World Health Organization

# Report of the first meeting of the Technical Advisory Group on NCD-related Research and Innovation

Virtual meeting

2-3 February 2022

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## Acronyms and Abbreviations

| | |
|---|---|
| DALY | disability-adjusted life-year |
| LMICs | low- and middle-income countries |
| NCD | noncommunicable disease |
| NCD-GAP | Global action plan for the prevention and control of noncommunicable diseases |
| NIH | National Institutes of Health |
| R&I | Research and Innovation |
| SDG | Sustainable Development Goals |
| TAG | Technical Advisory Group |
| TAG-NCD R&I | Technical Advisory Group on NCD-related Research and Innovation |
| WHO | World Health Organization |
| WHO PEN | WHO Package of essential noncommunicable disease interventions |

# Introduction

The World Health Organization (WHO), through its global programme on noncommunicable diseases (NCDs), leads and guides the global effort on surveillance, prevention, and control of NCDs to reduce the avoidable burden of morbidity, mortality and disability attributed to these conditions.

One of WHO's major functions is the responsibility to shape the NCD research and innovation agenda and stimulate the generation, translation, and dissemination of knowledge. Other functions that are related to development and advancement of the research agenda are working with WHO regional and country offices, building sustainable capacity, and monitoring, evaluating, and reporting on the status of the NCD epidemic and progress in attaining the voluntary global NCD targets and the Sustainable Development Goal (SDG) target 3.4 on NCDs. Each of these has a research component that should be an explicit part of the NCD research agenda supported by WHO.

The Technical Advisory Group on NCD-related Research and Innovation (TAG-NCD R&I) was established in July 2021 as an advisory body to further WHO's leadership and coordination role in promoting and monitoring global action on NCD research and innovation. The Terms of Reference for TAG-NCD R&I are provided here.

As an advisory body to WHO, the TAG-NCD R&I is expected to:

- Identify and describe current and future challenges in relation to NCD research and innovation;
- Advise WHO on strategic directions to be prioritized;
- Advise WHO on the development of global strategic documents; and
- Propose other strategic interventions and activities for implementation by WHO.

Twelve globally recognized researchers from all WHO regions were appointed to the TAG-NCD R&I for two-year terms. The first meeting of the TAG-NCD R&I took place virtually from 2-3 February 2022 (see agenda in Annex 1). Eleven members were in attendance for the first meeting. The meeting was organized by the WHO NCD Programme, which provides the Secretariat for the advisory body. The TAG-NCD R&I members were joined by staff from WHO headquarters, representatives from regional offices, the Alliance for Health Policy and Systems Research, the Global Coordination Mechanism on NCDs and external observers from the Global Alliance for Chronic Diseases. The Secretariat was provided technical support from RTI International (see list of participants in Annex 2).

A concept note summarizing the key milestones in the development of the global public health agenda for addressing NCDs over the last two decades was circulated among all TAG-NCD R&I members (Annex 3). The purpose of the document was to provide the necessary background information and key questions to guide the discussions of the first meeting of TAG-NCD R&I.

This report provides a summary of the first meeting of TAG-NCD R&I, with a focus on the strategic discussions and recommendations of TAG-NCD R&I to WHO. The consolidated report was reviewed by the TAG-NCD R&I Chair and by TAG-NCD R&I members.

Resources and references shared by the TAG-NCD R&I members during the meeting have been included at the end of the report.

**Objectives of the first meeting of TAG-NCD R&I**

The TAG-NCD R&I was asked to provide input on how WHO can achieve the following objectives with regards to NCD R&I:

- Promote the global agenda for NCD research including an updated list of research priorities;
- Leverage innovation to accelerate NCD prevention and control;
- Promote translation of knowledge into action through collaboration with partners in the context of low- and middle-income countries (LMIC);
- Support LMIC in building capacity for high quality research required for strengthening and scaling up the national NCD response;
- Encourage and facilitate impactful collaborative research and multicentre projects through WHO Collaborating Centres; and
- Develop strategies for the WHO Secretariat to encourage and facilitate NCD R&I at global, regional, and national level.

## Summary recommendations

The thirteenth general programme of work (GPW13) focuses on three strategic shifts within the organization. The recommendations offered by TAG-NCD R&I are organized under those specific areas.

**1) Global leadership through partnerships and networks**

The TAG-NCD R&I recommends that the WHO should:

a) Prioritize research, especially implementation research, to improve NCD programme delivery and to improve the capacity for research in countries;
b) Use a high level governmental regional/global intersectoral approach to pool resources for science, technology, and innovation to improve novel evidence-based pragmatic solutions for SDG outcomes;
c) Sensitize global funding agencies on the NCD research needs and gaps;
d) Facilitate development of regional strategies for implementation research for NCDs; and
e) Provide technical support through its collaborating centres at the regional level to build capacity in implementation research.

**2) Driving public health impact in every country, addressing current and future health challenges**

The TAG-NCD R&I recommends that the WHO should:

a) Support member states through WHO country offices to identify national NCD research priorities;
b) Build leadership capacity among local researchers in LMICs;
c) Strengthen data and surveillance capacity at country level to ensure quality research;
d) Train local staff at all levels of healthcare in a country where research is taking place to ensure local ownership and responsibility of the project after the funding period is over;
e) Support countries to develop a specific budget allocation for NCD implementation research;
f) Support creation of an enabling environment for research at the national level with strengthening of ethics committee, research infrastructure, research administration capacity, and data security; and
g) Support multi-country research projects and South-South collaborations and research protocols and outputs sharing, leveraging regional partnerships and expertise.

**3) Develop technical products to drive data quality & capacity, and catalyze research & innovation**

The TAG-NCD R&I recommends that the WHO should:

a) Orient and train WHO staff in implementation research;
b) Identify a prioritization framework, considering the existing examples from the WHO Science Department to assist in creation of an implementation research agenda;
c) Support mapping of the funding landscape for implementation research for NCDs, thereby identifying underutilized funding resources; and
d) Collaborate on publications in media and peer-reviewed journal on the importance of NCD implementation research.

