therapy, patient report card, and text messages. The patient interactive video therapy will be adapted and produced in three languages (English, Yoruba and Pidgin English) in tandem with the primary languages of the study population. A THRIVES Task Force will evaluate and review all materials produced.

Commencement of RCT phase of THRIVES study
The pre-test qualitative, main qualitative, and intervention tailoring phases are complete. With the data provided through semi-structured interviews, focus groups and a community based task force, the patient tools were refined to be culturally appropriate (the tools are relevant, easy to read/use, and informative).

Prior to the commencement of the RCT phase of THRIVES study, specific strategies ranging from provision of Technical Advice, Advocacy and Capacity building were incorporated in a bid to ensure a smooth implementation process. With respect to provision of technical advice, consecutive, intensive and rigorous intervention validations sessions were conducted and championed by a multidisciplinary committee (task force committee) comprising physician investigators, statisticians, pharmacists, educators, social workers, nurses, telecommunication experts, dieticians, physical therapists, administrators, and religious, community representatives, government and Nigerian Stroke Society. Constituted to review and make recommendations to the RCT phase of THRIVES study, THRIVES intervention (patient report card, mobile text messaging and in-clinic educational video) underwent refinement and validation. As a result, the interventions evolved to a readable patient report card with targets reflecting evidence based stroke risk factor control recommendations, clarification of personnel responsible for specific tasks; identification of cost effective structures appropriate for delivery of messages, and for the video the development of dynamic educational tool consistent with the African culture and lifestyle.

Pilot testing of the refined report card was carried out among non-stroke patients at the University College Hospital, Nigeria by neurologists in the study. From an advocacy point of view, a familiarization visit was paid earlier this year to key stakeholders at the University College Hospital, Ibadan, Nigeria by the Principal Investigator of THRIVES study. He solicited the stakeholders’ unflinching support for the second phase of THRIVES study. Furthermore, capacity building sessions were conducted for specific subsets of personnel who will be involved in the study. Trained by an array of specialists and investigators on the study, blinded adjudicators with background in public health were sensitized to the need to collect independent and objective outcome data from enrolled subjects at the various time points of the study. In addition, all clinicians across all four sites of the study were brought up to speed with expectations and assigned tasks in the course of the study.
Global Alliance for Chronic Diseases
Research Network

5th Annual Scientific Meeting
17 – 21 October 2016
Sydney, Australia

Current Status
Recruitment of potential subjects has begun in earnest from the four study sites in Nigeria. This is made easier from an updated stroke subject’s database that has been in construction since the onset of the project. Subjects are being consented and enrolled. Till date about 549 potential subjects have been screened. Out of this figure, 387 subjects have been enrolled into the study. This phase of the project will provide data on the efficacy of the study tools (in-clinic educational video, patient report card, and text messages).

Although implementation of this phase of this study has significantly commenced, it has not been without challenges. Two major industrial action (strikes) were embarked upon by the health sector in Nigeria: at commencement of the study in 2014 and for over 100 days in the second quarter of 2015. The strikes, which occurred at those periods, stalled the rate and pace of subject recruitment and enrolment into the study. However, with the suspension of the industrial action, recruitment and enrolment have improved, though steadily. Of the proportion enrolled, subjects’ follow-up and retention rate across various time points of the study is currently at over 95%.

Lessons Learnt/Conclusions to Date
Current baseline findings reveal a preponderance of male (65%) to female (35%) gender. Mean age is at 57.4±12.0 years while about 59% of subjects are aged 46-65 years. Majority (90%) are affiliated to the Yoruba ethnic with only 7% belonging to a minority (Ibo) group. With respect to education, more than half (41%) have achieved a higher/university degree; over 28% a secondary, 17% a primary level of education. Only 9% have no form of education. A little over half (73%) of subjects have had an ischemic stroke while 27% have ICH (haemorrhagic) type of stroke. Mean systolic BP stands at 137.9±4.8 with the diastolic at 81.9 ± 16.6. Mean BMI is 26.2 ± 4.8kgm². Stroke severity scores using NIHSS & SLS were (3.5 ±3.4) and (12.8 ± 2.5) respectively with 81.8% having mild stroke. Lifestyle factors identified included: cigarette smoking (20.1%) & alcohol consumption (51.1%); daily consumption of sea foods (75.0%) and fruits (25.7%). Clinically significant anxiety (HADS score>11) was 19.1% and is co-morbid with depression (13.3%). Female stroke survivors were significantly more likely to be anxious (OR=2.36, 95% C.I= 1.02-5.44).

Up until now, there is no stroke support group in the management of stroke. THRIVES interventions have highlighted the great benefit of having a stroke support system in the region. Though the study may not conclude on this, reactions from enrolled subjects and clinicians involved in the task force supports this.

Engagement with Policy Makers
1. Which policymakers have been engaged? Health care administrators, representatives from the State Ministry of Health, National Stroke Organizations, religious bodies and community-based organisations (CBOs).
2. How have the policymakers been engaged? Through Task Force Meetings
3. What specific policies do you intend to influence?
   a. Policies on stroke risk factor detection and management
   b. Development of pragmatic guidelines on hypertension and incorporation of implementable recommendations relevant to LMIC needs and socio-economic context into existing ones.
4. Which stakeholders have been engaged? Health professionals including health care providers, physicians, public/global health professionals, neurologists, dieticians, social workers, physiotherapists, pharmacists, health educators & economists, religious leaders, community
representatives, telecommunication expert, statisticians, epidemiologists, key representatives from medical schools, ministries of health, national and international organisations involved in chronic disease prevention and management.

5. How have these stakeholders been engaged? Through Task Force, seminars (medical grand rounds), regular Skype and face-to-face meetings.

Plan for Dissemination of Data
The content, design, methodology and findings would be disseminated via the following means:
1. Lectures
2. Workshops
3. Publications
4. Community engagement activities
5. Mass media
6. Control UNique to Cardiovascular diseases In Low and middle income countries (COUNCIL) Initiative. This initiative consists of over 75 global experts from the GACD Research Network convened to review the relevant existing CVD treatment and control guidelines in low and middle income countries (LMIC) and to draw together the necessary information to structure and develop pragmatic guidelines specific for cardiovascular diseases treatment in LMICs and implement them using innovative techniques and channels.

On a more specific and detailed note, the following sub-headings summarises a recent plan to spread and increase awareness of the THRIVES study under the stroke recovery and rehabilitation meeting scheduled to hold in Nigeria in the year 2017:

1. **Purpose:** To make a wider audience aware of THRIVES study’s potential (though not concluded) of serving as a cost effective post-discharge model for blood pressure management and recurrent stroke prevention in sub-Saharan Africa.

