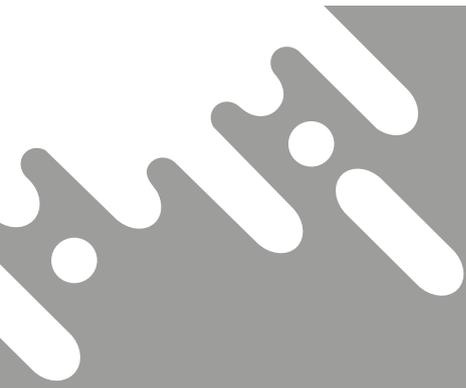




THE IMPACT OF THE COVID-19 PANDEMIC ON NONCOMMUNICABLE DISEASE RESOURCES AND SERVICES:

RESULTS OF A RAPID ASSESSMENT



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The impact of the COVID-19 pandemic on noncommunicable disease resources and services: results of a rapid assessment

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LIST OF ACRONYMS

AFR	WHO African Region
AMR	WHO Region of the Americas
EMR	WHO Eastern Mediterranean Region
EUR	WHO European Region
NCD	Noncommunicable disease
NCD CCS	Noncommunicable disease country capacity survey
PPE	Personal Protective Equipment
SEAR	WHO South-East Asia Region
WHO	World Health Organization
WPR	WHO Western Pacific Region



THE IMPACT
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INTRODUCTION

Noncommunicable diseases (NCDs), notably cardiovascular diseases, cancers, diabetes and chronic respiratory diseases, are the leading causes of death and disability globally, affecting more people each year than all other causes combined. NCDs are responsible for over 70% of all deaths, with nearly 80% of these deaths occurring in low- and middle-income countries (1). In addition, NCDs constitute approximately 80% of all years lived with disability globally (2). With the population ageing, rise in multimorbidity, longer life expectancies and increasing survival rates, more and more people are expected to live with the health burden of NCDs (3,4).

Due to their chronic and sometimes life-long nature, NCDs often require repeated interactions with the health system over long periods of time. This includes disease management involving access to essential medicines or rehabilitation services. Not receiving the care needed often has devastating consequences for persons living with NCDs. The unmet burden of NCDs can lead to both health and economic consequences at global, country, household and individual levels, resulting in severe disability, premature deaths, and billions of dollars in economic loss each year (5).

With the rapid spread of COVID-19 across the world, the ability of countries to address and respond to NCDs has been impacted. The virus has caused broad disruptions to health services while at the same time drawing attention to countries' NCD burden, as those living with NCDs are at increased risk of becoming severely ill with the virus.

The disruption of health services is particularly problematic for those living with NCDs who need regular care. Several examples from countries show how the disruption of NCD services has directly affected people. For example, screening, case identification, and referral systems for cancer have all been affected by the COVID-19 pandemic which has resulted in a substantial decrease in cancer diagnoses (6). The reduction in admission to hospital of patients with acute coronary syndrome often results in increases in out-of-hospital deaths and long-term complications of myocardial infarction (7). Disruption in rehabilitation services for people with NCDs in various countries has potentially impacted their functional outcomes and consequently increased the burden of care (8).

These few examples, however, do not capture the whole picture around the world. There has not been comprehensive information gathered about the countries in which disruption of NCD related services has occurred nor the extent of those disruptions and the factors associated to those disruptions (such as inclusion in COVID-19 Strategic Plans). That information is important to a) understand how countries need to be supported during the response to COVID-19, b) plan how to build back better health systems with integrated NCD services after the pandemic and c) shed light to the consequences of the disruptions in people's lives. In line with this, the objective of this study was to gain direct in-depth knowledge from countries on the extent to which NCDs services have been affected during the COVID-19 response.

METHODS

Since 2001, WHO has been carrying out regular assessments of countries' capacity to address and respond to the growing burden of NCDs. Referred to as the NCD country capacity survey (NCD CCS), these assessments have been carried out seven times over the past two decades, with the most recent round occurring in 2019. The survey serves not only as a means for WHO to assess country action on a wide range of topics related to NCDs, but also as a guide for countries on what actions to take at the national level in order to strengthen their response to NCDs.

In order to obtain objective information on the impact of COVID-19 on NCDs both at the ministerial level as well as in the health sector, WHO developed a follow-up questionnaire to the regular NCD CCS. The questionnaire was completed by NCD focal points or designated colleagues

within the ministry of health or national institute or agency responsible for NCDs in each country. A link to a secure, web-based questionnaire was shared with all focal points by email on May 1, with the instructions to complete the survey by May 15th. This deadline was ultimately extended to the 18th of May, though a handful of responses were accepted after this date. Focal points also received a copy of the questionnaire in MS Word and were informed they could alternatively complete the questionnaire offline and submit their official response via email by returning the completed MS Word document.

The questionnaire comprised 13 questions organized into the following five sections: Infrastructure, Policies and Plans, NCD-Related Health Services, Surveillance and Suggestions [for technical guidance from WHO]. The complete

questionnaire can be found in Annex 3. In the first two sections, countries reported on the reallocation of funds and staffing from NCDs due to COVID-19, the inclusion of NCDs in the country's COVID-19 response plan, the allocation of additional funds for NCDs as part of the COVID-19 response and the postponement of NCD-related activities lead by the ministry of health. The third section included questions to assess the degree to which NCD-related services in the health sector had been impacted, the underlying causes of the disruptions and what means were being used to overcome the disruptions. The section on surveillance was intended to capture whether or not countries were collecting data on NCD-related comorbidities in COVID-19 patients. In addition to responding to the questions, countries were asked to provide their national COVID-19 response plans,

either by uploading it to the web-based platform, by providing a web link, or sending via email.

Information gathered was downloaded directly from the web-based platform to a Stata-readable file. Any offline responses received were entered into the online platform prior to downloading the complete dataset. Responses were aggregated by WHO region, World Bank income group (2019 groupings – see Annex 2), as well as COVID-19 transmission status as of the closing date of the survey (May 18th) (9). Countries with a “pending” transmission status were excluded from any analyses where responses were aggregated by transmission status. For the percentages reported in the following section, the total number of responding countries (overall or by subgroup) was used as the denominator, unless otherwise indicated.

RESULTS

In total, 163 Member States (84%) responded to the survey. All regions except the European Region had a response rate of 80% or higher, with nearly all countries responding in the Eastern Mediterranean, South-East Asia and Western

Pacific regions (**Table 1**). Twenty-nine countries opted to submit their response offline. National COVID-19 plans or related documents were received from 48 countries.

TABLE 1

Response rate by WHO region

Region	Total numbers of countries	Number of responding countries	Response rate
AFR	47	41	87%
AMR	35	29	83%
EMR	21	18	86%
EUR	53	39	74%
SEAR	11	10	91%
WPR	27	26	96%
TOTAL	194	163	84%

AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

INFRASTRUCTURE

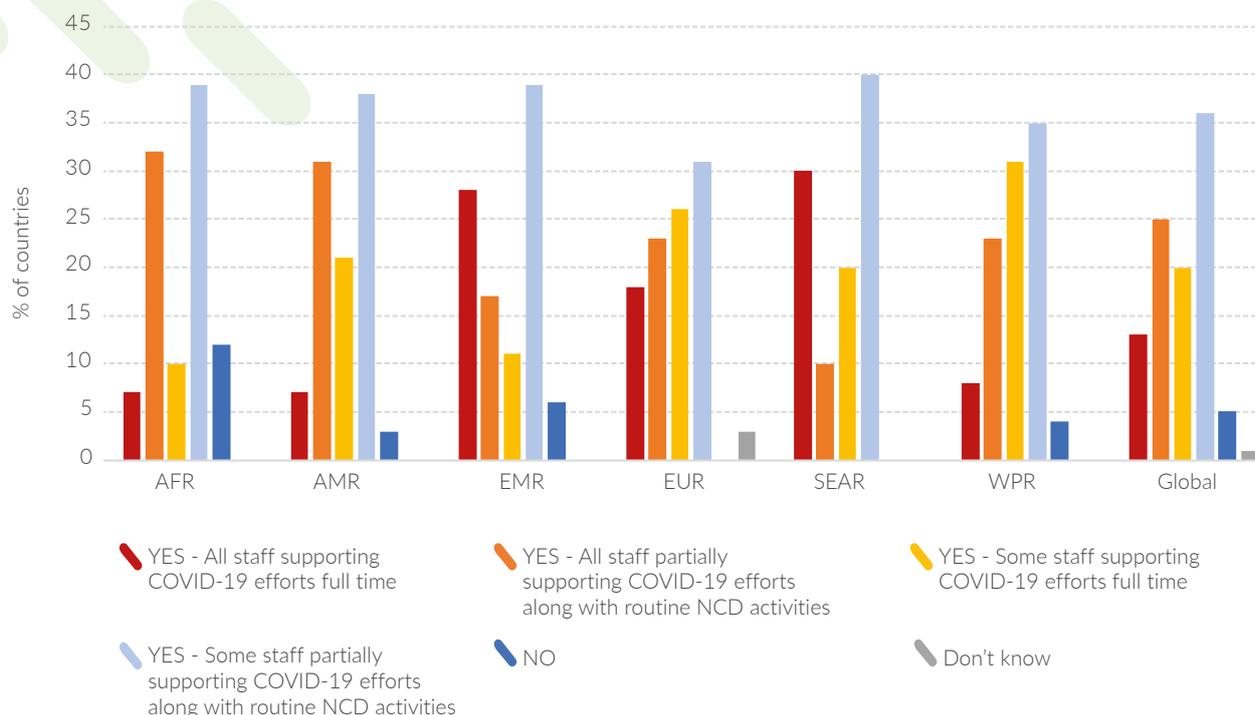
Nearly all countries (94%) reported that all or some ministry of health staff with responsibility for NCDs and their risk factors were supporting the COVID-19 efforts either full time or along with routine NCD activities (**Figure 1**). Only 13% of countries reported that all NCD staff were working full time on COVID-19, a situation that was more common in the South-East Asia and

Eastern Mediterranean regions. All other countries reporting reassignment of staff thus only delegated part of their NCD staff to work on COVID-19 full time (20% of countries) or had some or all staff working part time on the COVID-19 response (61%).



FIGURE 1

Percentage of countries with ministry of health (or equivalent institutes) staff with responsibility for NCDs and their risk factors being reassigned/deployed to help with COVID-19 response, by WHO region.



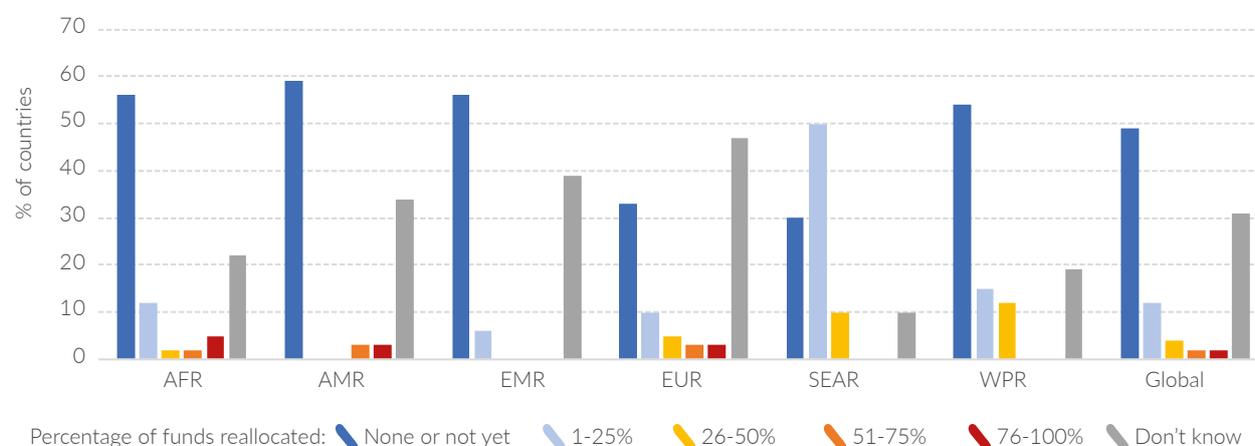
WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

Countries were also asked about whether or not government funding initially allocated for NCDs had been reassigned to non-NCD services due to COVID-19 response efforts. Nearly a third (31%) of countries did not know the answer to this question and roughly half (49%) reported that no funds had been reassigned to date. Thus, only 20% of countries reported that government funds had been reallocated from

NCDs to non-NCD services, with just seven countries (4%) reporting a loss of more than 50% of funds (Figure 2). It is worth noting that nearly a third of the countries in the African Region responding “None or not yet” (eight out of 23) added a comment in their response indicating that there is not normally a budget for NCDs so they have given this response because there is nothing to be re-allocated.

FIGURE 2

Percentage of countries where government funds initially allocated for NCDs have been reassigned to non-NCD services due to COVID-19 response efforts, by WHO region.



AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

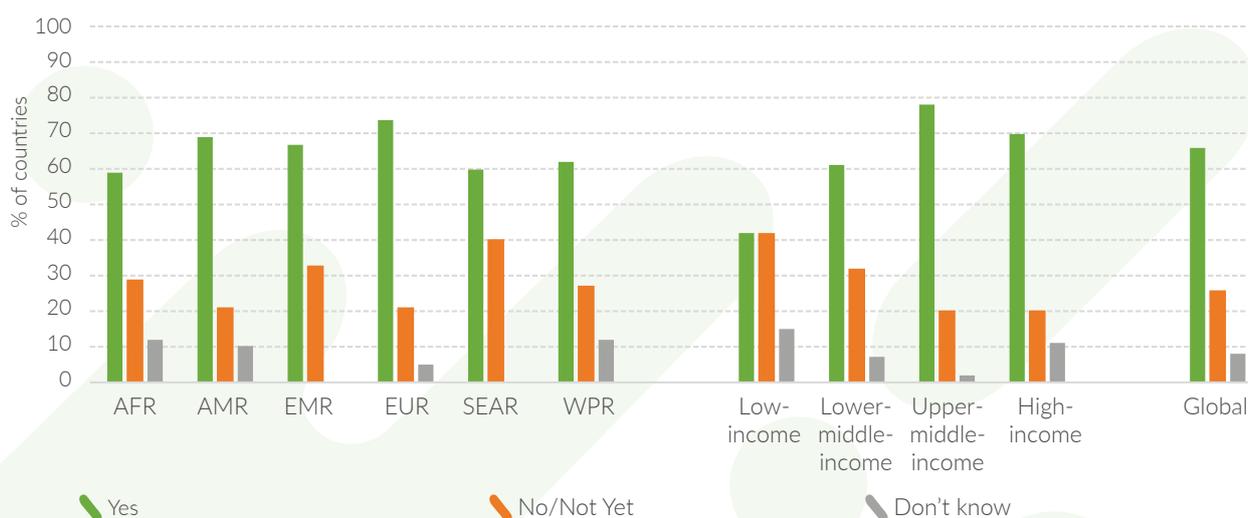
POLICIES AND PLANS

Two-thirds (66%) of countries reported that ensuring the continuity of NCD services was included in the list of essential health services in their national COVID-19 response plan (Figure 3). Low- and lower-middle-income countries were markedly less likely to include NCDs in their COVID-19 response plans than upper-middle- and high-income countries. Of the 107 countries that have included NCDs in the list of essential services in their national COVID-19 response plans, over 90% reported including cardiovascular disease services, cancer services and diabetes services (Figure 4). Additionally, the vast majority of these countries reported including services for chronic respiratory diseases (86%) and chronic kidney disease (85%), while around half reported including dental services (53%) and rehabilitation services (50%). Tobacco cessation services were only reported to be included

in 44 of the 107 plans (41%). In terms of regional differences, countries in the Region of the Americas were least likely to include chronic respiratory disease services in their national COVID-19 plans (70% of countries reporting the inclusion of NCDs in their COVID-19 plans), and countries in the African Region were most likely to include rehabilitation services in their national COVID-19 plans (63%). Dental services were also more likely to be included by countries in the African Region (63%) and the Eastern Mediterranean Region (67%). Finally, although tobacco cessation services were not widely included globally, they were far more likely to be included by countries in the Eastern Mediterranean and South-East Asia regions (67% of countries reporting the inclusion of NCDs in their COVID-19 plans in each region).