The members of TAG-NCD R&I suggested various ways in which they could support WHO:

a) Conduct situational analysis and gap analysis of NCD implementation research at the global level;
b) Conduct landscape analysis of existing research on surveillance, implementation science, and discovery science;
c) Establish policy connections within their own networks in advocating for implementation research; and
d) Communicate to wider audience the importance of investing in implementation research through commentaries and opinion pieces.

## Session summary

**Day 1**

Day 1 of the meeting began with introductions and opening remarks. At the start of the opening session, Dr Bente Mikkelsen, Director, WHO Global NCD Programme, presented the Declaration of Interests of the TAG-NCD R&I members. Three members had declared interests which were considered minimal and unlikely to affect the expert judgment on the issues under consideration in the meeting.

Professor Srinath Reddy, Founder President of the Public Health Foundation of India, was nominated and confirmed as Chair of TAG-NCD R&I, with Professor Tiina Laatikainen and Professor Mayowa Owolabi nominated and confirmed as Rapporteurs.

On behalf of the WHO Director-General, Dr Ren Minghui, Assistant Director-General, Universal Health Coverage/Communicable and Noncommunicable Diseases, and Dr Soumya Swaminathan, Chief Scientist, delivered the opening addresses. Dr Ren Minghui began by framing the pressing need for NCD R&I within the broader NCD agenda. He reported that the recently convened WHO Executive Board highlighted the need to accelerate national NCD responses, including research and innovation. The Implementation Roadmap 2023-2030 for the Global action plan for the prevention and control of NCDs (NCD-GAP) will guide and support Member Stated to take urgent measures to progress towards the nine-voluntary global NCD targets and SDG target 3.4. Dr Minghui highlighted the need to support national capacity for high-quality research to answer questions which will have a direct impact on people living with NCDs, their families and communities, health care providers, and governments. He affirmed the critical role of the TAG-NCD R&I in helping to support global research and innovation and thanked all members for their valuable contributions.

Dr Soumya Swaminathan provided an overview of the Science Division, which developed during the WHO Transformation in 2019. The Science Division comprises three departments; 1. Quality assurance for norms and standards, 2. Research for Health, and 3. Digital Health and Innovation, and hosts three specialist research partnerships. Dr Swaminathan highlighted two main aims of the Division. Firstly, to have foresight on the new innovations, technological and scientific breakthroughs that could impact health, and the necessary associated regulatory and ethical frameworks. Secondly, she highlighted the aspiration that WHO norms and standards, data products and research products are "best in class" – technically excellent, relevant, and responsive to country needs, and implementable. Acknowledging the opportunities for the NCD Department to work together with the Science Division, Dr Swaminathan welcomed the development of the TAG-NCD R&I, and research and innovation more broadly within the NCD Department.

The TAG then focused on understanding the status of research and innovation on NCDs within WHO, with Dr Bente Mikkelsen providing an overview of the relevant work. She first pointed out the high burden of NCDs, constituting 74% of global deaths, 77% of which occur in LMICs and the vast majority prematurely. She underscored the importance of the TAG-NCD R&I by alerting members to the mid-point evaluation of the implementation of the NCD-GAP published in 2020, which found that little progress has been made on Objective 5: "to promote and support national capacity for high-quality research and development for the prevention and control of NCDs". The NCD-GAP evaluation states "research has been the weakest NCD-GAP objective in terms of implementation and that progress in implementing research linked to the NCD-GAP has been slow and incremental." Dr Mikkelsen recognized the need for collaboration to advance NCD implementation research – both across WHO departments and with organizations outside WHO. Further background on the WHO mandate for NCD research can be found in the concept note appended to this report (Annex 3).

Dr Mikkelsen introduced Professor Margaret Kruk and Dr Celestin Hategeka, from Harvard T.H. Chan School of Public Health, to present the results of a commissioned systematic review of NCD implementation research from 1996-2020 *(in press)*. The broad findings of this review highlight the need for additional evidence concerning care delivery models and means of scaling up care to population level across diverse and resource-constrained health systems. The researchers examined the results of 222 studies on priority NCD prevention and control interventions. Of those, 6% were conducted in low-income countries, 45% in lower-middle and 46% in upper-middle income countries. Of the 265 interventions included among the studies, about half examined disease screening, 40% examined treatment programs, and 12% examined primary prevention. Thirty-seven percent of the studies addressed cervical cancer. The review was provided to TAG-NCD R&I members and contains further details about strengths and gaps in NCD implementation research.

Professor Adnan Hyder and Professor Jaime Miranda served as discussants for the presentation. They provided several salient points as follows:

- Some important interventions that affect NCD prevention are provided outside health systems, for example nutrition. It is therefore important to look and act beyond the health system.
- A lack of research capacity in many countries is clearly demonstrated by the study.
- The TAG-NCD R&I must keep equity in mind.

Discussion among the TAG-NCD R&I members pointed to additional findings from the presentation that could guide their work. Members were struck by the imbalance in funding for NCD research in general and implementation research specifically. They suggested that resources should be prioritized toward implementation over clinical trials, and that tension exists between research on and prevention of high-risk populations versus entire populations. A second point of discussion concerned both the participation of implementers in the research process and priority-setting and the enduring impact of research. Concerns were mentioned about just losing the research knowledge – especially in light of "pilot-itis" that exists in the NCD field. Among the responses were to explore a step-by-step approach to convey results to policymakers, examining the barriers to research translation, and making a compelling case to funders of research.

In Professor Kruk's response she argued for re-design and re-thinking about care platforms to improve NCD outcomes, examining multiple diseases at once, and a strategy for building systems for practicing research in those countries with low capacity.

