

Responding to the Challenge of Non-communicable Diseases (NCDs) in the Eastern Mediterranean Region

An Operational Guide



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List of Acronyms and Abbreviations

CVDs	Cardiovascular Diseases
EMR	Eastern Mediterranean Region.
GHD EMPHNET	Global Health Development The Eastern Mediterranean Public Health Network
NCDs	Non-communicable Diseases
NCD-GAP	Global Action Plan for the Prevention and Control of NCDs
N-CAP	NCD Capacity Assessment and Planning
NCDsRC	NCDs Research and Prevention Center
SDT	Staged Development Tool
SDGs	Sustainable Development Goals
WHO	World Health Organization

Introduction

NCDs burden in the Eastern Mediterranean Region (EMR)

Non-communicable diseases (NCDs) account for a considerable majority of deaths globally.¹ In the year 2016, deaths from NCDs accounted for an equivalent of 71% of all deaths globally, with 85% of premature NCD-related deaths occurred in lower middle-income country (LMIC).² The prevalence rates of NCDs in the EMR are alarmingly high. In 2019, 79% of all deaths in the Middle East and North Africa Region were a result of NCDs; ranged from 75% to 89% in 13 of the 22 EMR countries.³ More than 1.7 million people in the EMR die from cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes annually, and this is expected to increase to 2.4 million deaths by the year 2025 unless prompt action is taken.⁴ A substantial proportion of the NCD burden in the region is caused by modifiable risk factors, including tobacco use, physical inactivity, and an unhealthy diet.

NCDs Impact on Global Health Security

The COVID-19 pandemic has revealed the importance of addressing NCDs during emergencies. Disproportionate rates of hospitalization, intensity of care, and death were documented for patients with COVID-19 and preexisting NCDs.⁵ Prevalent NCD risk factors, such as obesity and tobacco use, have been implicated in the progression of and susceptibility to COVID-19 infection.⁶ NCDs and their risk factors are important for all aspects of outbreak preparedness and response, affecting a range of factors including host susceptibility, pathogen virulence, and health system capacity. The US Centers for Disease Control and Prevention (CDC) identifies three ways in which NCDs relate to global health security.⁷ Some NCDs like diabetes and CVDs and their risk factors can lead to impaired immune function and increase the susceptibility to infectious disease outbreaks. Reducing the rate of NCDs keeps health systems from being overburdened when large outbreaks happen. Moreover, NCD initiatives contribute to international development goals by reducing the economic burden of illness and death and improving the overall capacity for emergency response.

Tackling the Burden of Non-communicable Diseases in the EMR

Addressing the growing burden of NCDs across age groups and populations in the EMR requires immediate action. The complex etiology of NCDs and the life-long accumulation of NCD risk requires a lifecourse approach for disease prevention that addresses determinants early in life and throughout critical windows in the lifespan. Fortunately, many effective NCD interventions are now available and recommended for implementation and scale-up across health systems, but they are not being widely implemented in EMR.

To study optimal and sustainable implementation strategies for these interventions in EMR, local implementation research capacity is needed. Yet, research infrastructure and outputs in EMR are often insufficient, and the data from these settings are scarce.

In addition, a major challenge ahead is understanding the best strategies to deliver the WHO “best buys” and other effective interventions in the context of the countries in the region. Reducing NCD-related morbidity and mortality necessitates an ecological and lifecourse approach to study disease etiology coupled with multisectoral action and policy and the implementation of effective multi-level interventions and “best buys”. None of this is achievable without a strong national and regional capacity to produce locally relevant evidence.

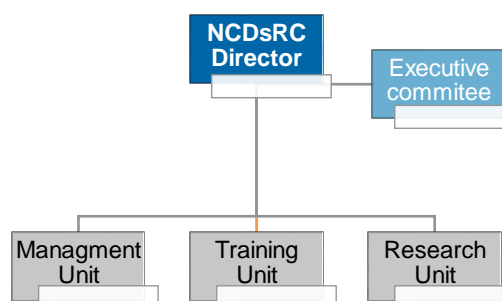
GHD|EMPHNET’s response to NCDs burden in EMR

The Global Health Development | Eastern Mediterranean Public Health Network (GHD|EMPHNET) is a regional initiative founded to support countries in the EMR to strengthen their public health systems and respond to global health threats. GHD|EMPHNET supports national efforts to improve population health outcomes through workforce capacity building, engaging, and involving stakeholders, implementing research to generate information that can link policy to practice, and getting engaged in the implementation research that contributes to countries’ efforts to reach Sustainable Development Goals (SDGs) through knowledge synthesis. The values that drive GHD|EMPHNET’s work are competence, collaboration, excellence, partnership, accountability, innovation, and health equity. It adopts a transformational vision that guides its role and efforts in building local and regional capacities to address health priorities and challenges and in building national, regional, and global partnerships under the SDGs.