FIGURE 3

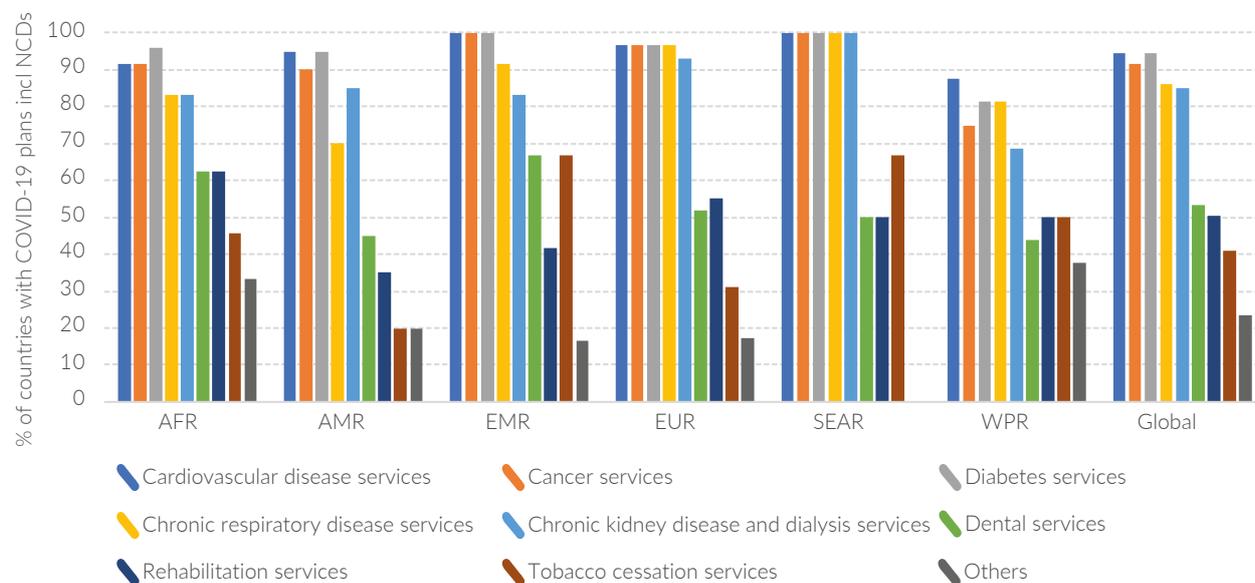
Percentage of countries that included ensuring the continuity of NCD services in the list of essential health services in their national COVID-19 response plan, by WHO region and World Bank income group.



AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

FIGURE 4

Percentage of countries* with NCDs included in the list of essential services in their national COVID-19 response plan that have included specific NCD services in the plan, by WHO region.



* Out of 107 countries reporting to have NCD service continuity in the list of essential services in their national COVID-19 response plan

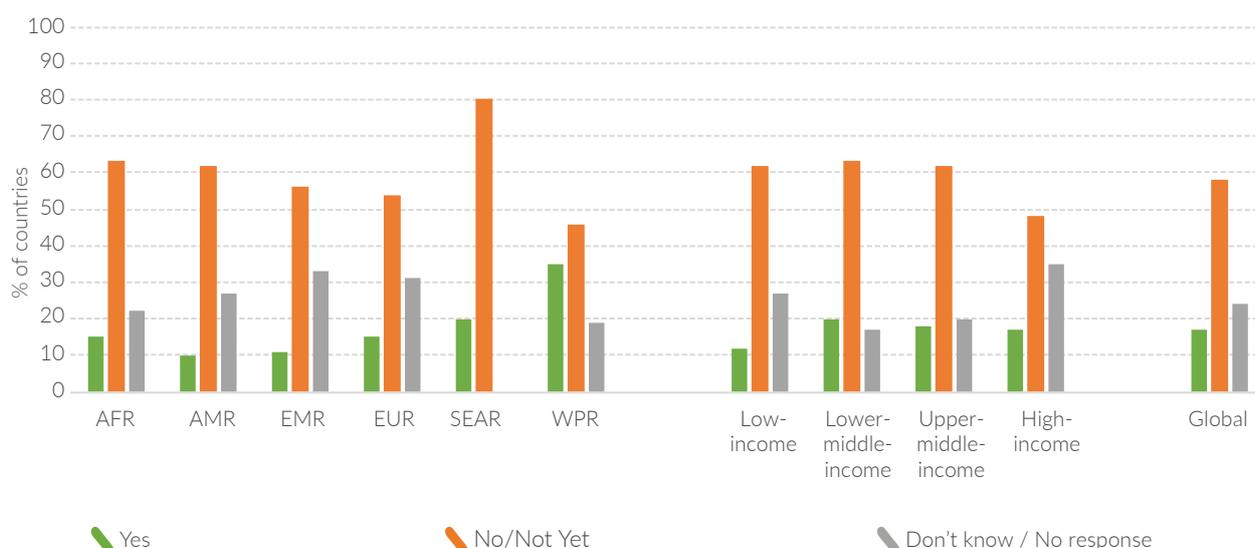
AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

Twenty-eight countries (17%) reported that there was additional funding allocated for NCDs in the government budget for the COVID-19 response, although a considerable number of countries (40 or 25%) were unable to answer this question (Figure 5). There was little variation across income

group or region, with the one exception that countries in the Western Pacific Region were far more likely to report that additional funding had been allocated for NCDs (35% versus 11-20% in all other regions).

FIGURE 5

Percentage of countries with additional funding allocated for NCDs in the government budget for the COVID-19 response, by WHO region and World Bank income group.



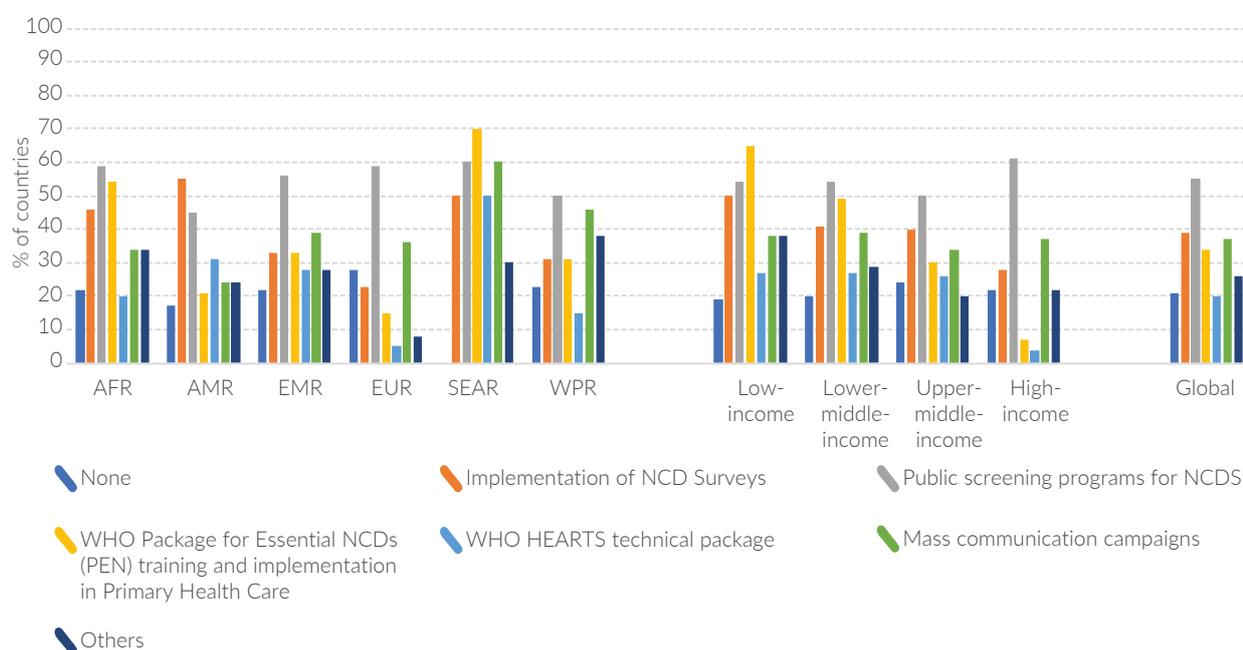
AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