The TAG members then reflected on the information presented and explored the themes detailed in subsequent sections of this report, raising many rhetorical questions for the group to consider in its continuing deliberations.

**Day 2**

Day 2 of the meeting advanced an understanding of WHO as a facilitator in shaping the NCD research & innovation agenda in collaboration with partners and funders. The sessions covered four themes:

**1. The role of WHO**. How can a research and innovation agenda be evolved by WHO, in consultation with relevant partners, so that relevant, feasible, fundable projects can be quickly advanced, especially in LMIC settings?

a) How will an internal consensus be created among different sections of WHO, involving headquarters and regional offices on this agenda?
b) How much region-specific variation is needed, based on context?
c) How will WHO engage with partners to develop an agenda that gets a wide buy-in from funders, implementers, and researchers?

**2. Partnering**. Who are the partners to engage with, to align interests and pool resources? How can WHO work with other partners, besides Collaborating Centres, in advancing this effort?

**3. Funding**. Are there funding channels presently available which are underutilized or can be potentially expanded? What is the scope for creating new funding channels?

**4. Capacity-building**. What are the capacity building initiatives that WHO is currently supporting, by itself or through Collaborating Centres, which can be utilized to advance R&I in NCDs, with strong focus on implementation research? How can institutional capacity be strengthened in LMICs for undertaking multi-disciplinary research that can support development and implementation of evidence informed, context relevant, resource optimizing, culturally compatible and equity promoting interventions for NCD prevention and control? How can such capacity building be positioned in the broader context of research needed for (a) health systems strengthening, (b) universal health coverage and (c) overall SDG agenda?

In the following sections, the discussions from both days of the meeting have been synthesized into six thematic areas.

## Thematic area 1: Role of WHO in prioritizing the NCD research agenda and agenda setting

Various departments within WHO support research and development and there is interdepartmental collaboration for NCD research. The WHO's Global Observatory on Health Research and Development (R&D), located within the Department of Research for Health, is a comprehensive source of information on health research and development gaps, priorities for new investments and capacity building. The Research for Health Department has also developed a research priority setting tool that has been used by various WHO departments and could be introduced to the TAG-NCD R&I. The Mental Health and Substance Use department is collaborating with the Science Division to develop an implementation research blueprint for global mental health. The Alliance for Health Policy and Systems Research responds to the needs of countries by bringing decision-makers and researchers together on prioritized research topics. The Alliance funds a variety of projects, programmes, and initiatives across LMICs.

Beyond WHO, research agendas for NCDs are set by public and private research agencies such as the National Institutes of Health (NIH) (United States of America), the Wellcome Trust (United Kingdom of Great Britain and Northern Ireland), private companies, bilateral donors, and philanthropic entities. While recognizing that the funders of research have a powerful role in deciding what gets researched, TAG-NCD R&I members offered suggestions for WHO to leverage its role and reach to promote critical areas of research. Specifically, WHO can highlight data gaps and scarcity that inhibits NCD research, lead and convene discussions among all relevant stakeholders involved in setting the NCD research agenda, and advocate to and influence research funders. The example of HIV was offered as an area where WHO has influenced the private sector research agenda regarding market-shaping and developing product profiles/standards. WHO is represented on the Heads of International Research Organizations (HIROs) and has close links with the Global Alliance for Chronic Diseases – two opportunities to influence global research funding.

Noting that research agendas should be shaped by regional priorities and regional capacities, the WHO NCD Department is working to include research in the priorities of all six regions through a consultative format around the NCD-GAP. Even though most countries now have NCD action plans, there are challenges in getting research on country agendas. Members suggested that contextualization is the key to translate knowledge into policy and impact. The research agenda should include the whole spectrum of interventions from community-based interventions to specialized health care. Situational analysis and gap analysis of the disease burden, existing resources, and evidence gaps needs to be done to inform a future research agenda. This includes understanding the existing range of country-based research such as surveillance studies, implementation science studies, discovery science and their global implications. This would help in finding commonalities among countries that are on track to achieving SDG 3.4 and knowledge-sharing among those countries that are lagging.

**Key takeaways**

- The WHO Science Division has technical products which can assist in prioritization of NCD research: to identify research gaps and guide the prioritization process.
- WHO can leverage its position and convening power to influence the NCD research agenda globally
- Challenges exist in bringing research into the agendas of NCD units in Ministries of Health

## Thematic area 2: Focus for the TAG-NCD R&I on NCD management

There are gaps in both primary and secondary prevention studies for NCDs. The remit of the TAG-NCD R&I will be focused initially on NCD management; however, some members proposed that prevention be considered as well.

The TAG considered multiple aspects of implementation research for NCD management and suggested topics for further consideration as follows:

- Outcomes of implementation research should correspond to a holistic list of the actors and factors that must be modified based on "behavioral change wheel theory";
- Implementation research on high-risk individuals and on the entire population are both important to improving NCD management;
- Study designs should include quasi-experimental as well as larger studies at macro/meso levels to produce results that are generalizable;
- The desirability of global or regional research consortia with shared protocols and approaches to undertake streamlined research, including multicentre studies; and
- There is value in integrating effectiveness and implementation science studies.

**Key takeaways**

- There are gaps in research studies at the primordial, primary, and secondary level of prevention of NCDs
- Implementation research on NCD management should be holistic in nature
- There is a need to move away from multiple pilot studies to large multicenter studies on NCD management, in order to definitively answer key research questions
- Shared protocols focusing on a common approach to evaluate interventions at the primary care level could facilitate implementation research at country or regional level and comparison across multiple sites

## Thematic area 3: Funding for NCD focused implementation research

The WHO NCD Department suggested a three-pronged approach to bring greater NCD implementation research to fruition. These are to promote and maintain a high quality of research, encourage donors to include funding for capacity building to be embedded within research funding streams, and develop and update signature solutions – such as the NCD Best Buys -- for NCDs globally, regionally, and nationally. The WHO Executive Board will request the 75th World Health Assembly to adopt an implementation research roadmap for NCDs as only 14 countries are on target to reach SDG 3.4 by 2030. In this regard, the NCD department plans to create simulation tools where countries can understand their funding scenarios and set their own research priorities.