2. **Audience:** All medical, nursing, allied health staff (physiotherapists, occupational therapists, speech pathologists, psychologists, prosthetists, orthotists) and community health workers; policy advisors, hospital and community health managers and individuals who want to improve clinical management for stroke in hospital and the community in Nigeria and Australia.

3. **Message:** To provide a conceptual understanding of risk factors for stroke and integration of secondary prevention of stroke into stroke recovery program.

4. **Methods:** Lectures and mini-workshop

5. **Timing:** First quarter in 2017

**Publications**
To date, the study has five (5) publications with two additional publications at development stage and one recently accepted for publication:


Arulogun, O. S., Hurst, S., Owolabi, M. O., Akinyemi, R. O., Uvere, E., Saulson, R., & Ovbiagele, B. Experience of using an interdisciplinary task force to develop a culturally sensitive multipronged tool to improve stroke outcomes in Nigeria. eNeurologicalSci. doi:10.1016/j.jnsci.2016.04.003


LD01: The TackSHS Project - Tackling secondhand tobacco smoke and e-cigarette emissions: exposure assessment, novel interventions, impact on lung diseases and economic burden in diverse European populations

Funded by: EC Duration: 4 years
Study location: Bulgaria, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Poland, Portugal, Romania, Spain, and the United Kingdom
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Abstract:

Background
Exposure to secondhand tobacco smoke (SHS) has been classified as a “Group 1” carcinogen (known human carcinogen) by the International Agency for Research on Cancer and has been shown to have adverse health effects on adults and children, including heart disease and respiratory disorders. Electronic cigarettes (e-cigarettes), the most common “electronic nicotine delivery system”, have irrupted in the past 5 years with sales volumes increasing considerably across the European Union.

Primary Research Aim
The study aims to provide scientific evidence on exposure, assessment, burden of disease, and development and evaluation of interventions to tackle, secondhand tobacco smoke and e-cigarettes aerosols upon respiratory health.

This Project will also try to elucidate the comprehensive impact that SHS and e-cigarettes aerosols have on the European population and how health impacts vary according to socio-economic parameters. The Project will pose particular emphasis on specific vulnerable groups (patients suffering from pre-existing chronic lung diseases, heavy smokers, and other disadvantaged groups).

Research Objectives and Methodology

- To analyze the determinants of the exposure of the European population to secondhand smoke using self-report exposure through questionnaires (WP3) and objective environmental markers (WP2)
- To characterize the attitudes towards smoke-free measures and secondhand smoke exposure and the associated perception of risk of the general population and vulnerable populations (WP3)
- To assess the morbidity and mortality from chronic lung diseases and cardiovascular diseases due to secondhand smoke exposure in the European population, with emphasis on disadvantaged and vulnerable groups (WP9), and to evaluate the economic burden of these exposures (WP10) - literature review and secondary data analysis
• To design, implement, and evaluate new interventions to reduce secondhand smoke exposure in vulnerable populations (WP4); with emphasis on finding methods to increase the uptake of smoke-free homes and cars - intervention study
• To characterize secondhand tobacco smoke exposure and exposure to electronic cigarettes emissions upon patients with chronic lung diseases (WP5) and healthy subjects (WP6);
• To develop feasible, sensitive, and cost-effective methods for secondhand tobacco smoke and electronic cigarette emissions assessment (WP7)
• To systematically review the scientific published literature on secondhand exposure to electronic cigarette emissions and assess these emissions in real-life conditions (WP8);
• To disseminate the findings, new interventions, and policy recommendations produced by the project through a final project conference for stakeholders and policy makers, together with scientific publications and press stories for the general public (WP11) and
• To adhere to the principles of good governance, ethical conduct, and accountable activity in the scientific and administrative management of the Project (WP1)

Current Status
During the first months of the project, the study designs were developed elaborating the protocols for all sub-studies of the project and arranging necessary logistics for the following stage of the project, data collection. The study protocols of all sub-studies were prepared and submitted to the local Ethics Committees for approval. The studies of WP2, 3, and 4 have already been granted the ethical approvals and are about to start shortly data collection process.

As not all the countries to be included into the study are represented in the project Consortium, an important effort was made by the Partners to engage local professionals from countries not being members of the TackSHS Consortium to participate in the study.

Engagement with Policy Makers
At the current stage of the project, there are no significant results or conclusions to be shared with policy makers and other stakeholders. According to the dissemination plan, the main findings of TackSHS will be presented to stakeholders, patients and policy makers. Dissemination materials will be produced and published on the TackSHS website and through the websites of the collaborating partners and stakeholders.

The TackSHS consortium will reach policy makers and other stakeholders through the following communication activities:
• Press releases to inform the public, patients and policy makers about project findings
• Fact sheets for policy makers and the public posted on the project’s web site
• The TackSHS website is the central communication point were updated information will be provided through the project duration. The website is also used to disseminate the results of the project and will include information for professionals and for the general public.
• Dissemination activities specially addressed to patients’ groups
• Communication to national and international policy makers and opinion leaders
• Informal communication activities and collaboration with researchers and groups outside the consortium
• Social media: use of Twitter, YouTube, LinkedIn, Researchgate for dissemination to the general public and to professionals
Interim Workshop: an interim workshop will be organised to involve the Advisory Board, policy makers, experts and stakeholders in evaluation of the approaches and the first results of the project, and to make recommendations for further work. TackSHS Consortium will carefully elaborate content for the workshop, including presentation of the project objectives, proposed priorities, and questions to be addressed.

Final Project Conference: to disseminate the findings, new interventions, and policy recommendations produced by the project TackSHS will organise a final project conference for stakeholders and policy makers, while publishing scientific publications and press stories for the general public.

**Plan for Dissemination of Data**

The targeted audience of the TackSHS project consists of researchers, clinicians dealing with daily lives of patients, as well as mass media, patient/family organisations, and individuals in the population who want to know about the progress done by the scientific community to diminish the impact of disease on the society, patients, and families. TackSHS will further disseminate project results among bioethicists, public health policy-makers, stakeholders from industry and governmental European bodies and representatives from the European Commission.

The TackSHS stakeholders’ list was developed and it describes the target groups for dissemination and consultation activities. The list is the first step to setting up a network of policy makers, professionals and other stakeholders involved in tobacco control, including e-cigarettes, chronic respiratory diseases and health inequalities potentially interested in contributing to the project via e.g. their counselling on the priorities and the questions to be addressed, on the interpretation of the project results, or on the recommendations to be formulated.