In terms of disruption of activities, 77% of countries reported some disruption to ministry of health NCD activities planned for the current year (Figure 6). Besides public screening programmes for NCDs, which WHO advised countries to suspend during the pandemic, countries were most likely to report disruption to the implementation of NCD Surveys (39%) and suspension of mass communication campaigns (37%). The WHO Package for Essential NCDs (PEN) training and implementation in primary health was disrupted in 65% of low-income countries and 49% of lower-middle-income

countries. Finally, around one in four low- (27%) and middle-income- countries (26%) reported that activities related to the implementation of the WHO HEARTS technical package were postponed. Roughly a quarter (26%) of countries indicated that other ministry of health NCD activities were impacted and were invited to provide a description of these other activities. Among these comments, policy and guideline development was most commonly noted (18 countries) followed by trainings (11 countries) and conferences (nine countries).

FIGURE 6

Percentage of countries reporting disruptions to ministry of health NCD activities planned for the current year, by WHO region and World Bank income group.



AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

NCD-RELATED HEALTH SERVICES

Countries were asked to report on the government policies pertaining to the access of essential NCD services at primary, secondary and tertiary care levels for both inpatient and outpatient services during the COVID-19 pandemic. Unsurprisingly, there was a clear relationship between the transmission level of COVID-19 and the restrictions on access to essential NCD services (Figure 7). Fifty-nine per cent (59%) of countries reported that access to outpatient services were restricted to some degree, including 4% reporting total closure. Thirty-eight per cent (38%) of countries reported that NCD outpatient services remained open with no restrictions on access.

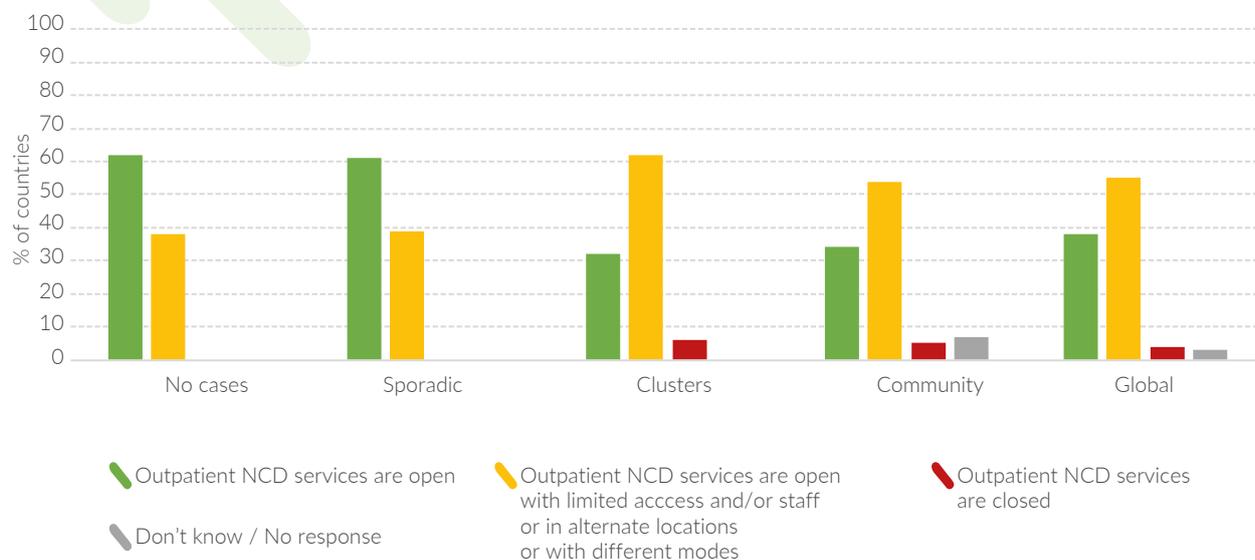
Access to inpatient NCD services was generally less impacted. Sixty-two per cent (62%) of countries reported that inpatient NCD services were open while just over a third (35%) reported that inpatient NCD services were open for emergencies only. No countries reported that inpatient services were closed. Overall, 35% of countries reported that both inpatient and outpatient services were open, 29% had restricted access to both and 25% had restricted access to only outpatient services. Seven countries (4%) closed outpatient services yet maintained inpatient services, either generally (three countries) or for emergencies only (four countries).



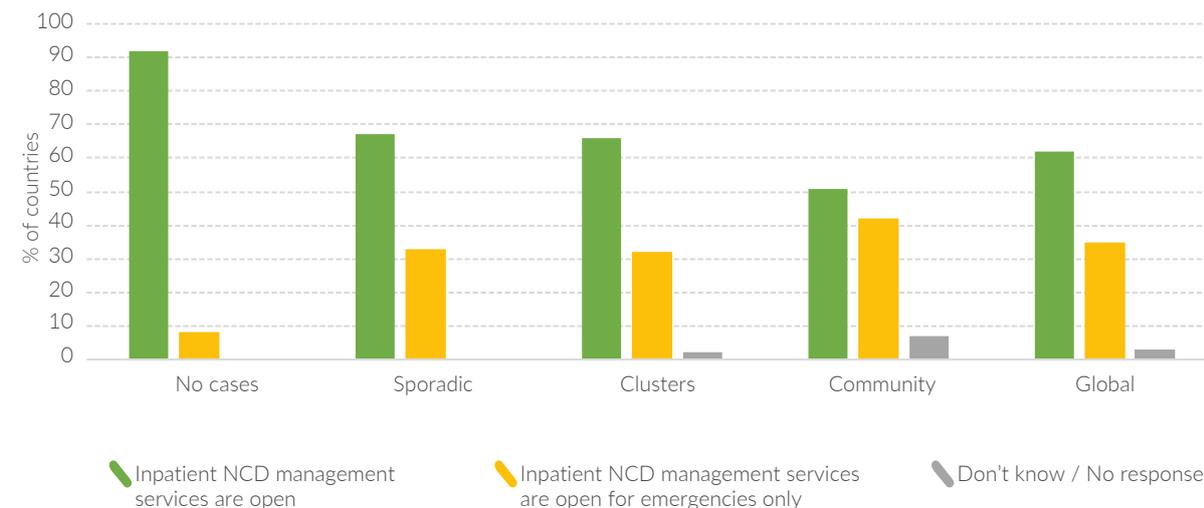
FIGURE 7

Percentage of countries reporting government policies restricting access to outpatient and inpatient NCD services, by COVID-19 transmission status

a. Outpatient NCD services



b. Inpatient NCD services



In addition to reporting government policies on access to inpatient and outpatient services, countries reported more specifically on disruptions to a number of NCD-related services. Three-quarters (75%) of countries reported that there was some disruption to one or more of the eight services listed in the questionnaire (Figure 8). Globally, rehabilitation services were the most likely to be impacted, with 50% of countries reporting partial disruption and an additional 12% reporting complete disruption. Rehabilitation services were particularly impacted in the African and European regions with 71% and 79% of countries reporting disruptions in each region, respectively.

