

Introduction

Non-communicable diseases (NCDs) are chronic and often slow progressing diseases that result from a combination of genetic, physiological, environmental and behavioural factors. It is estimated that an increasing global prevalence of NCDs is the cause of up to 41 million deaths worldwide each year, representing 71% of all deaths.¹ However, NCDs disproportionately affect people in low- and middle-income countries (LMICs). More than three quarters of NCD deaths (32 million) occur in LMICs, 40% of which are categorised as 'premature deaths' (between ages 30 and 69 years). For high-income countries this figure is closer to 26%.¹

Countries in South Asia² and beyond face a double burden of diseases, both from infectious diseases and from the growing prevalence of NCDs. In Sri Lanka, NCDs are estimated to account for 75% of total deaths.³ Tobacco use is especially high for adult men and the consumption of salt is 2-3 times higher than recommended.³ Many people living in rural areas are often not aware of the risks posed by tobacco use, alcohol consumption and a sedentary lifestyle. To complicate the issue further people often only seek help from healthcare facilities once complications have arisen, usually meaning the condition has progressed from easily treatable to something more serious.

The rise of NCDs threatens the progress towards the Sustainable Development Goals (SDGs). The global economic burden of NCDs between 2010 and 2030 is estimated to lie at more than \$47 trillion dollars.⁴ In Sri Lanka, 19% of the working-age population has at least one NCD, reducing their chance of employment and labour earnings compared to the rest of the population.

NCDs are driven by rapid unplanned urbanisation, unhealthy lifestyles (including unhealthy diets, tobacco use, the harmful use of alcohol and a lack of physical activity) and population aging. Research to identify and understand NCD risk factors is essential to develop approaches including natural, social and health sciences, alongside the arts and humanities. Furthermore, all sectors including health, finance, transport, education and agriculture need to be involved to effectively prevent and manage NCDs. An integrated approach will also help tackle the growing problem of multimorbidity.

The objective of this workshop is to consider the status of NCDs in South Asia, with respect to relevant SDG targets. The aims are to identify approaches that could accelerate progress in implementing existing tools, identify innovations that could be disruptive, and review opportunities to support increased research leadership and capacity. In addition, the workshop will aim to impact policy uptake, specifically through the use of science and investment in research and research leadership.

¹ World Health Organization (2018). *Fact Sheet: Non-communicable diseases*. <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>

² South Asia includes: Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, India, Pakistan, and Sri Lanka

³ World Health Organization (2018). *Non-communicable Diseases (NCD) Country Profiles: Sri Lanka*. https://www.who.int/nmh/countries/lka_en.pdf?ua=1

⁴ The World Economic Forum and the Harvard School of Public Health (2011). *The Global Economic Burden of NCDs*. http://www3.weforum.org/docs/WEF_Harvard_HE_GlobalEconomicBurdenNonCommunicableDiseases_2011.pdf

Day 1: Progress and existing challenges towards achieving the NCD SDG target in South Asia and beyond

08:30-09:00	Registration & Morning tea
09:00-09:15	Welcome and aims and format of the Workshop <i>Meeting co-chairs: Professor Liam Smeeth FMedSci and Professor Vajira Dissanayake FNASSL</i>
09:15-10:15	Session 1: NCDs, South Asia and the SDGs – setting the scene <i>Session chair: Professor Vajira Dissanayake FNASSL</i> <p>This session will aim to set the context for the meeting by summarising the progress made in tackling NCDs in South Asia and globally. The focus of this session will be on SDG, 3.4: by 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Reducing the global burden of NCDs- Global Progress towards SDG target 3.4 <i>TBC</i> • Progress towards SDG 3.4 in South Asia: where are we and where do we need to be? <i>Dr Razia Narayan Pendse, WHO Sri Lanka</i>
10:15-11:30	Session 2: How can research be applied to address the six NCD disease areas to achieve SDG target 3.4? <i>Session chair:</i> <p>The panellists representing the six NCD disease areas will discuss and present examples of how research including multidisciplinary research has been applied to better understand the six NCD disease areas. The presented examples will discuss existing mechanisms and approaches, especially where these integrate different disease areas, disciplines and sectors to address the burden of NCDs. This session will focus on prevention and management of NCDs.</p> <ul style="list-style-type: none"> a) Cardiovascular diseases <i>Professor Balram Bhargava</i> b) Diabetes <ul style="list-style-type: none"> 1. <i>Dr Viswanathan Mohan</i> 2. <i>Dr Prasad Katulanda</i> c) Chronic kidney disease <i>Professor Vivekanand Jha</i> d) Respiratory disease <i>Dr Yamuna Rajapakse</i> e) Mental health <i>Professor Vikram Patel FMedSci</i> f) Cancer <i>Professor David Hunter</i>
11:30-12:00	Refreshment Break
12:00-13:30	Session 3: Identifying challenges and barriers to addressing the burden of NCDs in South Asia