- The stakeholders’ list will be used to:
  - Keep stakeholders informed on progress made and milestones reached;
  - Share the project’s results among health professionals and other stakeholders;
  - Raise awareness on new methods for tobacco control throughout Europe;
  - Stimulate and generate interest from the scientific community, health authorities, experts in tobacco control, as well as policy makers and other stakeholders, on national and European levels.

The stakeholders will be involved in TackSHS as sparring-partners providing input for research on an on-going basis and as disseminators and users of the TackSHS research results. The stakeholders will be involved through TackSHS dissemination activities, participation in the interim workshop of TackSHS (beginning of 2018) and in the final project conference (autumn of 2019).
LD02: Tobacco cessation within TB programmes: A ‘real world’ solution for countries with dual burden of disease

Funded by: EC
Duration: 4 years
Study location: Bangladesh, Nepal, Pakistan

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Abstract:

Background
Tobacco consumption and TB are two ‘colliding epidemics’ in many low- and middle-income countries. The two epidemics tend to interact and amplify each other’s negative impact on the health of the population. A growing body of evidence has shown that tobacco smoking increases the risk of acquiring TB infection, as well as increasing the risk of its progression to TB disease. TB patients who continue to smoke have much worse disease outcomes that those who manage to quit.

It is estimated that 15% of the global disease burden of pulmonary TB could be attributed to tobacco use. Clearly, then, considerable public health benefits could be achieved if TB patients could be persuaded to stop smoking.

Many studies have shown that tobacco cessation strategies delivered by healthcare professionals can be very effective in helping people to stop smoking. Such strategies might include pharmacological interventions and/or behavioural support methods. However, there is practically no
evidence concerning the effectiveness and cost-effectiveness of offering such interventions to TB patients.

Our studies will evaluate the use of cytisine, when combined with behavioural support for tobacco cessation, compared with behavioural support alone. Cytisine is a low-cost nicotine substitute, shown to be effective as a tobacco cessation medication in Eastern Europe and New Zealand, although no clinical trials have yet been conducted with it in low- and middle-income countries.

An important part of the project will be to gather information about how the strategies could be implemented in TB control programmes and how best to adapt them to suit the different requirements of the health systems and cultures in the three different countries. This knowledge will be essential for the success of any scale-up of the cessation strategies in the future.

**Primary Research Aim**
The project aims to assess the effectiveness and cost-effectiveness of cytisine when added to behavioural support for tobacco cessation compared to behavioural support alone on tobacco cessation in TB patients in Pakistan, Bangladesh and Nepal, who use tobacco on a daily basis.

**Secondary research aims**
Secondary research aims are as follows:

- To assess the effectiveness and cost-effectiveness of the above tobacco cessation strategies in improving the clinical outcomes on TB patients who use tobacco on a daily basis.
- To assess any differences in the effectiveness of these strategies by the form of tobacco used (smokers, smokeless tobacco users and those that use a combination of smoking and smokeless forms).
- To assess any differences in the effect across different TB severity groups, high and low socio-economic status, genders and age sub-groups.

**Research Objectives and Methodology**
The main objective is to reduce the burden of tobacco-related lung diseases, by integrating inexpensive tobacco cessation strategies of proven efficacy into TB control programmes. Methods include the randomized controlled trial to assess the effectiveness of cytisine, as described above.

**Current Status**
This is a 4-year project, which started in November 2015. Trial recruitment is on target to start on 1st November 2016.

**Engagement with Policy Makers**
Policy makers and programme managers in respective government departments in Bangladesh, Nepal and Pakistan are being engaged (including the Ministries of Health, tobacco control cells and National TB Programmes).

To do this, in-country specific activities (such as workshops) are being organised, using in-country contacts. Policy Briefs will be produced and policy briefing sessions/workshops arranged. Project members will make contributions to other organisations’ newsletters, and TB & Tobacco will be incorporated into the agendas of other policy forums.
Other stakeholders which have been/ will be engaged include University Departments, the European Commission, other research projects (EU- and non-EU funded), governmental and non-governmental organisations, supra-national executive agencies (such as The Global Fund), support organisations, charities, journalists and the wider public, researchers, healthcare professionals and students, as well as TB patients and their families.

These stakeholders have been engaged in a variety of ways, including through the Project website, via connections with other research networks, through policy briefing sessions and workshops, newsletters, leaflets, seminars and conferences and patient advocacy forums.

**Plan for Dissemination of Data**

A detailed strategy for communication and dissemination has been written up as a project deliverable, as required by the EU. This will be referred to throughout the project, but is confidential to the consortium.

The purpose of identifying and reaching stakeholders, as described above, is to raise awareness of the findings of the consortium, so as to maximise the impact of the project in as wide a sphere as possible. In this way, it is hoped that the results of the TB & Tobacco project will have a lasting beneficial impact on public health.

Communication tools that will be employed must be effective, targetable, economical and measureable. Those selected include journal publications, a project website, press releases, external conference presentations and social networks, as appropriate.

Some of the communication activities will take place throughout the project, while others will be especially focussed during the scale-up phase of the project.

The trial has not yet commenced. Something that has become increasingly apparent as the project is progressing is that obtaining trial insurance and regulatory approval in the 3 trial countries has taken longer than anticipated, especially in Nepal.

**Publications**


LD03: Smoke Free Brain: Multidisciplinary tools for improving the efficacy of public prevention measures against smoking

Funded by: EC Duration: 3 years
Study location: Bulgaria, Greece, Italy, Serbia, Spain
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Co-investigators
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Tomi Kovacevic, Institut za Plucne Bolesti Vojvodine, Sremska Kamenica, Serbia

Abstract
Background
Smoking is the largest avoidable cause of preventable morbidity and premature mortality worldwide. The prevalence of smoking worldwide is estimated at about one billion smokers, half of which will die prematurely as a consequence of their addiction, unless they quit. Smoking causes approximately 85% of the cases of lung cancer and chronic obstructive pulmonary disease (COPD) and contributes to the development of many other lung diseases. Therefore, the control of smoking and the active reduction of exposure to tobacco substances in the environment are considered as highly important interventions in lung disease.

Primary Research Aim
SmokeFreeBrain aims to address the effectiveness of a multi-level variety of interventions aiming at smoking cessation in high risk target groups within High Middle Income Countries (HMIC) such as unemployed young adults, COPD and asthma patients, as well as within the general population in Low Middle Income Countries (LMIC). The project addresses existing approaches aiming to prevent lung diseases caused by tobacco while at the same time it develops new treatments and analyzes their contextual adaptability to the local and global health care system.