The TAG noted that there is a mismatch between NCD disease burden and the topics being studied by implementation researchers. In LMIC where funding channels for research are underutilized or missing, there is little implementation research for the high-burden conditions. For instance, NCDs account for >61% of total disability adjusted life years (DALYs) globally. According to Kruk et al *(in press)*, cancer accounts for only 3.5% of DALYs. Yet, 44% of implementation science research in LMICs concerns cancer and cervical cancer screening alone accounts for 35% of cancer-related

research projects. Therefore, the members suggested to focus on areas of research that are not getting funding priority, despite causing significant disability and premature loss of life. Since many NCDs (cardiovascular, stroke, kidney disease, diabetes, cancers) share similar risk factors, implementation research targeting these cross-cutting factors should use a holistic intersectoral approach at the macro and meso level to have greater impact. Disease-specific gap analyses to better understand the research needs are being organized by WHO with the International Agency for Research on Cancer, Resolve to Save Lives, and World Diabetes Foundation.

The TAG also advised a need for bottom-up approaches in building research agenda. This might entail creating a funding opportunity repository, making a compelling case for funders to understand the return on their implementation research investments through investment cases, and getting medical research councils and researchers to identify win-win situations. For instance, it was proposed that funding could be designed to be outcome-oriented i.e., based on reduction in disease levels independent of methods or interventions.

**Key takeaways**

- Minimal funding is allocated for NCD implementation research both globally and domestically, with widely variable funding available for the different NCDs
- There is a mismatch between NCD disease burden and the topics currently studied by implementation researchers in LMICs
- A compelling case needs to be made to the funders to encourage them to invest in implementation research for NCDs

## Thematic area 4: Role of capacity building

Capacity building is key for implementation research, both to increase the capacity of member states to support and use research and to expand and strengthen the capabilities of LMIC researchers. Currently, capacity building resources are more available for program implementation than for research funding and research resources. The WHO can be instrumental in bridging the gap between training and implementation. It can utilize its already existing capacity building efforts through the Special Programme for Research and Training in Tropical Diseases and Alliance for Health Policy and Systems Research and adapt them for implementation research. There is also a strong need to build up research institutions on NCDs in LMICs. The TAG-NCD R&I members suggested to consider four key elements in where to focus capacity building – (1) target group, (2) level of capacity building (institutional, individual), (3) duration (short term, long term), and (4) skill level, and build up a framework/adapt an existing competency framework addressing all the key elements.

There were also recommendations around inclusion of health science researchers in NCD implementation research, building capacity of researchers to use national data for research as it is underused, providing them with guidance on implementation projects, building individual and team capacity including mid-level research managers, strengthening infrastructural capacity, fostering strategic partnerships, building institutional capacity, and encouraging donors to orient money for capacity building especially in LMICs. For instance, in projects carried out in collaboration between the WHO Regional Office for Europe, the WHO Collaborating Center for Non-Communicable Disease Prevention, Health Promotion and Monitoring in Finland, and WHO Country Offices in Eastern Europe and Central Asia, data from local health records and electronic health records were utilized, protocols for data analyses were planned together with local IT center experts and researchers,

joint training sessions were conducted on data analysis, and local capacity was built up to independently utilize health service data.

Many organizations are involved in research capacity building, and the opportunity to link and build on existing work to create support networks would be attractive.

**Key takeaways**

- There is a strong need to have funding allocated for capacity building in implementation research
- Local capacity building by strengthening individual and team capacity among implementers, researchers, and policy makers, on ground is warranted
- Consideration should be given to target group, level of capacity building, duration, and skill while planning capacity building efforts

## Thematic area 5: Scaling up and sustainability

Accountability and sustainability of implementation research is very important. However, this issue is often left unaddressed. There was discussion around sustainability of research when programme funding ends, especially to avoid knowledge loss. The members provided useful suggestions to address this issue. These included:

- moving beyond pilot projects to large-scale implementation studies;
- identifying ways to continue learning from implementation research when programme funding is completed; and
- involving implementors and end-users of the research in the research process.

One of the members proposed conducting implementation research using the Theory of Change approach, starting with the specific precision medicine or precision policy evidence-based pragmatic solution for SDG impact and working backwards to determine the needed outcome, the needed output to deliver the outcome, and the needed input to deliver the output that would motivate impactful and sustainable research along the pathway.

**Key takeaways**

- Sustainability of research is a neglected area
- Considerations need to be given on how to scale-up and sustain interventions when implementation research funding is over

## Thematic area 6: Scope of collaboration

Good collaboration is key to success of any research, and it becomes more important for implementation research. There is need for an intersectoral approach to implementation research. Using NCD research is a complex task for policy makers, therefore their involvement as a collaborator in research planning itself is critical and advantageous for sustainability of the research. Collaborations should also be built between different institutions such as partnerships

with ministries of health, WHO Collaborating Centres, private sector, alliances such as the Alliance for Health Policy and Systems Research that have the convening power to bring different stakeholders together, and researchers in the region. For instance, the WHO Collaborating Centre for Non-Communicable Disease Prevention, Health Promotion and Monitoring in Finland has collaborated with the WHO Regional Office for Europe on various projects to implement the WHO Package of essential NCD interventions (WHO PEN) in several countries in Eastern Europe and Central Asia. The contribution has especially focused on development of evaluation protocols and carrying out evaluation of WHO PEN implementation in primary health care.