Around half of countries reported complete or partial disruptions to hypertension management services (53%) or diabetes and diabetic complication management services (49%), with lower-middle-income countries being somewhat more likely to report disruptions to these services than countries in all other income groups. Asthma services (48%), palliative care services (48%) and urgent dental care (45%) were also widely reported as disrupted. Although cancer treatment services (42%) and services for cardiovascular emergencies (31%) were less widely reported as disrupted, the global figures mask marked differences across income groups. While half (50%) of low-income countries reported disruptions to services for cardiovascular emergencies, only 17% of high-

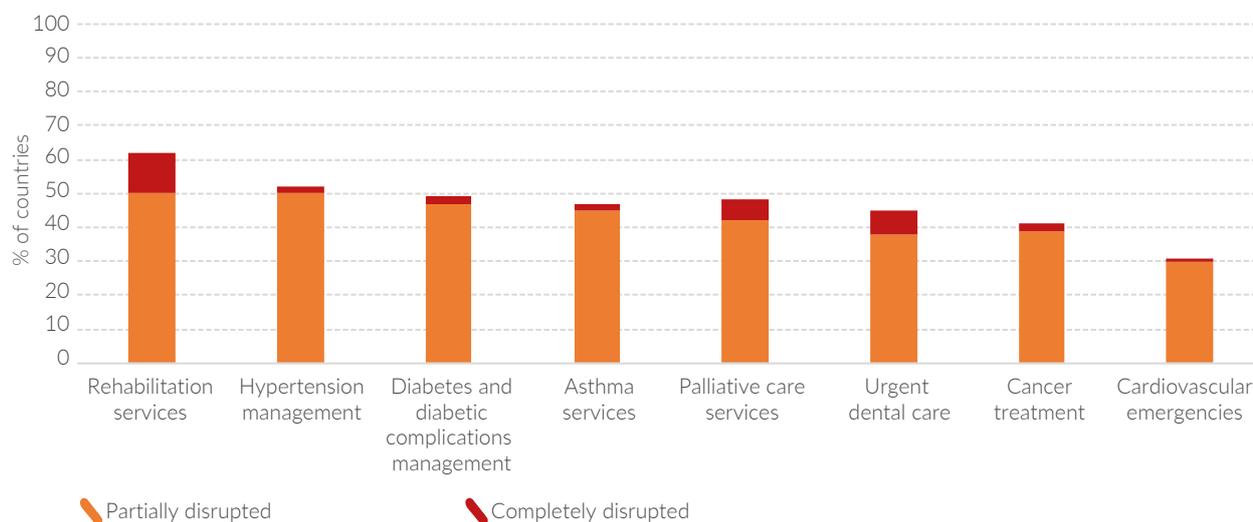
income countries reported any disruptions. Likewise, 58% of low-income countries reported disruptions to cancer treatment services compared to 26% of high-income countries.

It is important to note that maintaining access to inpatient and outpatient services does not imply that there are no

disruptions to service. On the contrary, well over half (58%) of countries reporting that both their outpatient and inpatient services were open reported disruptions to one or more of the NCD-related services.

FIGURE 8

Percentage of countries reporting disruptions to NCD-related services.



Countries reporting any disruption to NCD-related services were requested to indicate the main causes of the disruption. The questionnaire posed 11 possible causes plus a field to write-in additional causes with countries able to select all options that were applicable. A decrease in inpatient volume due to cancellation of elective care was the most commonly reported cause (Table 2). These cancellations were not necessarily due to government policies reducing inpatient services to emergencies, however, as just over half of these countries had reported in the previous question that access to inpatient services had been restricted through government policies. Closure of population-level screening programmes

and lockdowns hindering access to the health facilities for patients was also reported by over 40% of countries. Around one in three countries reported that impacts on staffing, closure of outpatient disease-specific clinics and insufficient PPE were one of the main causes of disruption to NCD-related services. Approximately one quarter of countries reported that government-mandated closure of outpatient NCD services, a decrease in outpatient volume due to patients not presenting or a lack of inpatient services/hospital beds were among the main causes of disruption. Finally, one in five countries reported that unavailability/stock outs of essential medicines or technologies were causing disruptions to NCD-related services.

TABLE 2

Main causes of disruption to NCD-related services

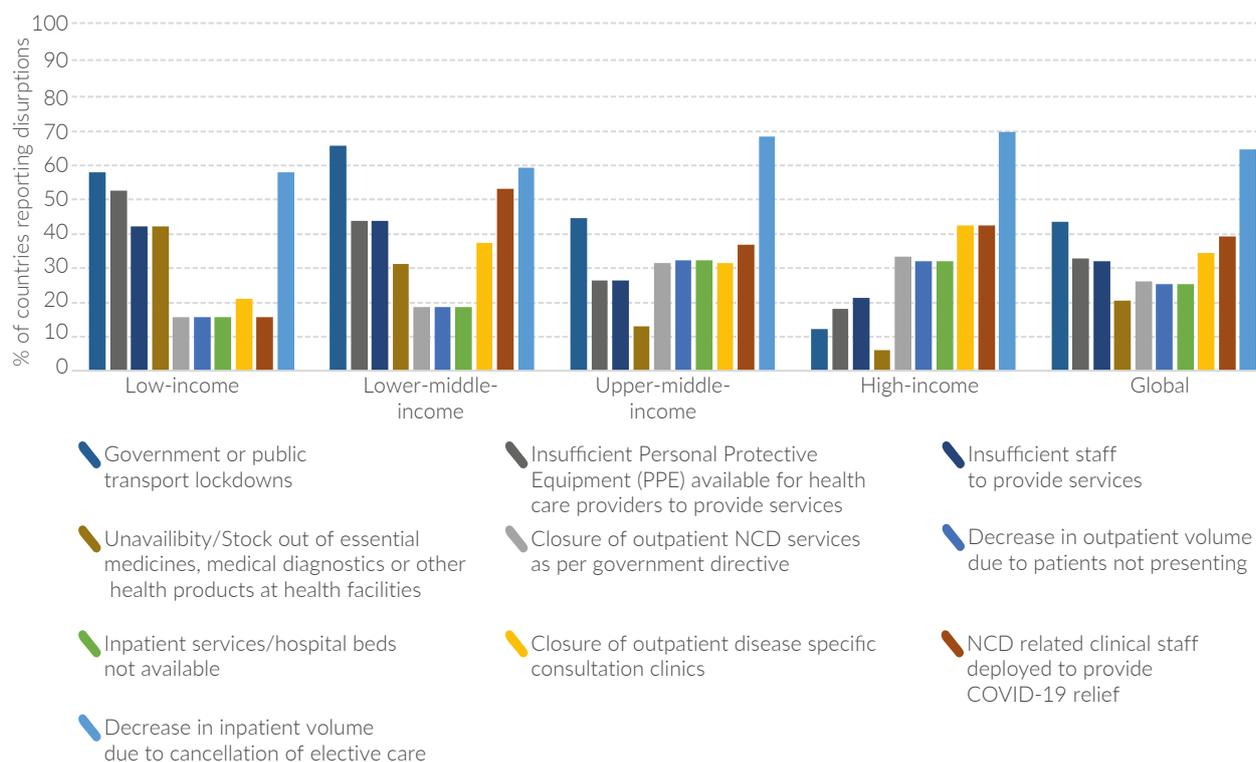
Disruption cause (by decreasing prevalence)	% of countries (out of 122 reporting disruptions)
Decrease in inpatient volume due to cancellation of elective care	65
Closure of population-level screening programmes	46
Government or public transport lockdowns hindering access to the health facilities for patients	43
NCD related clinical staff deployed to provide COVID-19 relief	39
Closure of outpatient disease specific consultation clinics	34
Insufficient Personal Protective Equipment (PPE) available for health care providers to provide services	33
Insufficient staff to provide services	32
Closure of outpatient NCD services as per government directive	26
Decrease in outpatient volume due to patients not presenting	25
Inpatient services/hospital beds not available	25
Unavailability/Stock out of essential medicines, medical diagnostics or other health products at health facilities	20
Others	18

The global figures showing the overall prevalence of various disruptions hide differing patterns by income group. Some underlying causes, namely disruptions to transport, insufficient PPE, insufficient staff, and unavailability/stock out of essential medicines and services were far more likely to be reported by low- and lower-middle-income countries

(Figure 9). Whereas as all other causes showed the opposite trend, with greater frequency in the wealthier income groups. Only a decrease in inpatient volume due to cancellation of elective care was consistently high across all income groups, with a slightly greater frequency among upper-middle- and high-income countries.