Research Objectives and Methodology
The main objective of the project is to evaluate the interventions in terms of health economics, by studying their cost-effectiveness, and proposing a scalable plan and a clear pathway to embedding the proposed interventions into policy and practice both in LMIC as well as in HMIC. The objectives of the project are outlined below in more detail:

- Examine the effects of the use of electronic cigarettes, during the initial phase of smoking cessation.
- Examine the possible formation of carcinogenic nitrosocompounds via the exposure to nicotine through electronic cigarette vaping.
Examine the global DNA methylation status under two different situations, tobacco smoking and e-cigarette vapour inhaling.

Development and evaluation of a novel neurofeedback protocol for smoking cessation.

Develop a smoking cessation intervention based on adherence to physical activity with ICT support (App Gamification, Facebook and SMS).

Generate and validate a set of software tools that can be used to inform EU policymakers and local governments as to how to produce optimal Public Service Announcements (PSA) regarding smoking.

Develop a best practice guide regarding the best practices that promote smoking cessation and how these can be applied in large scale.

Evaluate and report on the cost-effectiveness of the proposed interventions.

Report on policy suggestions.

Examine the effectiveness of the proposed interventions in socioeconomic and health demographics terms.

LD04: FRESH AIR – Free Respiratory Evaluation and Smoke-exposure reduction by primary Health cAre Integrated gRoups

Funded by: EC Duration: 3 years
Study location: Greece, Kyrgyzstan, Uganda, Vietnam

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Research team
Liza Cragg, International Primary Care Respiratory Group (IPCRG), United Kingdom
Charlotte Poot, Leiden University Medical Cente, Leiden, Netherlands

Abstract:

Background
Research shows that worldwide about 80 million people have COPD and it is now the third leading cause of death worldwide. Asthma affects an estimated 300 million individuals worldwide. Data shows that the greatest burden of lung disease occurs in in low-resource settings. According to WHO figures over 90% of COPD deaths and over 80% of asthma deaths occur in LMICs. The link between exposure to smoke, including tobacco smoke, indoor and outdoor environmental exposure, and lung diseases is well established by existing research.

Clinically and cost-effective prevention and treatment measures, including treating tobacco dependence, are widely available in high income countries. However, there are different risk factors in low-resource settings, including indoor air pollution from burning fuel for cooking and heating with inadequate ventilation. Public awareness of lung disease and its risk factors also tends to be poor. This is exacerbated by lack of knowledge and engagement of policy makers, limited access to health care and inadequate data.

Primary Research Aim
The project seeks to improve health outcomes for people at risk of or suffering from non-communicable lung diseases in low and middle income countries (LMICs) and other low-resource...
settings through interventions for prevention, diagnosis and treatment. It uses implementation science methodologies to explore how existing knowledge and evidence-based interventions that have been proven to work in High Income Countries (HICs) can be adapted to the practical challenges experienced in low-resource settings.

The FRESH AIR Horizon 2020 project activities are divided into seven work packages, each of has its own specific objectives, tasks and deliverables. Each work package also has a lead member of the consortium who is responsible for coordinating the activities. These work packages are interlinked:

- WP 1: Coordination
- WP 2: Developing capacity for implementation science
- WP 3: Making the case for action
- WP 4: Preventing lung disease by reducing exposure to HAP and tobacco
- WP 5: Improving diagnosis and treatment
- WP 6: Protecting and improving lung health in infancy and childhood: midwife-led smoke reduction study
- WP 7: Maximising and spreading impact: stakeholder engagement

**Research Objectives and Methodology**

The overall aim of the FRESH AIR project is to improve health outcomes for people at risk of or suffering from non-communicable lung diseases in low-resource settings by developing capacity for implementation of evidence-based interventions for prevention, diagnosis and treatment in these contexts. The project will achieve this through seven specific objectives:

1. To identify the specific factors that influence the implementation of evidence-based interventions in the prevention and treatment of non-communicable lung diseases in community settings
2. To explore which awareness-raising approaches are most effective in motivating behaviour change in tobacco consumption and HAP exposure
3. To provide access to smoking cessation support by adapting successful evidence-based Very Brief Advice (VBA)
4. To test the feasibility and acceptability of methods for diagnosing COPD using innovative spirometry
5. To test the feasibility and acceptability of pulmonary rehabilitation (PR) as a low cost treatment for obstructive lung disease
6. To test how to best reduce children’s respiratory symptoms and the risk of lung damage by exploring the feasibility, acceptability and optimal organisation of interventions
7. To generate new knowledge, innovation and scalable models that ensure equitable access and to support their implementation through proactive dissemination.

**Publications**

**References:**


LD05: EUREST-PLUS: Policy Implementation to Reduce Lung Diseases

Funded by: EC Duration: 3 years
Study location: 28 European Member States, with active participant recruitment from Germany, Greece, Hungary, Poland, Romania, Spain

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Abstract:
Background
Smoking and other forms of tobacco consumption are considered the single most important cause of preventable morbidity and premature mortality worldwide. Efforts to reduce the devastation of tobacco-related deaths and illness in the EU consist of the Tobacco Products Directive (TPD), and the on-going implementation of the WHO Framework Convention on Tobacco Control (FCTC).

Primary Research Aim
The main objective of EUREST-PLUS is to monitor and evaluate the impact of the TPD within the context of FCTC ratification at a European level. These articles in the TPD address issues of tobacco product ingredients, additives, reporting, packaging, labelling, illicit trade, cross border sales, and e-cigarettes.

Research Objectives and Methodology
To achieve the main objective of the project four specific tasks were identified and the corresponding methodology was defined:

1. The psychosocial and behavioural impact of implementation of the TPD will be evaluated through the creation of a cohort study of adult smokers in 6 EU MS (Germany, Greece, Hungary, Poland, Romania, and Spain) in a pre-TPD vs. post-TPD study design using the International Tobacco Control (ITC) protocol and research methodology.

2. The pooling and comparisons across both other countries that participate in the International Tobacco Control (ITC) Project within and outside the EU to enhance innovative joint research collaborations.

3. FCTC and TPD implementation at the EU member state level will be assessed through secondary dataset analyses of the 2015 Special Eurobarometer on Tobacco Survey (SETS) a cross sectional survey collected from all 28 European Member states, and through trend analyses on the merged datasets of the 2009, 2012 and 2015 SETS datasets.

4. Changes in e-cigarette product parameters (technical design, labelling, packaging and chemical composition) following implementation of Article 20 of the TPD will be assessed through a pre-TPD vs. post-TPD product evaluation in 9 EU Member States (EU MS).