	<p>During this session, participants will be broken up into different breakout groups focused on the different disease areas. Participant will be asked to share the current 'state of play' for NCD research in their country and identify the challenges and barriers facing NCD research. Furthermore, participants should consider whether opportunities exist to work together to address the research gaps and challenges to achieving SDG target 3.4.</p> <p>The questions that will be addressed include:</p> <ul style="list-style-type: none"> • What are the regional causes and drivers of your topic? How do these risk factors interplay? What are the predominant risk factors? • What is the current 'state of play' for research for your breakout topic in your country and are research disciplines integrated/connected? • Are there success stories for NCD research and interventions that are addressing the growing burden of NCDs? • What barriers and challenges exist to address the burden of disease? <p>The five breakout groups:</p> <ol style="list-style-type: none"> a) Cardiovascular disease b) Diabetes c) Chronic kidney disease d) Respiratory disease e) Mental health
13:30-14:30	Lunch
14:30-16:00	<p><i>Session 4: Identifying important research and implementation priorities to address NCDs in South Asia and beyond</i></p> <p>During this session, participants will discuss the opportunities for research, discovery & development and implementation science action and change to address the different NCD groupings in South Asia. Participants are asked to consider whether there are key delivery actions for now and what the priority areas should be.</p> <p>Considerations should be given to structural and behavioural interventions that promote maintenance of healthy lifestyles—such as moderate caloric intake, adequate physical activity and avoidance of tobacco—in the context of socioeconomic development. In addition, groups should also consider testing of health care infrastructure and systems that best provide low-cost and effective detection and treatment of NCDs.</p> <p>In advance of the workshop, all participants are asked to consider some of the key challenges, barriers and successes in their own experiences ready to share them in this session. Each group will be provided a PowerPoint template to record their discussions.</p> <p>Questions:</p> <ul style="list-style-type: none"> • Are the regional causes, drivers and disease progressions understood? • Are there possible strategies to address the identified barriers and challenges including: <ol style="list-style-type: none"> (a) health service actions (b) policy measures

16:00-16:30	Refreshment Break
16:30-18:00	<p>Session 5: Presentation Development</p> <p>During this session, participants will bring together a PowerPoint presentation that summarises the discussions that have taken place throughout the day/</p> <p>Session Outcome By the end of this session, using the PowerPoint template provided, each group will have a 15-minute PowerPoint presentation ready to give on Day Two. The group will have nominated a presenter to give this, with support from the other members. Groups are welcome to continue working on their presentation in the break before drinks and dinner.</p>
18:00-18.10	<p>Daily Wrap up <i>Meeting co-chairs: Professor Liam Smeeth FMedSci and Professor Vajira Dissanayake FNASSL</i></p>
18:10-20:30	Drinks Reception and Dinner

Day 2: Strengthening NCD research capacity & leadership and setting research priorities and actions to achieve SDG target 3.4