**Key takeaways**

- Strong collaboration is needed for success and sustainability of implementation research
- WHO Collaborating Centres can build and facilitate collaborations among researchers as well as member states in conducting implementation research

## Closing session

The first meeting of the TAG-NCD R&I closed with identifying the key research and innovation questions relating to NCD management as well as mechanisms for WHO to address them with support from TAG-NCD R&I members – see Summary recommendations and TAG support.

The WHO Secretariat announced that the second meeting of TAG-NCD-R&I will be held in November 2022.

The meeting was closed with final remarks and appreciation to all participants offered by Dr Bente Mikkelsen on behalf of WHO, and by Professor Srinath Reddy on behalf of the TAG-NCD R&I.

This document is a report of a first meeting of an external advisory group and is the product of virtual deliberations. It represents the opinions of members of the TAG-NCD R&I and is a work in progress. It does not represent the position or opinions of WHO or its Member States, nor the official position of any WHO staff members.

## Resources shared by TAG-NCD R&I members during the meeting


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# Annex 1: Agenda for TAG-NCD R&I first meeting

**First Meeting of the WHO Technical Advisory Group on NCD research and innovation (TAG-NCD R&I)**

Virtual Meeting

2 and 3 February 2022, 12.00-16.00 CET

| **WEDNESDAY 02 February 2022** | | |
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| **Session 1**<br><br>**12:00-13:15** | • Welcome<br>• Introduction and confirmation of the TAG-NCD R&I chair and rapporteurs<br><br>• Housekeeping (method of work, timekeeping, rapporteurs)<br><br>• Outline of meeting objectives and intended outcomes<br><br>• Introduction by TAG members (12 x 3-minutes each) on their vision and contribution to the TAG-NCD R&I | Director, WHO NCD and<br>Chair, TAG-NCD R&I<br><br>Chair, TAG-NCD R&I and<br>WHO Secretariat<br><br>Director, WHO NCD<br><br>TAG-NCD R&I members in alphabetical order |
| **Session 2**<br><br>**13:15-14:00** | • Opening addresses | Chief Scientist/WHO ADG/UCN |
| | Introduction of other meeting attendees (2-minute each): WHO staff, other partners – describe role in R&I | Other attendees |
| **14:00-14:15** | **Comfort break** | |
| **Session 3**<br><br>**14:15-15:45** | **Research and Innovation in NCDs – where are we now?**<br><br>1. Introduction to WHO work on NCD R&I: looking back and moving forwards<br>2. Findings from a systematic review of NCD implementation research 1996-2020<br><br>How to update the global agenda for NCD R&I and promote translation of knowledge into action through collaboration with partners in the context of low- and middle-income countries (LMIC)? | Chair, TAG-NCD R&I<br><br>Director, WHO NCD<br><br>Prof Margaret Kruk |
| **15:45-16:00** | **Summary of day 1**<br>**Plan for day 2** | Chair, TAG-NCD R&I<br>Director, WHO NCD |

| THURSDAY 03 February 2022 | | |
|---|---|---|
| **12:00-12:10** | **Welcome**<br>**Recap day 1** | Chair, TAG-NCD R&I<br>Rapporteur |
| **Session 4**<br><br>**12:10-13:20** | **Shaping the global NCD research & innovation agenda**<br><br>How can WHO facilitate shaping the NCD research & innovation agenda in collaboration with partners?<br>What funding opportunities exist?<br>Who to partner and collaborate with? | Chair, TAG-NCD R&I<br><br>Discussion by TAG-NCD R&I members |
| **Session 5**<br><br>**13:20-14:30** | **Building capacity for high quality research**<br><br>How can WHO best support low- and middle-income countries in building capacity for high quality research required for implementation and evaluation of intervention, guidelines, technical packages and programmes in the areas of NCDs? | Chair, TAG-NCD R&I<br><br>Discussion by TAG-NCD R&I members |
| **14:30-14:45** | **Comfort break** | |
| **14:45-15:45** | **Recommendations and next steps**<br>What are the key research and innovation questions relating to NCD management and how should WHO address them strategically?<br>How will the TAG-NCD R&I contribute? | Chair, TAG-NCD R&I<br><br>Discussion by TAG-NCD R&I members |
| **15:45-16:00** | **Summary of day 2**<br>**Plan for next meeting and closing** | Chair, TAG-NCD R&I<br>Director, WHO NCD |

## Annex 2: List of participants

| **Technical Advisory Group members** | |
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| Dr Abeer Al Saegh | Medical geneticist, Oman |
| Prof. Valery Feigin | Professor of Neurology and Epidemiology and Director of National Institute for Stroke and Applied Neurosciences, Auckland University of Technology, New Zealand |
| Dr Manal Ghazzawi | CEO of Citiglobe Pharmacies Ltd, Sierra Leone |
| Prof. Adnan A Hyder | Senior Associate Dean for Research and Professor of Global Health, Milken Institute School of Public Health, George Washington University, United States of America |
| Prof. Srinath Reddy | Founder President, Public Health Foundation of India |
| Prof. Tiina Laatikainen | Director of the Public Health and Welfare Dept in the National Institute for Health and Welfare in Finland, Professor of Health Promotion in the Institute of Public Health and Clinical Nutrition, University of Eastern Finland |
| Dr Yodi Mahendradhata | Vice Dean for Research and Development, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia |
| Prof. Jaime Miranda | Research Professor at the Department of Medicine, School of Medicine, and Director of the CRONICAS Center of Excellence in Chronic Diseases, at Universidad Peruana Cayetano Heredia in Lima, Peru |
| Prof. Mayowa Owolabi | Professor of Neurology and Honorary Consultant Neurologist, Department of Medicine, University College Hospital, Ibadan, Nigeria |
| Prof. Richard Sullivan | Professor of Cancer and Global Health at King's College London, Director of the King's Institute of Cancer Policy and co-Director of the Conflict and Health Research Group, United Kingdom of Great Britain and Northern Ireland |
| Prof. Salim Virani | Professor at Baylor College of Medicine, and investigator in the Health Policy, Quality, and Informatics Program at the Michael E. DeBakey VA Medical Centre, Health Services Research and Development Centre of Innovation in Houston, United States of America |

| **WHO headquarters staff** | |
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| Dr Ren Minghui | Assistant Director-General, Division of UHC/Communicable and Noncommunicable Diseases |
| Dr Soumya Swaminathan | Chief Scientist |
| Dr Bente Mikkelsen | Director, Noncommunicable Diseases Department |
| Dr Slim Slama | Unit Head, NCD Management |