Current Status
As of September 2016 we have made significant progress in three of the four objectives including
Recruitment of the baseline cohort of 6,000 smokers from the 6 EU MS with data analysis just about to commence.

The Pre-TPD evaluation of changes in e-cigarette parameters has been performed with the purchase of a representative sample of e-cigarette products based on market share from 9 EU MS.

Manuscripts have been prepared using the SETS data set, 3 of which have been already published (Tobacco Control, BMJ Open, Eur J Public Health)

We have a fully operational website www.eurestplus.eu

**Engagement with Policy Makers**

- **Which policymakers have been engaged?**
  - European Parliament ENSP session
  - European Parliament, Plain packaging event
  - European Commission, DG Research
  - European Commission, DG SANTE
  - European Commission, Global Health Policy Forum
  - Romanian national politicians, Roadmap to a Tobacco-Free Romania 2035

- **How have the policymakers been engaged?**
  - Presentation at the event Roadmap to a Tobacco-Free Romania 2035 organised by ENSP and Campaign for Tobacco Free Kids, Bucharest, 8 September 2016.
  - Presentations at the ERS Congress, London, September 2016
    - Two posters on WP5
    - Presentation at the World Village
    - Presentation at the congress
    - Poster at the World Village
  - Presentation at the Global Health Policy Forum, Brussels, 7 July 2016
  - Presentation at the Horizon 2020 Info Day, Brussels, 8 July 2016
  - Presentation at the ENSP Conference on Tobacco, European Parliament Brussels, 5 April 2016

- **What specific policies do you intend to influence?**
  - Implementation of the TPD in the context of the FCTC

- **Which stakeholders have been engaged?**
  - ENSP – European Network for Smoking and Tobacco Prevention
  - ERS – European Respiratory Society
  - ELF – European Lung Foundation
  - ISPTID – The International Society for the Prevention of Tobacco Induced Diseases
  - CTFK – Campaign for Tobacco Free Kids
  - EFA – European Federation of Allergy and Airways Diseases Patients’ Associations
  - ECPC – European Cancer Patients’ Coalition

- **How have these stakeholders been engaged?**
  - Presentation at the event Roadmap to a Tobacco-Free Romania 2035 organised by ENSP and Campaign for Tobacco Free Kids, Bucharest, 8 September 2016
- Presentation at the ENSP Conference on Tobacco, European Parliament Brussels, 5 April 2016
- Presentations at the ERS Congress, London, September 2016
  - Presentation to ERS/ELF members at the ERS congress

**Plan for Dissemination of Data**

WP7 in EUREST-PLUS is dedicated to the “Impact and Dissemination” of the project’s scientific findings. This WP is led by the European Respiratory Society (ERS) and supported by the European Network on Smoking and Tobacco Prevention (ENSP).

EUREST-PLUS focuses on a significant lung health issue - tobacco use and exposure - which has an increasing impact on the lives of individuals and on the public health throughout the EU. The multifactorial causes of the problem and the plethora of regulatory pathways to curb tobacco use and exposure are also of great scientific interest. Progress towards solutions to this problem is urgently sought at all levels of society, and recently at the European level a significant step forward was made with the adoption of the revised TPD, its articles which will be implemented throughout the duration of EUREST-PLUS.

The maximum overall benefit from the outputs of the project’s research can only be achieved if the project also communicates its results and their policy implications to all stakeholder groups who can help to communicate the positive implications of the results to the general public: the media, public health officials, institutions like WHO, NGOs, the scientific community and patient organisations.
• Audience
  o Scientific dissemination
  o Communication with the media, National and international
    ▪ Reports and research results
    ▪ Press releases, translated to national languages
    ▪ Dissemination via the networks of ENSP and ERS
  o Communication with stakeholders and the public
    ▪ The public
    ▪ Patients
    ▪ FCTC Parties
    ▪ Members of European Parliament

• Message
  o The messages conveyed to all stakeholders are based on the results of EUREST-PLUS concerning progress towards solutions to tobacco use and exposure particularly in regards to implementation of the TPD in the context of FCTC ratification.

• Methods
  o Publishing all appropriate findings in peer-reviewed scientific journals. The scientific peer reviewed journals, Tobacco Induced Diseases, and “Tobacco Prevention & Cessation” will serve as the spearhead journals to carry editorial news on the EUREST-PLUS Project. In addition to this “editorial news” activity through, specific open access supplements in scientific journals will be sought during the process of the project and in collaboration with its partners.
  o The publication of EUREST-PLUS studies in open access journals will allow distribution of the research to a much broader audience throughout the world, including research community in LMICs. In addition, some funding is being requested to pay for open access status in some journals that do not have fully open-access policies but yet are important outlets for the proposed research.
  o Use of the EUREST-PLUS website, www.eurestplus.eu, targeted at all professional stakeholders, including scientists, with summaries of scientific progress, news of conferences etc. This website be linked to mirror domains within the ENSP website, the ERS website, the ISPTID website, three large respiratory and tobacco control health networks which support this project. This website will also have linkages to the ITC Project website (www.itcproject.org).
  o Use of social media (Facebook, Twitter) and partners’ newsletters to provide its members and the outside community with further information on the project and its results.
  o Presentation at scientific conferences including the upcoming European Conference on Tobacco or Health (ECTOH), the World Conference on Tobacco or Health (WCTOH), the conferences of the Society for Research on Nicotine and Tobacco (SRNT), the conferences of the International Society for the Prevention of Tobacco induced Diseases (ISPTID)
  o Reports and project results produced and translated to national languages of the countries represented in EUREST-PLUS.
  o Utilisation of ENSP and ERS networks of tobacco control experts to disseminate information to members
  o Contact to media through ERS’ links to journalists throughout the ERS congress
  o Stakeholder meetings
o **ELF and EFA** to communicate results of EUREST-PLUS to patients with lung diseases and with allergy and airways’ diseases respectively.

- The Implementation of the EU TPD is a complex process that involves the engagement of 28 EU MS and the European Commission. This complex process will be monitored and we have set the base for its evaluation over the next two more years through the collection of the baseline dataset in 6 EU MS, active product design evaluation in 9 EU MS, and statistical analyses of data from 28 EU MS.