FIGURE 9

Percentage of countries* reporting main causes of disruption to NCD-related services.



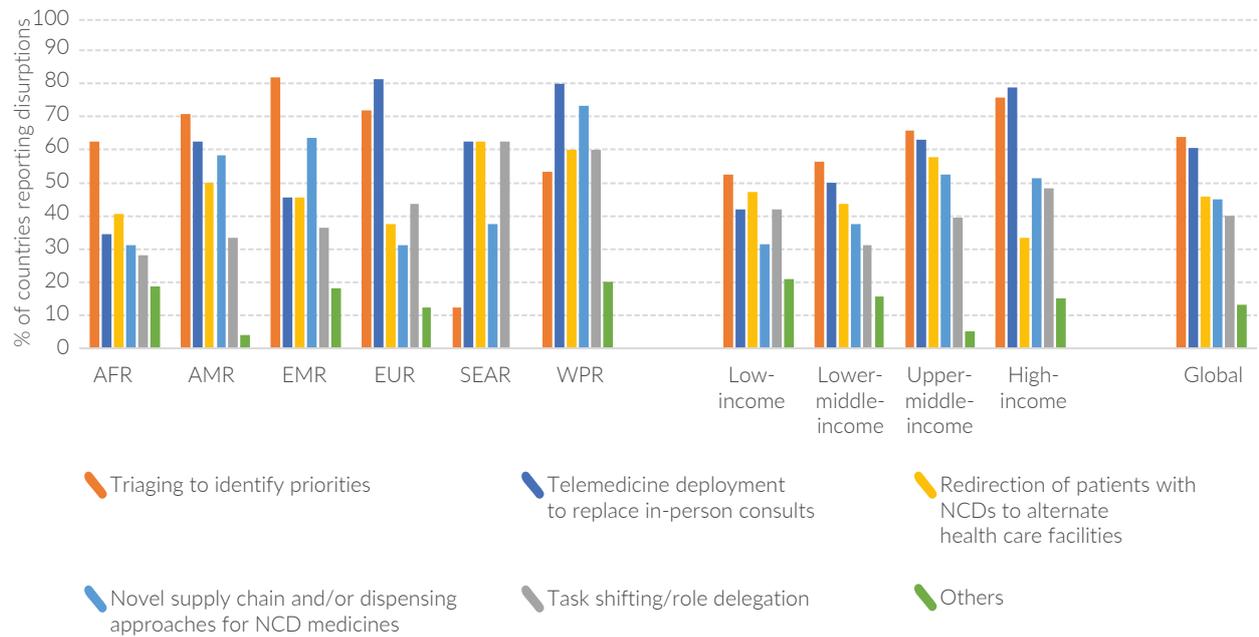
* Out of 122 countries reporting disruptions to NCD-related services

Countries most commonly reported that they used triaging to identify priorities to overcome the disruptions to NCD-related services, with 64% of countries with any disruptions reporting use of this technique to overcome disruptions (Figure 10). Triaging was widely used across all regions with the notable exception of the South-East Asia Region, where just a single country reported utilizing this strategy. Telemedicine was also very widely used to overcome service disruptions, with 61% of countries with any service disruptions reporting use of this technology. There was a trend of increasing utilization

of telemedicine as the income level increased, although even among low-income countries 42% of those with service disruptions reported utilizing this technology. Redirection of patients with NCDs to alternate health care facilities, novel supply chain and/or dispensing approaches for NCD medicines and task shifting/role delegation were each reported as one of the means to overcome service disruptions in 40-46% of countries with service disruptions.

FIGURE 10

Percentage of countries* reporting utilization of methods to overcome disruption to NCD-related services, by WHO region and World Bank income group.



* Out of 122 countries reporting disruptions to NCD-related services

AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.

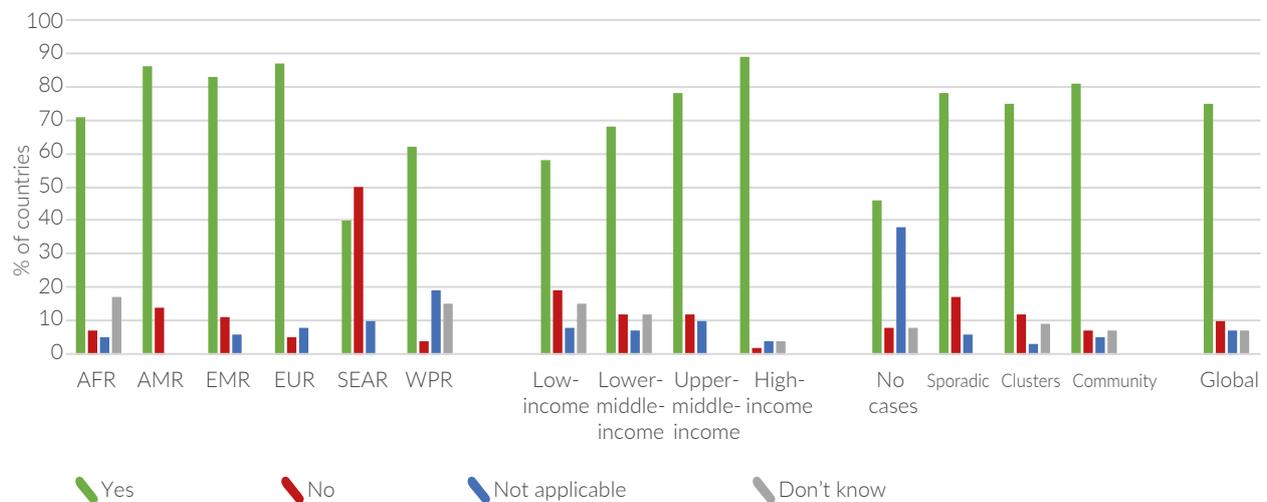
SURVEILLANCE

Three-quarters (75%) of countries reported the ministry of health was collecting or collating data on NCD-related comorbidities in COVID-19 patients (Figure 11). The majority of countries in all regions except the South-East Asia Region

responded affirmatively. Responses were also affirmative across all income groups, although there was a greater likelihood of collecting or collating NCD-related comorbidities with increasing country wealth.

FIGURE 11

Percentage of countries collecting or collating data on NCD-related comorbidities in COVID-19 patients.



AFR: WHO African Region; AMR: WHO Region of the Americas; EMR: WHO Eastern Mediterranean Region; EUR: WHO European Region; SEAR: WHO South-East Asia Region; WPR: WHO Western Pacific Region.



SUGGESTIONS FOR TECHNICAL SUPPORT

Countries were invited to provide suggestions of tools or technical guidance WHO could develop related to NCDs during the COVID-19 outbreak. This question was open-ended, and responses were numerous and varied, but a few patterns emerged from the data. Most commonly requested was guidance on continuing NCD prevention and control programmes during the pandemic, such as how to ensure continuity of essential NCD services without jeopardizing

patient or health care provider safety, as well as guidelines for possible drug interactions between patients' current NCD-related medication and those to treat the virus. About a dozen countries specifically asked for guidance on utilizing telemedicine or mHealth technologies to provide care and support for NCD patients and a similar number requested support on developing communication materials addressing NCDs and their risk factors in the context of the pandemic.