09:00-09:05	<p>Welcome Meeting co-chairs: Professor Liam Smeeth FMedSci and Professor Vajira Dissanayake FNASSL</p>
09:05-10:00	<p>Session 6: Breakout Group Presentations Session Chair: Professor Liam Smeeth FMedSci and Professor Vajira Dissanayake FNASSL</p> <p>Each breakout group lead will report back to the rest of the participants on the responses to these questions in 10 minutes. Discussions will continue in the afternoon plenary group work to identify ways forward.</p> <ul style="list-style-type: none"> a) Cardiovascular disease b) Diabetes c) Chronic kidney disease d) Respiratory disease e) Mental health
10:00-10:30	<p>Refreshment Break</p>
10:30-12:15	<p>Session 7: NCD research leadership and capacity in South Asia Session Chair:</p> <p>This session will focus on the challenges, opportunities and solutions to help support and build research leadership, capacity and expertise. The session will particularly focus on the experience of early career researchers (ECRs) and the challenges they face. It will be an opportunity to highlight existing opportunities for ECRs including funding opportunities and discuss potential solutions to address current barriers.</p> <p>Speakers:</p> <p>Setting up multi country South Asia research capacity networks – what are the gaps, what has worked and what has not TBC (15 mins)</p> <p>Challenges and priorities for research leadership – an upcoming researchers perspective Dr Ranil Jayawardena, University of Colombo, Sri Lanka</p> <p>NCD funding opportunities/structures TBC</p> <p>NCD funding opportunities/structures Remote video presentation- Wellcome</p> <p>NCD funding opportunities/structures TBC</p> <p>NCD funding opportunities/structures Dr Deepika Attygalle, World Bank</p> <p>NCD funding opportunities/structures TBC</p>

	Q&A and Discussions (30 mins)
12:15-13:15	Lunch
13:15-14:30	<p>Session 7: Spark Session – Technical Innovations to address NCDs in South Asia <i>Session chair: Professor Vajira Dissanayake FNASSL</i></p> <p>The panellists will give short talks (5 mins & 1 slide) on examples of technical innovations to address each of the main NCD groupings in South Asia. They will cover the problem that the innovation sought to address, why it is novel, what has worked, what have been the challenges and what they are planning to do next.</p> <p>Following the presentations there will be a plenary discussion about how technical interventions are currently evaluated, implemented and reviewed. What evidence is required before a technical intervention can be implemented? What barriers exist to scaling up and implementing interventions?</p> <ul style="list-style-type: none"> a) Cloud Based ECG Visualization and Annotation Platform ScioCardio Dr Ajith Pasqual, University of Moratuwa, Sri Lanka b) Stroke TBC c) Diabetes – Digital Health Interventions for NCDs Dr Oommen John, The George Institute, India d) Chronic kidney disease- TITLE Professor Tazeen Jafar, Duke-NUS Medical School, Singapore e) Community Mental Health Innovations Dr Pooja Pillai, Emmanuel Hospital Association, India f) Digital Health Intervention for Monitoring Malnourished children in Sri Lanka Dr Pamod Amarakoon, University of Colombo, Sri Lanka g) Collecting countrywide NCD data through a single platform – Sri Lanka's eIMMR System Dr Chaminda Weerabaddana, Ministry of Health, Sri Lanka h) Digital Health Innovations for the National Cancer Care Grid Dr C S Pramesh, National Cancer Grid i) Digital Health Interventions to Strengthen Cancer Care Dr Nishan Siriwardena, Apeksha Hospital (National Cancer Institute), Sri Lanka <p><i>Discussion of how technical interventions are evaluated and implemented- what evidence is required to ensure technical innovations are safe and effective? (30 mins)</i></p>
14:30-15:00	Refreshment Break
15:00-15:45	<p>Session 9: Identifying key next steps to tackle NCDs in South Asia <i>Meeting co-chairs: Professor Liam Smeeth FMedSci and Professor Vajira Dissanayake FNASSL</i></p> <p>During this session, the participants will discuss the opportunities for action and change in the short- (1-2 years) and long- (2-10 years) term to address the burden of NCDs in South Asia. The outputs from this session and the workshop</p>

	as a whole will be jointly owned by all workshop participants along with agreement that they will be actioned.
15:45-16:00	Conclusions from across the two days and workshop outputs <i>Meeting co-chairs: Professor Liam Smeeth FMedSci and Professor Vajira Dissanayake FNASSL</i>
16:00	END

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Steering committee

Co-chairs

- Professor Liam Smeeth FMedSci, London School of Hygiene & Tropical Medicine, UK
- Professor Vajira Dissanayake FNASSL, University of Colombo, Sri Lanka

Members

- Dr Oommen John, The George Institute, India
- Professor Nishi Chaturvedi, University College London, UK
- Professor Catherine Sudlow, University of Edinburgh, UK
- Dr Champika Wickramasinghe, Ministry of Health, Sri Lanka
- Dr Mahesh Rajasuriya, University of Colombo, Sri Lanka
- Professor David Hunter, University of Oxford, UK