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| Dr Cherian Varghese | Cross-cutting Lead, NCD and special initiatives |
| Dr Sarah Rylance | Medial Officer, NCD Department |
| Dr Rachel Nugent | Consultant, RTI International |
| Dr Ishu Kataria | Consultant, RTI International |
| Dr Robert Marten | Scientist, Alliance for Health Policy and Systems Research |
| Dr Christine Halleux | Scientist, Quality Assurance, Norms and Standards, Science Division |
| Dr Téa Collins | Cross-cutting Lead, Global NCD Platform |
| James Elliot | Consultant, Global Diabetes Compact |
| Ms Nicoletta De Lissandri | Senior Assistant to Director |

**WHO regional offices staff**

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|---|---|
| Dr Heba Fouad | Technical officer, Eastern Mediterranean Region |
| Dr Manju Rani | Regional Advisor NCD, South-East Asia Region |

**Invited presenters**

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|---|---|
| Prof. Margaret Kruk | Department of Global Health and Population, Harvard T.H. Chan School of Public Health |
| Dr Celestin Hategeka | Department of Global Health and Population, Harvard T.H. Chan School of Public Health |

**Observers**

| | |
|---|---|
| Prof. Amanda Adler | Chair, WHO Technical Advisory Group of Experts on Diabetes (TAG-D) |
| Dr Morven Roberts | Chief Executive Officer at Global Alliance for Chronic Diseases (GACD) |

# Annex 3: Concept note to first meeting of the TAG-NCD R&I

## Context

The modern era of WHO's noncommunicable disease agenda began with the *Global Strategy for the Prevention and Control of Noncommunicable Diseases 2008-2013* which was endorsed by the World Health Assembly in 2008. The 2011 UN High Level Meeting on NCDs and accompanying Political Declaration spread the awareness of and support for the Global Strategy to the entire development community *(1)*. Subsequently, Action 29 of the *Action plan for the Global Strategy 2008-2013* called for research to be a prominent part of WHO's emerging mandate on NCDs *(2)*. Yet more than 10 years on, most countries will fail to achieve the NCD-related SDG targets. Insufficient and inadequate research to guide implementation of NCD programs and policies is partly to blame.

In 2011, WHO published *A prioritized research agenda for prevention and control of noncommunicable diseases (3)*, which identified needed research to develop impactful policies, programmes and processes for preventing and mitigating the NCD epidemic, with a special focus on low- and middle-income countries (LMICs).

The 2011 NCD research agenda prioritized the following areas:

1. Intersectoral and multidisciplinary research to understand and influence the macroeconomic and social determinants of NCDs and exposure to NCD risk factors
2. Translation research and health system research for global application of proven cost-effective strategies
3. Research to enable expensive but effective interventions to become accessible and used appropriately in resource-constrained settings.

Research became one of the six objectives stated in the *Global action plan for the prevention and control of NCDs (2013-2020) (NCD-GAP) (4)*. GAP Objective 5 is "to promote and support national capacity for high-quality research and development for the prevention and control of NCDs". Four priorities for NCD research were enumerated, three of which were drawn directly from the 2011 priorities.

1. Research for placing noncommunicable diseases in the global development agenda and for monitoring;
2. Research to understand and influence the multisectoral, macroeconomic and social determinants of noncommunicable diseases and risk factors;
3. Translation and health systems research for global application of proven cost-effective strategies; and
4. Research to enable expensive but effective interventions to become accessible and be appropriately used in resource-constrained settings.

GAP Objective 5 listed policy options for Member States, proposed actions for international partners, and actions for the Secretariat. Specifically, Action 54 of *NCD-GAP 2013-20* requests the WHO Secretariat to take the following actions:

- **Leading and convening:** Engage WHO collaborating centres, academic institutions, research organizations and alliances to strengthen capacity for research on noncommunicable diseases at the country level based on key areas identified in WHO's prioritized research agenda, promoting in particular research designed to improve understanding of affordability, implementation capacity, feasibility and impact on health equity of interventions and policy options contained in Appendix 3.

- **Technical cooperation:** Provide technical support upon request to strengthen national and regional capacity: (i) to incorporate research, development and innovation in national and regional policies and plans on noncommunicable diseases; (ii) to adopt and advance WHO's prioritized research agenda on the prevention and control of noncommunicable diseases, taking into consideration national needs and contexts; and (iii) to formulate research and development plans, enhance innovation capacities to support the prevention and control of noncommunicable diseases
- **Policy advice and dialogue**: Promote sharing of intercountry research expertise and experience and publish/disseminate guidance ("toolkits") on how to strengthen links among policy, practice and products of research on prevention and control of NCDs.

A formal assessment of the above prioritized research agenda is not available but the mid-point evaluation of the implementation of *NCD-GAP 2013-2020*, published in 2020, found that little progress has been made on Objective 5 *(5)*. The NCD-GAP evaluation stated "research has been the weakest NCD-GAP objective in terms of implementation and that progress in implementing research linked to the NCD-GAP has been slow and incremental."

NCD research has received attention from WHO but currently needs to be bolstered and focused, aligning with the three strategic shifts of the GPW13. The proposed *WHO Implementation Roadmap* challenges Member States "to take urgent measures, in 2023 and beyond, to accelerate progress and reorient [...] to meet the nine-voluntary global NCD targets and SDG target 3.4" *(6)*. The *Roadmap* states the importance of research to guide policy and intervention implementation in new contexts that are different from those in which existing evidence was developed and that can reveal reasons for the lack of program impact.