DISCUSSION

This study provided detailed information on the impact of the COVID-19 pandemic on health services for NCDs. Three-quarters (75%) of countries reported a considerable degree of disruption of NCD services with urgent dental care, rehabilitation and palliative care services being most likely to be completely disrupted. This was seen to be consistent across all regions and income groups. The most common reasons for service disruptions were cancellation of elective care, lack of transport due to imposed lockdowns, insufficient staff and closure of hospital services. The information obtained through this study provides very important insight on how countries need to be supported during the response to COVID-19, and how to plan to build back better health systems with integrated NCD services after the pandemic.

With the rapid spread of COVID-19 across the world, the ability of countries to address and respond to NCDs has been impacted. Evidence so far shows a clear link between NCDs and Covid-19, as people with pre-existing NCDs appear to be more vulnerable to becoming severely ill or even dying from the virus (10). The study findings show that in the majority of countries essential services for hypertension management, diabetes or cancer have been disrupted, drawing attention to countries' NCD burden and leaving millions of people unattended. This disruption, coupled with the increased exposure to numerous behavioral risk factors for NCDs such as unhealthy diet, alcohol use, lack of physical activity and stress, driven by the control measures adopted by many countries, has put people with NCDs in a disadvantaged position. In addition, the fear of contagion people with NCDs experience decreases the likelihood of these people seeking medical care, leading to worse health outcomes (11).

The disruption of health services, however, is particularly problematic for those living with NCDs who need regular or long-term care. Our findings show that rehabilitation care is among the most commonly disrupted services. In the African and European regions, rehabilitation care has been disrupted in 71% and 79% of countries, respectively. Studies exploring this

disruption in detail reveal that a halt of admissions to inpatient and outpatient rehabilitation services and early discharge and reduction of activities not only has a huge individual impact on people with NCDs, but also a health system impact, as the level of rehabilitation demand after the crisis is expected to increase substantially (8).

The main reason for disruption of services outlined by countries was the decrease in inpatient volume due to the cancellation of elective care. These cancellations were observed in the majority of countries but were not necessarily due to government policies reducing inpatient services to emergencies. Many of the countries which indicated such cancellations also indicated that access to inpatient services had not been restricted through government policies. A study showed some of the devastating consequences of such cancellations as 28 million elective surgeries worldwide will be cancelled or postponed in 2020 worldwide (12). Globally, 2.3 million cancer surgeries have been cancelled or postponed as well as 6.3 million orthopaedic operations during the peak 12-week period of Covid-19. Another major reason for disruption of services is the closure of population-level screening programmes and lockdowns hindering access to the health facilities for patients. Furthermore, around one in three countries also reported that impacts on staffing, closure of outpatient disease-specific clinics and insufficient PPE were among the main causes of disruption to NCD-related services.

The present survey revealed that the underlying causes for existing disruptions in NCD services vary across income groups, with disruptions to transport, insufficient PPE, insufficient staff, unavailability/stock out of essential medicines and services impacting low- and lower-middle-income countries to a greater degree. Similarly, a report by the International Labor Organization also noted that in many low-income countries large parts of the population do not have access to essential health services during the crisis due to the lack of health workers, particularly in rural and remote areas (13).

Encouragingly, the study findings show that countries have adopted alternative strategies to ensure people at highest risk continue to receive treatment for NCDs. The most widely used strategy, implemented in over two-thirds of countries, has been triaging. Triage was reported more frequently by upper-middle and high-income countries, probably indicating that these countries already had a system of triaging which could be resorted to rapidly when the need arose; whereas in low and lower-middle-income countries triaging was not as commonly practiced in routine health services. There have been different triage applications and approaches in each country based on government decisions but unfortunately no evidence so far provides a basis for comparison of the effectiveness of different models. WHO has published an algorithm for COVID-19 patient triage and referral for resource-limited settings during community transmission (14). The document outlines how countries can adopt an efficient triage system at all health facility levels (primary, secondary and tertiary) and how this will help the national response planning and case management system cope with patient influx as well as protect the safety of health-care workers. The algorithm is intended for use by ministries of health, hospital administrators and health workers involved in response planning for COVID-19 and/or patient triage, management and referral.

The other common mitigation measure adopted by countries was the increased use of telemedicine (advice by telephone or online means). Among the countries reporting service disruptions, 58% are now using telemedicine to replace in-person consultations. As expected, since use of telemedicine is highly dependent on availability of technology and expertise, it has been used more frequently in high-income countries as compared to low-income countries. However, the encouraging finding was that telemedicine was being utilized by over 40% of low-income countries and half of lower-middle-income countries that participated in the survey. There is still no published evidence on the mechanisms and response to telemedicine approaches used in countries to address the disruption of NCD services, but such information would be extremely important to understand how the use of remote health care can be improved and reach anyone in need.

Notably, two-thirds of participating countries reported that ensuring the continuity of NCD services was included in the list of essential health services in their COVID-19 national plans, with low-income countries markedly less likely to report including NCDs in their COVID-19 response plans than middle- and high-income countries. However, not all countries submitted these plans along with their response and an initial review of COVID-19 plans that have been received suggests there is significant over-reporting of NCD inclusion in these plans. Further work is thus needed to explore why so many countries responded positively despite having COVID-19

response plans that do not address NCDs, and to work with countries to ensure NCDs are not omitted from pandemic and emergency response plans in the future. That only 17% of countries reported that there was additional funding allocated for NCDs in the government budget for the COVID-19 response is also alarming. This is despite abundant evidence showing that people with NCDs are more vulnerable to becoming seriously ill with the Covid-19 virus, and that they require access to treatment to manage their illnesses. Therefore, it is very important that health care services for people living with NCDs are included in national response and preparedness plans for COVID-19. Only through inclusion of people with NCDs in their plans can countries “build back better” and strengthen their health services so that they are better equipped to prevent, diagnose and provide care for NCDs in the future.

Countries used the survey as an opportunity to express their need for urgent guidance and support from WHO. More specifically, there is a critical need for concrete and practical guidance on the continuity of essential health and community services for NCDs. Monitoring the access to and continuity of essential health services for NCDs would be required. This opportunity could be utilized to develop systematic approaches to digital health care solutions. Focusing on COVID-19-related activities and continuing to provide essential services is important not only to maintain people's trust in the health system to deliver essential health services but also to minimize an increase in morbidity and mortality from other health conditions.

This study needs to be seen in light of several strengths and limitations. The large number of countries which participated in the survey provided a wide spectrum of responses from countries across regions and income groups. The extent of service disruption and how countries were able to respond to these disruptions was of course linked to the stage of the pandemic, which was evolving in many countries. These results thus reflect the situation as of May 2020. As a key informant survey, the survey responses reflect the views of the NCD focal point in the ministry of health (or equivalent office) and could not be validated in detail. While the survey respondents can report with authority on the current situation, it is inevitable that in such a rapidly evolving situation responses are nevertheless limited by the information available at a given point in time. A broader but similarly structured survey on service disruptions due to COVID-19 was implemented by WHO in the weeks following the present survey, which contained a few overlapping items. A comparison of the results of both surveys showed a good degree of consistency but with the inevitable reductions or improvements in service availability depending on the evolution of the pandemic within the responding country. It is also worth noting that many

countries were unable to answer certain questions, such as the reallocation of government funds for NCDs to COVID-19. Additionally, in many large countries where the extent of health service disruption may not be the same everywhere and subnational governments have greater autonomy to

respond independently from the national government, a single response is not sufficiently nuanced. The survey thus provided an overall picture of the probable situation in each country from a national perspective.

CONCLUSION

This study has highlighted the effect of the COVID-19 pandemic on NCD services globally. It revealed that three-quarters of countries reported a considerable degree of disruption to NCD services – a finding that has been consistent across all regions and income groups. The disruption of services has been particularly problematic for those living with NCDs who need regular or long-term care. Encouraging findings of the survey were that alternative strategies like triaging and telemedicine have been adopted by many of the countries to address the disruptions, and continuity of NCD services has been ensured by some of the countries in

their list of essential health services. However, to build back better health systems during and after the crisis, governments need to commit and ensure that people living with NCDs do not experience disruptions to essential health services. Countries need to tackle the impacts of NCDs in their national COVID-19 response and preparedness plans to develop strengthened health systems with integrated NCD care for future health emergencies. NCD prevention and management is the insurance policy to improve population health and mitigate the impact of any future crisis.