Since its establishment, GHD|EMPHNET has supported the EMR in strengthening its response to the rapidly rising NCDs. This support represents different aspects including steering committees and hosting alliances related to the NCDs, building capacity in research, establishing burden estimates, guiding discussions about NCDs priority areas, developing a roadmap for strengthening primary healthcare, developing and adapting management guidelines, monitoring and evaluation of NCDs initiatives, producing policy briefs, and increasing awareness about risk factors.

To achieve higher levels of NCD prevention and control in the EMR through multi-sectorial, multi-disciplinary collaboration in the areas of research, training, and informed decision-making, GHD|EMPHNET proposes to establish the Eastern Mediterranean Non-communicable Disease Research and Prevention Center (NCDsRC) (Figure 1). The overarching goal of NCDsRC is to generate local evidence to inform policymakers in the development of intervention programs, and policies to tackle the growing burden of NCDs in the EMR. The NCDsRC is designed to encompass a broad spectrum of NCDs and common determinants that are of

Figure 1 Administrative Structure of the Center



regional significance and offer training in research disciplines that have wide applicability across NCD areas. The specific objectives of the NCDsRC are to:

1. Analyze the challenges that are impeding the progress of implementing the NCD agenda, as well as the current gaps in 'know-how' knowledge and skills.
2. Identify research priorities for NCDs in the EMR and establish a multisectoral and interdisciplinary framework for the partnership to bridge the regional priorities with research and policy/action toward NCD prevention and control.
3. Build a sustainable human resource capacity in the EMR for rigorous epidemiologic and implementation research in NCDs to develop and implement evidence-informed interventions, programs, and policies relevant to the countries of the region.
4. Appraise the NCD needs of vulnerable populations, especially in conflict/displacement situations, and identify effective responses, assess the key NCD response interventions in humanitarian emergencies and chronic crises, and recommend action to address current gaps and constraints.
5. Accelerate the application of scientific methods and evidence to reduce the burden of NCDs and enhance the translation of scientific evidence into policy and interventions for the prevention of NCDs by involving a wide network of stakeholders.

The purpose of the operational guide

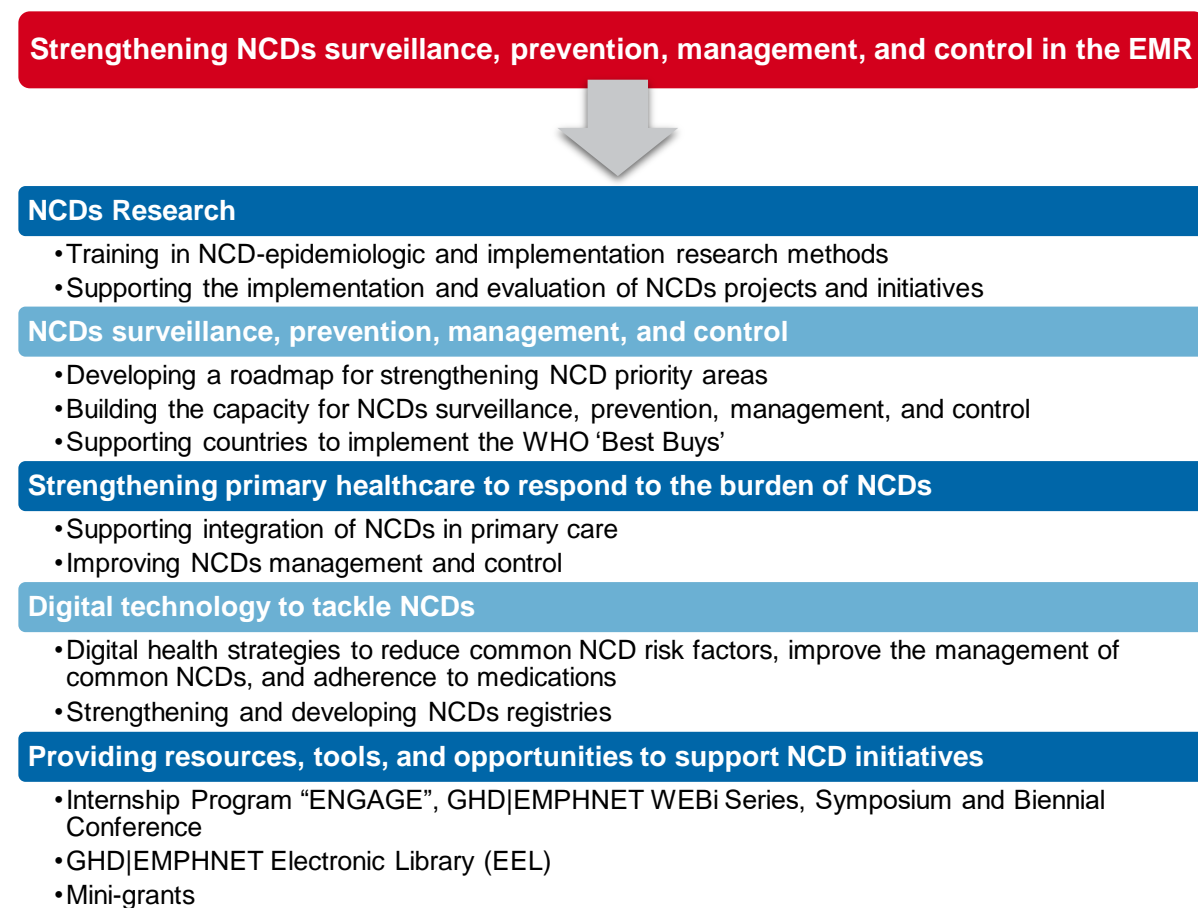
Reducing the burden of morbidity, disability and premature mortality related to NCDs in the EMR requires synergies between relevant action and strategies and a particular focus on a broader set of risk factors and determinants, particularly unhealthy diets, physical inactivity, and overweight/obesity, as well as early detection and management of the disease. This operational guide presents a framework for action, different approaches, and strategies GHD|EMPHNET uses to support countries' response to NCDs burden.