**Publications**


**Conference abstracts:**

EUREST PLUS - European Regulatory Science on Tobacco: Policy implementation to reduce lung diseases - Proposal (Horizon2020). Constantine Vardavas 10.18332/tpc/62406


**LD06: RETRAC2: Research on Commercial Tobacco Reduction in Aboriginal Communities**

Funded by: CIHR
Duration: 5 years
Study location: Canada
Investigators
PIs
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Abstract:

**Background**
In Canada, First Nations (on and off-reserve), Inuit and Métis Peoples have remarkably high rates of commercial tobacco use and associate chronic lung and other diseases compared to non-Aboriginal groups. RETRAC2 builds on a previous study (RETRAC1), where 7 Aboriginal communities conducted research to understand their community's contexts of tobacco use and develop tailored community commercial tobacco reduction strategies. RETRAC1 included a systematic review of literature and studied Aboriginal communities around the world that had success in reducing commercial tobacco use. RETRAC2 provides opportunity for the 7 RETRAC1 communities to implement and evaluate their interventions and for 6 new Aboriginal communities to conduct community-based research, develop and begin to implement their own commercial tobacco reduction strategies.

**Research aims**
The overall purpose of this project (RETRAC2) is to contribute to knowledge about commercial tobacco control interventions that aim to prevent chronic lung diseases in Aboriginal communities in Canada. We will determine the effectiveness of tailored and evidence informed community-developed strategies in reducing commercial tobacco use and assess the implementation factors that contribute to their success.

**Current status**
Funding award announced September 2016.

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**LD07: Examining the impact of tobacco pricing and packaging strategies on tobacco use and equity in middle-income countries**

*Funded by: CIHR, IDRC, SA MRC*  
*Study location:* Canada, Chile, Colombia, Equador, South Africa, Vietnam  
*Duration:* 5 years

**Investigators**

**Pis**
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**Abstract:**

**Background**
Tobacco use causes more than 6 million deaths per year worldwide, a number that is expected to rise to more than 8 million by 2030, and most of which will be occurring in low- and middle-income countries. Smoking is the leading cause of lung disease: smoking causes chronic obstructive pulmonary disease (COPD) (including emphysema and chronic bronchitis) and most cases of lung cancer; smokers are about 12 times more likely to die from COPD than non-smokers and 25 times more likely to develop lung cancer.

**Research aims**
We will study the impact of tobacco prices on smoking onset, smoking cessation, and tobacco consumption in Chile, Colombia, Ecuador, South Africa, and Vietnam. The effects of both tax and retail price will be further analysed according to their effect by socioeconomic status, sex, and age with simulations to determine the ultimate impacts on tax revenue, tobacco use, and health outcomes. Additionally, the impact of cigarette packaging, including plain packaging, and major recent country-specific policy changes will be analysed. There is overwhelming evidence that higher cigarette prices reduce tobacco use with greater reductions among young people and those from more socioeconomically disadvantaged groups. The tobacco industry, however, asserts that tobacco taxes harm vulnerable populations and lead to increased consumption of illicit cigarettes and that packaging policies are ineffective. Evidence generated by this research will be used to address these claims with the aim of influencing tax policy and tobacco product labelling practices in low- and middle-income countries with the goal of ultimately preventing ill health and deaths caused by tobacco consumption.

**Current status**
Funding award announced September 2016.

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**LD08: Household Air Pollution and Health: A Multi-Country Liquefied Petroleum Gas (LPG) Cook stove Intervention Trial**

*Funded by:* NIH, NHLBI, NIEHS, NICHD, NCI, Bill & Melinda Gates Foundation  
*Duration:* 5 years  
*Study location:* India, Guatemala, Peru, Rwanda  
*Investigators*  
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Abstract:

Background
Globally, nearly 3 billion people rely on solid fuels for cooking and heating, the vast majority in low- and middle-income countries (LMICs). The resulting household air pollution (HAP) is the third leading risk factor in the 2010 global burden of disease, accounting for an estimated 4.3 million deaths annually, largely among women and young children. While cleaner fuels reduce HAP and seemingly increase birthweight, reduce childhood pneumonia incidence and stunting, and lower blood pressure in adults, robust evidence for any health benefits is lacking. Previous interventions have provided cleaner biomass-based cookstoves, but have failed to reduce exposure to levels that produce important health improvements. There have been no large-scale field trials with liquefied petroleum gas (LPG) cookstoves, likely the cleanest scalable intervention.

Aims and objectives
Here we propose to conduct a randomized controlled trial of LPG stove and fuel distribution in 3,200 households in four diverse LMICs to deliver rigorous evidence regarding potential health benefits across the lifespan.

Aim 1: Using an intent-to-treat analysis, determine the effect of a randomized LPG stove and fuel intervention on health in four diverse LMIC populations using a common protocol.

Hypotheses:
- Compared to control households with biomass cookstoves (400/site), pregnant women in households that receive LPG stoves and fuel (400/site) will have offspring with increased birthweight, reduced pneumonia incidence and improved growth (length-for-age/stunting) up to age 2 years (primary outcomes); and decreased preterm birth and improved gross motor development up to age 2 years (secondary outcomes).
- Compared to control households with biomass cookstoves (100/site), older adult women (35-64 years) in households that receive LPG stoves and fuel (100/site) will have reduced blood pressure (primary outcome); improved endothelial function, decreased carotid intima-media thickness, and less respiratory health impairment and improved quality of life as measured by the St. George Respiratory Questionnaire and the Short Form 36, respectively (secondary outcomes), during the 30-month follow up period. Quality-adjusted life years saved from the intervention will be calculated to determine cost effectiveness.
Aim 2: Determine the exposure-response curves for HAP and health in four diverse LMIC populations.

- Using repeated 48-hour exposure measurements, establish an exposure-response curve for all primary and secondary outcomes (assessing potential non-linearity), while adjusting for confounders. Determine which pollutants are better predictors of different outcomes. Conduct sensitivity analyses via restriction to intervention or control groups; and, use of state-of-the-art causal inference techniques as a novel approach to the analysis of exposure-response relationships. While evidence for an overall effect of the intervention is available from Aim 1, analysis of exposure-response is critical for quantitative risk assessment and policy determinations of acceptable levels of HAP regardless of cooking technology.

Aim 3: Determine relationships between LPG intervention and biomarkers of exposure/health effects.

- The Biomarker Center will conduct both targeted and exploratory (metabolomics) analyses.
- Hypothesis: Participants residing in households that receive LPG stoves will have lower carcinogen metabolites (urinary polycyclic aromatic hydrocarbons and volatile organic carbons) and endothelial, inflammatory, and oxidative stress biomarkers (e.g., ICAM-1, VCAM-1, endothelin-1, E-selectin, CRP, IL-6 among others) when compared to women in control households.