In 2019, one third of countries had an operational policy and plan on NCD research, compared to just over one fifth (22%) in 2015. Most of the improvement that occurred between 2015 and 2019 was in high-income countries - in 2019, only four low-income countries had such a policy. Fewer than half of NCD policies recommended by WHO have been implemented in a large number of countries *(7)*. A recent review of implementation research on NCDs found that a majority of formative research studies that are essential to enable scale-up of interventions and policies have been conducted in high-income countries and a small number of LMICs *(8)*. Most of the studies (88%) in LMICs were pilot or proof of concept and often examine the early stages of the care cascade for just a few of the NCDs – especially cancer. These statistics point to a significant deficiency of implementation research conducted in LMICs.

It is possible to accept the conclusion of the Midterm Evaluation and still recognize progress in several NCD research domains since 2011. NCD-GAP research priority #1 was achieved and a major step forward was taken with the creation of SDG target 3.4 in the 2015-2030 Sustainable Development agenda. In 2018, The Lancet *Task Force on NCDs and Economics* tied action on NCDs to multiple SDGs *(9)*. The Global Monitoring Framework for NCDs created a coherent and sustained tracking system for NCD indicators, further enabling and advancing the status of NCDs as a measured and monitored development issue *(10)*.

Priority #3 of the NCD-GAP points to the need for translation research on how health systems can implement cost-effective strategies. It calls for translating knowledge from settings where research has traditionally been conducted to new settings, and the need to understand how interventions can be applied across settings in a cost-effective manner. Appendix 3 to the GAP identified a series of cost-effective NCD interventions ("NCD Best Buys") to support the implementation of the GAP. Appendix 3 was updated in 2016 based on new evidence and continues to play a central role in guiding member states to invest in NCD prevention and control. A 2022 revision is underway at the WHO Secretariat.

The economic case for investing in NCDs has been made in many countries. Using the NCD module of the UN One Health Tool – development of which was supported financially and technically by WHO's NCD/GCM – more than 30 countries have conducted NCD investment cases since 2016 *(11)* and the WHO has published a global business case for NCDs which was updated in 2021 *(12)*. These research products help assure that progress on NCDs can be linked to country development planning and the global development agenda. Further translational research is needed to determine the cost-effectiveness of some interventions in different settings.

The Secretariat has supported development of additional guidelines and tools, alliances and networks for NCD implementation and research in multiple ways *(13)*. Those that are directly relevant to the NCD research agenda include: 1) strengthened NCD information systems in 36 countries; 2) NCD and risk factor surveys conducted in 18 countries; data systems for cervical and pediatric cancer established in 12 countries; 4) NCD Progress Monitor, Assessment of National Capacity for NCD Prevention and Control, and NCD Countdown all produced data-rich publications; 5) coordination across WHO Collaborating Centres established; and 6) TAGs and STAGs created to elicit expertise and guidance for NCD management. Of particular relevance to the TAG NCD R&I is the 2016 WHO publication, *A guide to implementation research in the prevention and control of noncommunicable diseases (14)*.

Other NCD research priorities have not advanced as clearly. In spite of the notable progress on Priorities #1 and #3 as well as marked enhancement of the information environment for NCDs, WHO needs to step up its efforts to influence and support countries to use research. Shaping the research agenda and stimulating the generation, translation, and dissemination of valuable knowledge, are core functions of the WHO Secretariat. The midterm evaluation of the NCD-GAP states, "While many academic and government research institutions are actively conducting research related to NCDs, there is little sense of this being coordinated by or contributing to the implementation of the NCD-GAP. While there are isolated incidences of support to national research capacity, there is scope for this to be done much more systematically."

In light of this conclusion, what is needed now is a focused research agenda on implementation science that advances countries' ability to accelerate and scale their strategic policies, especially as regards management and care for people living with NCDs. The NCD-GAP midterm evaluation recommended that the WHO Secretariat and Member States:

- Determine how the priority of NCD research can best be raised
- Determine if lack of sufficient funding or an efficient funding mechanism might be an underlying reason why little progress has been made, and how this can be resolved
- Develop a clear plan as to how it will support this area of work, including identifying current research priorities and needs, and how these will be addressed
- Identify respective roles and responsibilities for objective five, particularly given the establishment of a Science Division
- To identify ways in which WHO collaborating centres working on NCDs can contribute to this objective

## Institutional resources for NCD research

To focus on how implementation research on NCDs in LMICs can contribute to delivering care and improving outcomes in resource-constrained settings, it is paramount to take account of the different way in which NCDs interact with health systems, compared to other health priorities such as infectious disease and maternal and child health. The chronic nature of most NCDs, requiring regular and often lifelong adherence to medication, the need for specialized care especially when comorbidities are present, and the lack of public funding for essential NCD packages of care in many countries are factors that differentiate NCDs in important ways from other global health priorities. The past two years have shown the vulnerability of young and underbudgeted NCD

divisions and programs in many LMICs to global health emergencies – such as COVID-19 – which are defined to exclude NCDs *(15)*. These and other features of NCDs mean that country-targeted implementation research is needed to advance the NCD-GAP. Further building the knowledge base for re-organizing health systems to integrate NCDs into existing functions from financing to service delivery is central to creating a sustainable and efficient health care system that covers the full range of population needs *(16)*.