Actions and areas of support

The GHD|EMPHNET NCDs framework for action ensures an effective integrated action on risk factors and their underlying determinants and strong health systems for improved prevention and control of NCDs in the EMR (Figure 2). GHD|EMPHNET uses its NCDs framework to support countries to prevent and control common NCDs; strengthens primary care to screen for and provide early diagnosis and management of common NCDs; builds capacity at various levels of health care for prevention, diagnosis, and treatment of common NCDs; improves inter-sectoral and cross-border collaboration; build the capacity of NCD researchers and stakeholders to generate contextualized evidence to inform decisions around NCD prevention and control;

create opportunities for community engagement; and integrate new technologies in the prevention and control of NCDs.

Figure 2. The GHD|EMPHNET NCDs framework for action



1. NCDs research

1.1 Training in NCD-epidemiologic and implementation research methods

The Global Action Plan for the Prevention and Control of NCDs (NCD-GAP) 2013-2020 was presented as a roadmap for action to reach the identified nine global NCD targets by 2025, embracing a 25% reduction in premature mortality from NCDs.⁸ This overarching mortality target was later incorporated into the Sustainable Development Goals agenda with a revised aim to achieve a 30% reduction by 2030. Focusing on an integrated approach to tackling NCDs, the plan centered around six interrelated objectives to guide activities and policy measures needed to meet the NCD global targets. Two of these objectives drive the need to strengthen research for the sake of generating and translating knowledge that can guide countries in monitoring NCDs:

Objective 5 - Promote and support national capacity for high-quality research and development for the prevention and control of NCDs

Objective 6 – Monitor the trends and determinants of NCDs and evaluate progress in their prevention and control

Lack of opportunities, constrained resources, weak research capacity, and thus low research productivity in EMR undermine informed decision-making. The majority of publications on NCDs and their risk factors in EMR are based on observational studies emanating from isolated institutes, rather than multidisciplinary research collaboratives. In addition, results are rarely translated into interventions or policymaking, due to the lack of multidisciplinary research teams with linkages to relevant stakeholders, and the policies and guidelines that exist are mostly based on studies from high-income countries. To improve health outcomes, countries have to strengthen their national health systems for which local evidence and research capacity are fundamental. Of the many challenges faced, the most pressing is creating a sustainable infrastructure for research, including the human capital of trained researchers. Insufficient research training has resulted in inadequate funding opportunities for research in NCDs and missed opportunities to develop, submit, and administer research applications and awards. Career development has been limited by a lack of national funding for research training, and an absence of an infrastructure that allows for collaboration between the community, existing researchers, physicians/medical specialists, governmental bodies, and entities that inform public policy.