Research Objectives and Methodology

Our investigative team, led by the Clinical Intervention, Coordinating and Biomarker Center (CICBC), in close collaboration with local researchers with strong track records in implementing HAP field trials, will establish Intervention Centers (IC) in India, Guatemala, Peru, and Rwanda. Following a common protocol, each IC will recruit 800 pregnant women (aged 18-34 years, <20 weeks gestation, 1 per household), and will randomly assign half of the households to receive LPG stoves and a 30-month supply of LPG. Controls will receive the same cookstoves and LPG supply at the end of the study. Pregnant women and their offspring will be followed until the children are aged 2 years. We estimate that 25% of households will have a second older adult woman (aged 35-64 years) who will also be enrolled to assess cardiopulmonary outcomes. We will assess cookstove use and conduct repeated personal exposure assessments to HAP (PM2.5, black carbon, carbon monoxide). We will obtain dried blood spots and urinary samples from participating pregnant women, their offspring, and the older adult women for biomarker analysis at our Biomarker Center or at a laboratory validated by the Biomarker Center (for India). The CICBC will provide funding to the ICs annually as per an approved budget, coordinate IRB approvals, provide training in promoting and monitoring cookstove uptake and exposure and outcome assessment, monitor protocol compliance and visit ICs annually to re-certify staff and assure quality of data at a centralized Data Management Center.
Jiapeng Lu, National Center for Cardiovascular Diseases, China

Abstract

Background

Chronic lung diseases, such as chronic obstructive pulmonary disease (COPD) has been the leading cause of morbidity and mortality in China. This high burden of chronic lung diseases may be due to increasing exposure to risk factors, but also to lacking of population-based screening, poorly early diagnosis and management, particularly in rural areas of China. The risk status for COPD in Chinese population are poorly understood, and large variations might be expected between urban and rural areas. Recent reports suggest that peak expiratory flow (PEF) measurements may be an inexpensive way of screening and initial identification of severe cases of COPD for subsequent confirmatory spirometry. But there are limited studies assess the predictive value of PEF to lung diseases. Therefore, we sought to investigate epidemic status of lung functions and risk for COPD across China, and to clarify the predictive value of PEF to the incidence and prognosis of chronic lung diseases.

This study was conducted in the established network of the China PEACE (Patient-centered Evaluative Assessment of Cardiac Events) Millions Persons Project (MPP). The China PEACE MPP is a patient-centered national screening initiative to detect populations at high-risk for cardiovascular diseases began in July 2014, has covered 16 provinces, municipalities and autonomous regions. At the end of June 2017, the China PEACE MPP will cover 31 provinces, municipalities and autonomous regions. It collects detailed information on socio-demographics, disease histories including chronic lung diseases, lifestyles, behaviors and bio-samples for millions of persons. Until now, about 1.4 million community-residents aged 35-75 years participated were screened. The China PEACE MPP provide national-wide high quality resources for this study.

Research Aims and Objectives

To describe the status of lung functions and evaluate the risk for COPD, information about lung diseases and related symptoms were collected by the standard questionnaire in this study. During the screening, PEF was measured using unified device. It’s measured three times for each participant, and the maximum value was recorded. Incidence of COPD and other lung diseases were also recorded.

Until this September, we have recruited about 1 million participants from 16 provinces. And this study will recruit 1.5 million participants from 31 provinces at the end of June 2017.

LD10: Genomic analysis of drug-resistant tuberculosis in sputum sample

Funded by: CONACYT
Study location: Mexico
Investigators
PI
Francisco Xavier Soberon, National Institute of Genomic Medicine, Mexico
LD11: Search and validation of biomarkers for tuberculosis in Mexican patients with diabetes mellitus

Funded by: CONACYT
Study location: Mexico
Investigators
PI
Mario Alberto Flores, Center for Research and Assistance in Technology and Design of the State of Jalisco, Mexico

Abstract:
Background
Today, the traditional test in the health sector to assume an infection by Mycobacterium tuberculosis in asymptomatic people is based on delayed hypersensitivity immune response to a complex mixture of antigens derived from the purified protein derivative (PPD) or tuberculin, whose most abundant constituents are shared by other mycobacteria, resulting in sensitivity and specificity values of around 80%. As a solution to this lack of ability to detect at least 20% of cases based on ex vivo cell response to particular antigens of M. tuberculosis, some commercial kits were generated. Despite the progress that these methods represent, their demonstrated usefulness is not entirely satisfactory when used in various populations. Thanks to this, and taking advantage of the possibility of conducting a screening for all proteins encoded in the genome of M. tuberculosis within a chip/protein microarray, we propose the search and validation of biomarkers for tuberculosis, specifically in Mexican patients with diabetes mellitus.

Research Aims and Objectives
Develop a diagnostic method based on a panel of mycobacterial antigenic proteins, to detect asymptomatic tuberculosis in Mexican patients with diabetes mellitus, with sensitivity and specificity greater than or equal to 80%, from antigens present in the complete proteome of M. tuberculosis

Specific objectives
1. Determine the ability to detect antigenic proteins from the complete proteome of M. tuberculosis, produced in a microarray, using antibodies present in sera from healthy subjects, patients with active tuberculosis, diabetes mellitus patients with negative PPD reactivity, and patients with diabetes mellitus and positive PPD reactivity.
2. Once identified the antigenic proteins, verify the sensitivity and specificity of detection of antigenic proteins individually, to find candidate biomarkers, and validate their recognition by sera from healthy subjects, patients with active tuberculosis, diabetes mellitus patients with negative PPD reactivity, and patients with diabetes mellitus and positive PPD reactivity.
3. Validate the cross-reactivity of candidate biomarkers in study groups and cases of diabetic patients with other infectious diseases.
LD12: Case Finding and Effectiveness of a COPD Action Plan in Low and Middle Income Countries

Funded by: UK MRC
Duration: 3 years
Study location: Peru, Nepal and Uganda

Investigators
PI
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William Checkley, Johns Hopkins University, USA
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Maria Cardenas Peruvian University Cayetano Heredia, Peru
Robert Wise, Johns Hopkins University, USA

Abstract:

Background
More than 90% of chronic obstructive pulmonary disease (COPD) related deaths occur in low- and middle-income countries (LMICs), and in 15 years COPD is expected to become the leading cause of death worldwide. Moreover, the human and economic cost of COPD is expected to rise: in 2001, COPD was responsible for 2.4 million deaths and 33 million DALYs lost in LMICs, and it is projected that by 2020 COPD will become the fourth leading cause of disease burden in LMICs. The economic impact of COPD among LMICs was £700 billion in 2010 and is expected to increase to £1.7 trillion by 2030. LMICs face unique challenges in managing COPD, including deficient primary care systems which present challenges with diagnosis and management, especially during exacerbation. Given the high and rising global burden of COPD, a revolution in diagnosis and management of COPD and exacerbations in LMICs is an urgent priority.