WHO support for NCD research comes from the mandate stated in the NCD-GAP and carried out through the NCD Department and from the Department for Digital Health and Innovation within WHO's Science Division. The WHO Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property (resolution WHA61.21) *(17)*, encourages needs-driven research to target diseases that disproportionately affect people in low- and middle-income countries, including NCDs. The vision driving the WHO's Innovation in Health approach is to build a global innovation in health movement to accelerate the achievement of "health for all", and the health-related Sustainable Development Goals. The approach focuses on two strategic goals: (i) Scale and sustain innovations for impact and (ii) Harness a culture of innovation in WHO and countries. NCDs is one of the thematic areas selected for the WHO Innovation Hub, with potential innovations explored through a scaling framework linking the health demands and priorities of countries, the supply of ready to scale interventions, and ongoing assessment of implementation and sustainability.

The Global Observatory on Health Research and the Alliance for Health Policy and Systems Research provide additional loci within WHO for agenda-setting and resources to be devoted to NCD research. Achieving the NCD-GAP goals requires coordination and mutual support of all these units.

### Role of WHO

The three strategic shifts set out in the thirteenth general programme of work, 2019-2023 (GPW13) *(18)* provide a foundation for the scope of WHO's role in NCD research. Priority actions were proposed in NCD-GAP 2013-2020 for member states, international partners, and the WHO. Further, both the 2011 and 2014 UN High Level Meeting Outcome Documents on NCDs calls upon all stakeholders to support and facilitate research related to the prevention and control of NCDs, and its translation into practice, to enhance the knowledge base for national, regional and global action. These resolutions also encourage alliances and networks that bring together national, regional and global research institutes *(19, 20)*. They commit governments to actively promote national and international investments and strengthen national capacity for quality research and development for all aspects related to the prevention and control of NCDs.

### Gaps and challenges for achieving NCD research priorities

A major challenge in delivering objective five in the NCD-GAP is the mismatch between investments in health research and development and global public health demands and needs. In this regard, investment in and support for NCD research is suboptimal despite the recognition that there are still many evidence gaps, for example, in terms of how best to promote implementation of high impact/ high return interventions (best buys), depending on the contexts *(21, 22)*.

In addition to limited funding for research, another major reason for low research output is the disparity in scientific capacity between high income and low-income countries. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) and Eurostat, high-income countries have approximately 50 times more health researchers per million inhabitants than the low-income countries, ranging (across the 81 countries) from 1,209 in Singapore to 0.2 in Zimbabwe *(23)*. Analysis of authorship trends in The Lancet Global Health found that 35% of authors are from and work in LMICs, while 92% of articles addressed interventions in these countries *(24)*. Those working and living in LMICs are best placed to define issues of importance to

their populations, and local solutions are more likely to resonate with local providers and policy makers, resulting in greater sustainability *(25)*.

One of the future challenges for WHO is to drive research on NCDs to provide needed evidence for implementation. This requires institutional and individual capacity-building and sustained strategic partnering *(26)*. As global NCD research is funded by both public research agencies and private sector (e.g., pharmaceutical and food industries), WHO will need to consider which partners to engage with to achieve its mission. Several international funding agencies such as Global Alliance for Chronic Diseases (GACD), UK National Institute for Health Research (NIHR), and US National Institutes of Health (NIH), support NCD implementation research and capacity strengthening in LMIC.

## Scope and purpose

WHO must take the lead in making the case for the importance of R&I for NCDs. Shaping the research agenda and facilitating and supporting research partnerships are also mandates for the Secretariat. The TAG-NCD R&I is being convened to respond to the above recommendations and determine how to accelerate progress on the priority NCD research needs stated in prior resolutions. The work of the TAG is also an opportunity to refine and focus those priorities in light of continuing evidence needs, particularly around implementation of NCD policies and programs for management and control of NCDs. The TAG-NCD R&I will assist WHO to prioritize NCD implementation research that results in scalable health services programs, builds capacity for NCD research and innovation, and mobilizes the resources needed to test and put into practice new and known innovation for health.

The TAG-NCD R&I is expected to carry out the following functions as they relate to NCD R&I:

1. To identify and describe current and future challenges in NCD prevention and control;
2. To advise WHO on strategic directions to be prioritized;
3. To advise WHO on the development of global strategic documents; and
4. To propose other strategic interventions and activities for implementation by WHO.

With a view to support the WHO Secretariat and Member States to address the recommendations from the mid-point evaluation of the implementation of NCD-GAP 2013-2020, WHO will convene the first meeting of TAG-NCD R&I to identify strategic directions and key activities in NCD research for WHO and collaborating partners in the coming years. The first virtual meeting of the TAG-NCD R&I will take place on 2-3 February 2022 via Zoom.

The priority areas of focus will be aligned with the three strategic shifts set out in the GPW13, i.e., stepping up leadership, driving public health impact, and focusing public goods on impact. In particular, the TAG-NCD R&I is invited to use its considerable experience to advise WHO how to:

1. Promote the global agenda for NCD-research including an updated list of research priorities.
2. Leverage innovation to accelerate NCD prevention and control.
3. Promote translation of knowledge into action through collaboration with partners in the context of low- and middle-income countries.
4. Support low- and middle-income countries in building capacity for high quality research required for strengthening and scaling up the national NCD response.
5. Encourage and facilitate impactful collaborative research and multicenter projects through WHO Collaborating Centres.

## Outputs and expected outcomes

The first meeting of the WHO TAG-NCD R&I will identify strategic directions and key activities in NCD research that the WHO could implement, in collaboration with its partners, in the coming years. The TAG will develop a workplan and submit requests to the Secretariat about needed inputs for the TAG's deliberations and recommendations to the WHO secretariat that will facilitate NCD R&I at global, regional and national level. Aiming to be specific and focused, the TAG may suggest the key activities which the WHO Secretariat should prioritize during the next ten years to implement actions included in the *NCD-GAP 2013-2030.*

The expected outputs of the first TAG NCD-R&I meeting include a report which will enable the WHO Secretariat to summarize global challenges and opportunities in NCD research, prepare global strategic documents on NCD research and key activities to be implemented in coming years. The TAG may also wish to commence a process to prioritize the NCD research agenda, with particular attention to evidence that supports implementation of NCD control and management.

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