There has been a steady increase in the need for data, new methodologies and analysis, and NCD research, a need that was further highlighted by the COVID-19 pandemic as the world has seen how central it is to have well-trained scientists and researchers. While promising initiatives to address the burden of NCDs in the region are emerging, what is still rarely addressed is the human capacity to take on the multi-dimensional task of ensuring that NCDs are kept on the radar for national/government entities, NGOs, and indeed health professionals. This requires data and evidence, and research skills and capacities to produce such evidence. Investing in the research capacity of investigators and institutions and in developing multi-sectoral, interdisciplinary research partnerships is a critical component of combatting NCDs. This not only helps foster a research culture and solidify local ownership of the research but also ensures that the most appropriate solutions are developed, increasing the likelihood that these solutions are sustainable over time.

For addressing the identified gaps in NCDs research in the EMR, GHD|EMPHNET provides two types of research training:

- a. NCD-epidemiologic research methods:** A more granular assessment of burden, patterns, and outcomes, a characterization of proximal risk factors and distal determinants, and an evaluation of the impact and feasibility of prevention and control measures require skills in quantitative, qualitative, and mixed research methods. The GHD|EMPHNET “NCD-epidemiologic research methods” training is designed for public health staff and health professionals working at various levels

of the health system and is designed to cover more advanced methods for the design, conduct, analysis, and interpretation of epidemiologic studies. The main focus of this training is on providing trainees with an understanding of methodological health research issues as well as analytical and practical skills for designing and conducting NCD-epidemiologic studies. GHD|EMPHNET has used this curriculum to train a high number of public health professionals, with many of them having succeeded to publish their research findings.

- b. Implementation research training:** The EMR faces challenges in implementing NCD policies, programs, and interventions effectively. This is particularly difficult since data on NCDs is limited, and many of the NCD “best buys” have not been assessed in EMR. When data exists, many contextual barriers remain to the implementation of interventions and programs, and overcoming those requires organizational change, new ways of working, and the adoption of theoretically derived models. This reality highlights the need not only for data and epidemiologic methods, but also for implementation research, a discipline that provides a useful set of theories, approaches, and tools to characterize barriers and develop context-specific solutions for translating evidence and broad strategies into action. Therefore, research training that focuses on implementation is fundamental for bridging the knowledge generation-translation gap and making an impactful change on the burden of NCDs.

The GHD|EMPHNET’s “implementation research training” targets researchers and professionals from various disciplines with a demonstrated interest in NCD research aiming to build a sustainable human resource capacity in the EMR for rigorous implementation research in NCDs to develop and implement evidence-informed interventions, programs, and policies relevant to the countries of the region.

The implementation research curriculum provides trainees with the necessary skills to formulate the implementation research question, design implementation research projects, critically evaluate and use the evidence produced by other implementation research projects, assess the appropriateness of existing implementation strategies, and define implementation research outcomes. The audience for this training includes those who have an interest in health research and governance from academia, ministries, policymakers, and public health staff.

1.2 Supporting the implementation and evaluation of NCDs projects and initiatives

GHD|EMPHNET supports countries to propose, develop, implement, and evaluate NCDs interventions by adopting a 4-step implementation model:

Step 1. Identifying appropriate evidence-based policies and interventions

- 1.1 Establish a group of relevant stakeholders – this includes implementers, potential consumers, and other appropriate parties
- 1.2 Situation analysis for ascertaining the need for a policy or intervention
- 1.3 Knowledge synthesis
 - 1.3.1 Stating the objectives of the policy or intervention to be implemented
 - 1.3.2 Defining the eligibility criteria for evidence to be assessed
 - 1.3.3 Defining a search strategy to identify relevant evidence
 - 1.3.4 Searching for relevant evidence (applying the search strategy)
 - 1.3.5 Assessing the quality of evidence found
 - 1.3.6 Assembling and analyzing the most complete data set feasible
 - 1.3.7 Making an informed decision based on a structured report of the research

Step 2. Adapting and piloting the policy or intervention

- 2.1 Identifying which component(s) of a policy or intervention needs to be adapted
- 2.2 Making modifications to the policy or intervention
- 2.3 Piloting the modified policy or intervention.

Step 3 Evaluating the implementation of a policy or intervention

- 3.1 Clarify what is to be evaluated and engage stakeholders.
- 3.2 Determine evaluation questions and the evaluation framework.
- 3.3 Determine appropriate methods of measurement and procedures.
- 3.4 Develop an evaluation plan, collect and analyze data, and disseminate results
- 3.5 Apply evaluation findings.