Aims and objectives

Objective 1: To determine whether case-finding for COPD can be facilitated using a modified 5-item questionnaire. We hypothesise that a modified 5-item questionnaire will be a valid case-finding tool for COPD in LMIC and will be acceptable and feasible for use in these settings.
  a) Clinical Aim 1: Determine the diagnostic accuracy of the 5-item case-finding questionnaire.
  b) Implementation Aim 1: Assess the appropriateness, acceptability and feasibility of using questionnaires to identify COPD cases from the perspective of local community members, community health workers, local health centre physicians and ministries of health.

Objective 2: To determine whether a self-directed COPD Action Plan for the management of COPD exacerbations can be implemented with CHWs and local health care centres. We hypothesise that COPD action plans with disease-specific education will lead to improved quality of life and will be locally-appropriate, acceptable, and feasible to implement.
  b) Implementation Aim 2: Assess the appropriateness, acceptability, and feasibility of implementing a self-directed COPD Action Plan for management of COPD exacerbations.
Objective 3: To determine whether a self-directed COPD Action Plan is cost-effective, accounting for implementation realities. We hypothesise that a self-directed COPD Action Plan is a cost-effective intervention, as measured by the incremental QALY.

a) Scientific Aim 3: Assess the cost-effectiveness of a self-directed COPD Action Plan in terms of health-related costs and health benefits and explore broader cost implications to productivity.

b) Implementation Aim 3: Explore how the value of the self-directed COPD Action Plan is affected by both implementation factors that restrict optimal provision ('constraints') and sub-group differences, which have implications for equity.

Objective 4: To determine whether case-finding and COPD Action Plans, rooted in community-based, task shifting approaches, can be implemented as a package to manage COPD in LMIC settings at primary-care level. We hypothesise that case finding for COPD using questionnaires combined with self-directed management is scalable and sustainable.

a) Implementation Aim 4: Assess the scalability and sustainability of community-based COPD case-finding and self-management.

Research Objectives and Methodology

Formative Research Phase:
Prior to screening, we will conduct formative research to inform local adaptation of the 5-item case-finding questionnaire and COPD Action Plans, both of which have been validated in high-income settings. Local scientists with backgrounds in social and behavioural science will participate in designing interviews, focus groups and analysing qualitative data. This information will be used to adapt the tool to address local terminology, illness concepts and locally relevant risk factors such as cooking fuel smoke exposure. While we will adapt the tool to local settings, our ultimate goal is to develop a standardised case-finding tool that can be used across a diversity of LMICs.

Screening, recruitment and enrolment:
For the Screening Phase, study fieldworkers will enrol and screen a randomly-selected age- and sex-stratified population sample of 3,500 adults in each of three countries aged ≥40 years in the catchment areas of the NNIPS study area in Nepal, the CRONICAS cohort in Peru, and the FRESH AIR cohort in Uganda, where we have previously identified a high prevalence of COPD. Eligible participants will be identified using context-adapted lung function questionnaire and flow-based portable spirometers.

COPD Management Effectiveness-Implementation Trial:
Intervention Arm - The intervention arm will receive COPD-specific education and an Action Plan for exacerbation among, delivered by CHWs.
Control Arm - The control arm will be notified of diagnosis, and receive education about results.
LD13: Muslim Communities Learning About Second-hand Smoke (MCLASS II): An effectiveness-implementation hybrid study

Funded by: UK MRC  Duration: 3.5 years
Study location: Bangladesh
Investigators
PIs
Kamran Siddiqi, University of York, UK
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Sarwat Shah, University of York, UK
Catherine Jackson, University of York, UK
Catherine Hewitt, University of York, UK
Caroline Fairhurst, University of York, UK
Aziz Sheikh, University of Edinburgh, UK
Sean Semple, University of Aberdeen, UK
Rumana Huque, ARK Foundation, UK

Abstract:

Background
SHS contains 4,000 toxic chemicals and is a serious health hazard to non-smokers. Every year, an estimated 600,000 people die and 10.9 million disability-adjusted life years (DALYs lost) is due to SHS exposure, worldwide. A significant proportion of this disease burden (40% deaths and 70% DALYs lost) is due to lung diseases i.e. asthma, chest infections and lung cancer. Women and children are worst affected; 47% of deaths from SHS exposure occur in female adults and 28% in children. SHS increases children’s risk of acquiring lower respiratory tract infections, tuberculosis, and incident cases, recurrent episodes, and increased severity of asthma. Parental smoking is also associated with their children's admissions to hospital. Children living in smoking households are at high risk of becoming adult smokers later.

Recognising SHS as a public health threat, most countries have

Aims and objectives
Our overall aim is to reduce the burden of disease due to SHS in LMICs by discovering innovative community-based approaches to behaviour change. Our specific objectives, some of which relate to the effectiveness question (1, 2) and others (3-8) to the implementation question, are as follows:

1. To assess the effect of a community-based intervention - Smoke Free Homes (SFH), with or without Indoor Air Quality (IAQ) feedback on:
   a. non-smokers’ exposure to SHS in the home (primary outcome),
   b. the frequency and severity of respiratory symptoms,
   c. healthcare service use, and
   d. quality of life.

2. To assess the cost-effectiveness of SFH, with or without IAQ feedback in reducing nonsmokers’ exposure to SHS in the home.

3. To identify the modifications required in SFH and IAQ feedback in order to make it culturally appropriate, feasible, and acceptable for families and Imams in Bangladesh.

4. To assess what competencies and organisational capacity are required for Imams and imams in mosques, respectively, to deliver SFH.
5. To identify the mechanism (e.g. participants’ level of engagement, acceptability and perceived benefits/harms) and the contextual factors (social, economic, environmental and political) that are likely to influence the impact of SFH and IAQ feedback.

6. To estimate the likely costs and effects of scaling up SFH with or without IAQ feedback

7. To develop a simple monitoring framework, which could be efficiently employed as the intervention(s) are scaled up.

8. To identify the likely obstacles to and opportunities for implementing and scaling up the intervention(s) and how best to work with communities and policy makers to overcome the obstacles and maximise the opportunities.

Research design & methodology
We will use an effectiveness-implementation hybrid study design that blends components of effectiveness and implementation research. The distinct advantage of this approach is that it allows for the gathering of data on the delivery of an intervention during an effectiveness trial that inform its potential for implementation and scaling up in the ‘real world’. Our proposed study consists of five phases: I) adaptation and feasibility; II) effect evaluation; III) economic evaluation; IV) process evaluation; V) implementation and scale-up.