Step 4 Scaling up a policy or intervention

- 4.1 Planning actions to increase the scalability of the innovation
- 4.2 Increasing the capacity of the user organization to implement scaling up
- 4.3 Assessing the environment and planning actions to increase the potential for scaling-up success
- 4.4 Planning actions to address spontaneous scaling up
- 4.5 Finalizing the scaling-up strategy and identifying the next steps

An example of such support is the GHD|EMPHNET's support to the Royal Health Awareness Society (RHAS) to evaluate the implementation of the Jordan "Integrated NCD–Humanitarian Response" project action. Early findings support the effectiveness of various interventions in this project, which make it a promising initiative to be scaled out and implemented in the various countries of the region.

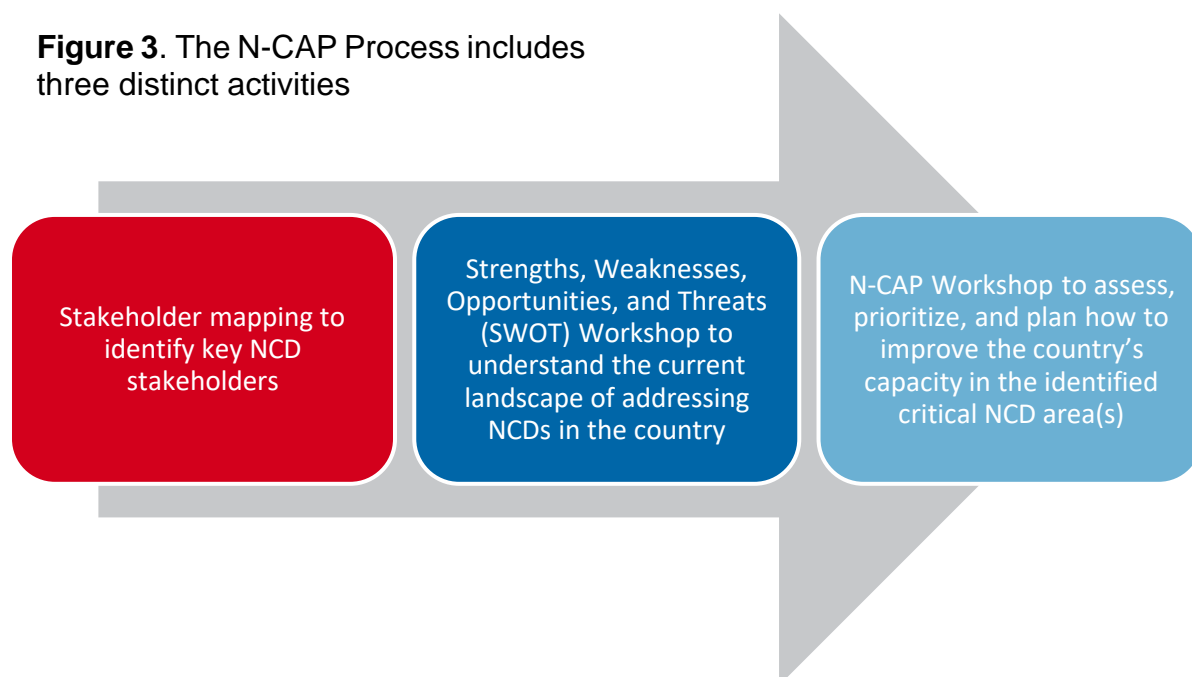
2. NCDs surveillance, prevention, management, and control

2.1 Developing a roadmap for strengthening NCD priority areas

Most countries in EMR have only limited experience with implementing NCD policies, programs, and interventions effectively. This is particularly difficult since national evidence and data on NCDs to improve existing programs and policies and to inform new ones is limited, and many of the NCD “best buys” have not been assessed in the region. Reducing NCD-related morbidity and mortality in EMR necessitates effective multi-level evidence informing multisectoral action and policy. None of this is achievable without a strong national capacity to produce locally relevant data and evidence.

GHD|EMPHNET uses the NCD Capacity Assessment and Planning (N-CAP) Process to support ministries of health and other key government and nongovernmental stakeholders to assess, prioritize, and plan how to improve the national capacity to address NCDs and improve population health. N-CAP was developed in collaboration with the U.S. Centers for Disease Control and Prevention (CDC), the International Association of National Public Health Institutes (IANPHI), and GHD|EMPHNET and is based on the Staged Development Tool (SDT) created by the U.S. CDC and IANPHI.⁹ The N-CAP Process includes three distinct activities (Figure 3).

Figure 3. The N-CAP Process includes three distinct activities



The culmination of the N-CAP Process is the N-CAP Technical Report which summarizes all activities and outcomes. The report can advise ministries of health and stakeholders in the future development of a comprehensive, actionable plan that engages a range of stakeholders to address NCDs in the country.

GHD|EMPHNET and in collaboration with the Royal Health Awareness Society, and the U.S. Center for Disease and Prevention, piloted the N-CAP Assessment and Planning tool to discuss NCD Data-to-Action in Jordan. Moreover, GHD|EMPHNET used the Standard Operating Procedures (SOP) for the N-CAP Process to support Iraq to assess, prioritize, and plan how to improve the national capacity to address NCDs and improve population health. Similarly, GHD|EMPHNET can use the N-CAP process to support other countries in the EMR to address NCDs.

2.2 Building the capacity for NCDs surveillance, prevention, management, and control

Most of the premature deaths from NCDs are largely preventable by enabling health systems to respond more effectively and equitably to the health care needs of people with NCDs and influencing public policies in sectors outside health that tackle four shared modifiable behavioral risk factors — tobacco use, unhealthy diet, physical inactivity, and the harmful use of alcohol. With EMR health systems oriented toward providing acute care more than promoting prevention and healthy lifestyles, most countries in the EMR have a limited experience with integrated approaches to address chronic diseases. This is further complicated by the absence of evidence to improve existing programs and policies and to inform new ones.

Despite the enormous global impact, governments, non-governmental organizations, and other key stakeholders have not developed sufficient training for the prevention, surveillance, control, and treatment of these diseases. Improved understanding of the burden and the risk factors of NCDs help to prevent them and prevent the associated morbidity and disability. Research on the management, control, and prevention of NCDs is growing and evidence-based interventions targeting such problems are available. Therefore, there is a need to build the capacity of health workers and other stakeholders so that they can plan and implement interventions that help to reduce the burden associated with chronic diseases. The GHD|EMPHNET “NCDs surveillance, prevention, management and control” training aims to increase the capacity of health professionals, project managers, researchers, policymakers at all levels, and other relevant persons interested in NCDs to develop and implement multisectoral plans for the prevention and control of NCDs, taking into account international recommendations and approaches. The training covers the following essential areas:

Epidemiology of NCDs	NCDs Surveillance	Health Promotion and NCDs	Prevention and Control of NCDs
<ul style="list-style-type: none"> - Principles of NCDs epidemiology -Characteristics of NCDs -The epidemiological transition and explanations for observed trends in disease burden. -Risk Factors for key NCDs -The impact of NCDs on the global burden of diseases -Measures of burden for NCDs 	<ul style="list-style-type: none"> -Uses of public health surveillance systems -Approaches to the surveillance of NCDs -Data sources for NCDs surveillance -The WHO STEPwise approach to Risk Factor Surveillance (STEPS) 	<ul style="list-style-type: none"> -The theoretical, philosophical, and political foundations of health promotion. -Health promotion approaches and practices: models and interventions. -Political and ethical dimensions of health promotion. -Health promotion strategies to promote physical activity -Health promotion strategies to promote good nutrition and dietary practices -Health promotion strategies to promote a smoke-free environment - The value and role of partnerships in health promotion. 	<ul style="list-style-type: none"> -Conceptual framework for NCDs prevention -Designing health promotion interventions and putting health promotion evidence into practice -Public Health perspective to NCDs prevention and control -Health systems perspective to NCDs prevention and control

2.3 Supporting countries to implement the WHO ‘Best Buys’

Many evidence-based policies exist to tackle the drivers of NCDs. The WHO “Best Buys and other recommended interventions” are a collection of the most promising policy types, evaluated for cost-effectiveness or recommended based on other evidence. The ‘best buys’ provide a list of policy options for four key NCD risk factors – smoking, harmful use of alcohol, unhealthy diet and low physical activity, and for four disease areas – cardiovascular disease, diabetes, cancer, and chronic respiratory disease. Addressing the four key risk factors will help tackle a wide range of other NCDs as well. One of the recommended measures includes public awareness and creating health-enabling environments. To date, too little evidence has been collected about how to implement programs that can change unhealthy behaviors.

To be successful, a concerted effort is needed across institutions aligned with key stakeholders who will be able to use the research findings within their programs and policies. The GHD|EMPHNET NCDs Framework for action focuses on the following to promote the appropriate implementation of ‘best buys’ policies:

1. Analysis of what is impeding progress in implementing the NCD agenda and the current gaps in ‘know-how’ knowledge and skills.

2. Enhancing the translation of scientific evidence into policy and interventions for the prevention of NCDs by involving a wide network of stakeholders.
3. Bringing research evidence, experience from public health practice, and frameworks and tools for knowledge dissemination, translation, and advocacy together in policy dialogues, practice guidelines, and engaged networks within and outside the health sector.
4. Supporting countries in the implementation of 'best buys' policies through population-level interventions including interventions that promote low consumption of tobacco, salt reduction; and improved awareness of a healthy lifestyle.

The key programmatic area the GHD|EMPHNET will focus on include:

- Enhance national nutrition improvement efforts by promoting a healthy diet. Three areas of focus are reducing salt and sugar intake and banning trans fats in the food chain. EMR is in a nutrition transition, shifting towards unhealthy diets and sedentary lifestyles. GHD|EMPHNET will support countries in the following:
 - Review and update key sectors' policies to promote a healthy diet, including salt and sugar intake reduction and development and operationalization of multisectoral coordination mechanisms
 - Set specific targets for a salt amount in food and meals with a clear time frame for the industry to achieve
 - Set food labeling standards for clear nutritional labeling
 - Strengthen law enforcement systems to enhance a healthy diet
 - Increase public awareness and promote behavioral change toward a healthy diet
 - Support raising taxes on sugar-sweetened beverages to reduce sugar consumption
 - Improve banning of trans fat in the food chain
 - Support establishing surveillance and monitoring system
- Encourage physical activity through community-based interventions.

- Reduce tobacco use by raising communities' awareness through multiple strategies, promoting policy and legal intervention, and the bans use in the workplace and public transport.

Recently, GHD|EMPHNET implemented two projects “Supporting Data-Driven NCD-Risk Messaging communication interventions” and “Community-based Intervention Packages to Enhance the Salt Intake Reduction”. The two demonstrate GHD|EMPHNET expertise in supporting countries to implement “Best Buys”.

3. Strengthening primary healthcare to respond to the burden of NCDs

3.1 Supporting integration of NCDs in primary care

The healthcare system in the region is facing many challenges including the increasing NCDs burden, the financial crisis, and the need to be responsive to the demands of users. The context in which the health program operates is evolving, bringing with it new challenges and opportunities that require new ways of providing health services. The health priorities of today and tomorrow are NCDs. Maintenance of the status quo in current health services will not be able to address the changing environment and the new challenges. Thus, without introducing new approaches, primary health services will become less relevant and unable to respond to the growing health need. In response to this, health system reforms based on a Family Health Team approach are needed.

GHD|EMPHNET has developed a family health team model to improve and modernize primary health care services in the region into a comprehensive, efficient, people-centered primary care system. The Family Health Team approach represents a system of delivering primary health care through a multidisciplinary team of health professionals that works together to serve the comprehensive health needs of a defined population across the life cycle and in a community setting that is close to the client. The GHD|EMPHNET has developed the framework, strategies, tools, materials, and necessary arrangements to strengthen primary care, including a model for the integration of NCDs in primary care.

3.2 Improving NCDs management and control

In the EMR, the burden of hypertension, diabetes, and other NCDs is immense, increasing, and is felt disproportionately where two-thirds of cases are found, largely due to widespread risk factors in those populations in recent decades. For example, the crude prevalence rate of hypertension is estimated to be around 29.5% in EMR with wide variability between countries, ranging from 28% in the United Arab Emirates to 41% in Libya and Morocco.¹⁰ In many low- and middle-income countries, there is a wide gap between current practice and evidence-based recommendations. Treatment

of major CVD risk factors remains suboptimal, and only a minority of patients who are treated reach their target levels for blood pressure, blood sugar, and blood cholesterol. In other areas, overtreatment can occur with the use of non-evidence-based protocols. To improve hypertension management, HEARTS technical packages appeared as a good evidence-based solution and emphasizes adaptation, dissemination, and use of a standardized set of simple clinical-management protocols, which should be drug- and dose-specific, and include a core set of medications.¹¹ The HEARTS technical package has standardized the treatment protocol to control hypertension at the primary health care level which has positively impacted the quality of clinical care and variability.

GHD|EMPHNET had wide expertise in the evaluation and improvement of NCDs management guidelines. GHD|EMPHNET has adapted, implemented, and evaluated the HEARTS Technical Package in healthcare settings in Jordan to improve the management of hypertension. The implementation of the HEARTS technical package has successfully achieved better control of the blood pressure of the enrolled patients after 4 months of implementation. GHD|EMPHNET will support countries by scaling up and scaling out the HEARTS technical package in the region to improve the management of hypertension and other NCDs.

Similarly, breast cancer remains one of the highest cancer rates. Many countries in the region have limited capacity for providing early detection of cases and providing quality services. On the other hand, cervical cancer is considered a low incidence. However, the incidence to mortality ratio is relatively high, indicating that diagnoses occur late, potentially due to a lack of opportunities to screen early to maximize curative opportunities. To eliminate cervical cancer as a public health problem, all countries must reach and maintain an incidence rate of fewer than four new cases of cervical cancer per 100,000 women per year.

GHD|EMPHNET supports breast and cervical cancer prevention, screening, and management. It focuses on advocacy to put cervical cancer on the priority health agenda, increasing public awareness, and supporting technical and operational aspects for HPV vaccination, screening program, and patient care, including health care provider capacity building.

4. Digital solutions to tackle NCDs

4.1 Digital health strategies

Primary prevention of NCDs is directed towards modifying risk factors including tobacco use, physical inactivity, unhealthy diet, and harmful use of alcohol. Behavior change communication (BCC) is an important strategy for the modification of behavioral or lifestyle-associated risk factors of NCDs. Mobile phone technology is viewed as a promising communication channel that offers the potential to improve

healthcare delivery and promote behavior change among vulnerable populations. Several studies across the globe have documented the usefulness of mHealth in the management of diabetes and hypertension. A major advantage of mHealth interventions is the fact that they can be delivered to many individuals in a cost-effective manner and in a relatively shorter time. GHD|EMPHNET has the capacity to develop, test, and implement mHealth in lifestyle modifications for NCDs in the countries of the region and in delivering public health interventions, with the ability to overcome the financial and geographic barriers facing hard-to-reach populations.

4.2 Strengthening and developing NCDs registries

Diabetes and hypertension are major and growing health problems worldwide. High-quality, real-world data are necessary for health systems to improve diabetes care. In most EMR countries, NCD data are sporadically recorded, dispersed among fragmented platforms, and often not shared within national health information exchanges or patient-level health information systems, such as electronic health records and national disease surveillance systems. The absence of patient data where and when it is needed impedes comprehensive care and continuity. GHD|EMPHNET has been promoting the use of surveillance to detect and prevent health problems. In this effort, GHD|EMPHNET is relying on its network of experts and professionals, its relations with the countries, and the support of its partners to identify the appropriate type of surveillance to be used for the appropriate situations. While its focus was mainly on communicable diseases, GHD|EMPHNET is expanding its efforts to cover NCDs more extensively.

5. Providing resources, tools, and opportunities to support NCD initiatives

5.1 Internship Program “ENGAGE”, GHD|EMPHNET WEBi Series, Symposium and Biennial Conference

Established in 2019, ENGAGE offers three-month internship opportunities for graduates, undergraduates, students, and fresh graduates. The interns work either virtually, face to face, or within a blended approach with mentors to complete specific projects. The GHD|EMPHNET internship program “ENGAGE” is an opportunity for interns to be trained in the area of public health protection and promotion, NCD research and the Media and Communications team. Each intern can work alongside a mentor to complete an NCD-related project in their three-month internship.

The GHD|EMPHNET WEBi Series, symposia, and biennial Conference are opportunities for NCD researchers to share their research findings with others and to showcase any NCD research done and have it openly discussed with a panel.

5.2 GHD|EMPHNET Electronic Library (EEL)

On May 11 2022, GHD|EMPHNET launched its Electronic Library “EEL”, serving as a free resource for public health professionals and FETP residents and graduates to have access to resources that may enhance their work. EEL contains free open-access resources, ebooks, and gray literature published by GHD|EMPHNET and its partners in public health areas including NCDs. Furthermore, it also offers access to useful links and free courses offered by the GHD|EMPHNET Learning Management Systems LMS.

5.3 Mini-grants

To improve public health in the EMR, GHD|EMPHNET leads and advances high-quality operational research in support of innovative solutions and the use of information and communication technology. These mini-grants aim to promote conducting research, translating, and disseminating it to support the adoption of evidence into public health practice.

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GHD|EMPHNET: Working Together for Better Health

The Eastern Mediterranean Public Health Network (EMPHNET) is a regional network that focuses on strengthening public health systems in the Eastern Mediterranean Region (EMR) and beyond. EMPHNET works in partnership with ministries of health, non-government organizations, international agencies, private sector, and relevant institutions from the region and the globe to promote public health and applied epidemiology. To advance the work of EMPHNET, Global Health Development (GHD) was initiated to build coordination mechanisms with partners and collaborators. Together, GHD|EMPHNET is dedicated to serving the region by supporting efforts to promote public health policies, strategic planning, sustainable financing, resource mobilization, public health programs, and other related areas.