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ANNEXES

RAPID ASSESSMENT OF SERVICE DELIVERY
FOR NONCOMMUNICABLE DISEASES
DURING THE COVID 19 PANDEMIC

ANNEX 1: WHO MEMBER STATES AND SURVEY RESPONDENTS

* signifies a non-responding country

WHO AFRICAN REGION

Algeria*	Eswatini	Namibia*
Angola	Ethiopia	Niger
Benin	Gabon	Nigeria
Botswana	Gambia	Rwanda
Burkina Faso	Ghana	Sao Tome and Principe
Burundi	Guinea	Senegal
Cabo Verde	Guinea-Bissau	Seychelles
Cameroon	Kenya	Sierra Leone
Central African Republic*	Lesotho	South Africa
Chad*	Liberia	South Sudan
Comoros	Madagascar	Togo
Congo	Malawi	Uganda*
Côte d'Ivoire	Mali	United Republic of Tanzania
Democratic Republic of the Congo	Mauritania	Zambia
Equatorial Guinea*	Mauritius	Zimbabwe
Eritrea	Mozambique	

WHO REGION OF THE AMERICAS

Antigua and Barbuda	Dominica	Panama
Argentina	Dominican Republic	Paraguay
Bahamas*	Ecuador	Peru
Barbados	El Salvador*	Saint Kitts and Nevis
Belize*	Grenada	Saint Lucia
Bolivia (Plurinational State of)	Guatemala	Saint Vincent and the Grenadines
Brazil	Guyana	Suriname
Canada	Haiti	Trinidad and Tobago
Chile	Honduras	United States of America
Colombia*	Jamaica	Uruguay
Costa Rica	Mexico*	Venezuela (Bolivarian Republic of)
Cuba	Nicaragua*	

WHO EASTERN MEDITERRANEAN REGION

Afghanistan	Kuwait	Saudi Arabia
Bahrain	Lebanon	Somalia*
Djibouti	Libya	Sudan
Egypt*	Morocco	Syrian Arab Republic
Iran (Islamic Republic of)	Oman	Tunisia
Iraq	Pakistan*	United Arab Emirates
Jordan	Qatar	Yemen

WHO EUROPEAN REGION

Albania
Andorra
Armenia
Austria*
Azerbaijan
Belarus
Belgium*
Bosnia and Herzegovina
Bulgaria*
Croatia
Cyprus
Czechia
Denmark
Estonia
Finland
France
Georgia
Germany

Greece
Hungary*
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia*
Lithuania
Luxembourg*
Malta
Monaco*
Montenegro*
Netherlands
North Macedonia
Norway
Poland

Portugal*
Republic of Moldova
Romania
Russian Federation
San Marino*
Serbia*
Slovakia
Slovenia
Spain*
Sweden
Switzerland
Tajikistan*
Turkey
Turkmenistan
Ukraine
United Kingdom*
Uzbekistan

WHO SOUTH-EAST ASIA REGION

Bangladesh
Bhutan
Democratic People's Republic of Korea
India*

Indonesia
Maldives
Myanmar
Nepal

Sri Lanka
Thailand
Timor-Leste

WHO WESTERN PACIFIC REGION

Australia
Brunei Darussalam
Cambodia
China
Cook Islands
Fiji
Japan
Kiribati
Lao People's Democratic Republic

Malaysia
Marshall Islands*
Micronesia (Federated States of)
Mongolia
Nauru
New Zealand
Niue
Palau
Papua New Guinea

Philippines
Republic of Korea
Samoa
Singapore
Solomon Islands
Tonga
Tuvalu
Vanuatu
Viet Nam

ANNEX 2: LIST OF COUNTRIES BY WORLD BANK INCOME GROUP

Categories for this report were based on the income categories published in July 2019

HIGH INCOME

Andorra	Greece	Poland
Antigua and Barbuda	Hungary	Portugal
Australia	Iceland	Qatar
Austria	Ireland	Republic of Korea
Bahamas	Israel	Saint Kitts and Nevis
Bahrain	Italy	San Marino
Barbados	Japan	Saudi Arabia
Belgium	Kuwait	Seychelles
Brunei Darussalam	Latvia	Singapore
Canada	Lithuania	Slovakia
Chile	Luxembourg	Slovenia
Croatia	Malta	Spain
Cyprus	Monaco	Sweden
Czechia	Netherlands	Switzerland
Denmark	New Zealand	Trinidad and Tobago
Estonia	Norway	United Arab Emirates
Finland	Oman	United Kingdom
France	Palau	United States of America
Germany	Panama	Uruguay

UPPER-MIDDLE INCOME

Albania	Fiji	Nauru
Algeria	Gabon	Niue
Argentina	Georgia	North Macedonia
Armenia	Grenada	Paraguay
Azerbaijan	Guatemala	Peru
Belarus	Guyana	Romania
Belize	Iran (Islamic Republic of)	Russian Federation
Bosnia and Herzegovina	Iraq	Saint Lucia
Botswana	Jamaica	Saint Vincent and the Grenadines
Brazil	Jordan	Samoa
Bulgaria	Kazakhstan	Serbia
China	Lebanon	South Africa
Colombia	Libya	Sri Lanka
Cook Islands	Malaysia	Suriname
Costa Rica	Maldives	Thailand
Cuba	Marshall Islands	Tonga
Dominica	Mauritius	Turkey
Dominican Republic	Mexico	Turkmenistan
Ecuador	Montenegro	Tuvalu
Equatorial Guinea	Namibia	Venezuela (Bolivarian Republic of)

LOWER-MIDDLE INCOME

Angola
Bangladesh
Bhutan
Bolivia (Plurinational State of)
Cabo Verde
Cambodia
Cameroon
Comoros
Congo
Côte d'Ivoire
Djibouti
Egypt
El Salvador
Eswatini
Ghana
Honduras

India
Indonesia
Kenya
Kiribati
Kyrgyzstan
Lao People's Democratic Republic
Lesotho
Mauritania
Micronesia (Federated States of)
Mongolia
Morocco
Myanmar
Nicaragua
Nigeria
Pakistan
Papua New Guinea

Philippines
Republic of Moldova
Sao Tome and Principe
Senegal
Solomon Islands
Sudan
Timor-Leste
Tunisia
Ukraine
Uzbekistan
Vanuatu
Viet Nam
Zambia
Zimbabwe

LOW INCOME

Afghanistan
Benin
Burkina Faso
Burundi
Central African Republic
Chad
Democratic People's Republic of Korea
Democratic Republic of the Congo
Eritrea
Ethiopia
Gambia

Guinea
Guinea-Bissau
Haiti
Liberia
Madagascar
Malawi
Mali
Mozambique
Nepal
Niger
Rwanda

Sierra Leone
Somalia
South Sudan
Syrian Arab Republic
Tajikistan
Togo
Uganda
United Republic of Tanzania
Yemen



ANNEX 3: QUESTIONNAIRE

INTRODUCTORY STATEMENT

Dear colleague,

In recent months, you or other colleagues in your team may have kindly participated in the NCD (Noncommunicable Disease) Country Capacity Survey. In the context of COVID-19 Pandemic response, we are reaching out to you to ask a small set of additional questions as a follow up to this survey to quickly assess how NCD essential services are being impacted in your country by the current pandemic, to help plan WHO support and technical tools which might be of value. We greatly appreciate your time and effort to respond to these questions.

Survey responses will be treated confidentially, and only aggregated results will be used for reporting. We may reach

out to you to seek any clarifications if needed. Should we decide later to use examples or case studies that identify specific countries, we will contact you to request advance permission.

Since these questions are intended to support a rapid situation assessment on these issues, we would be grateful to receive your responses by 15 May 2020. Please click on the link below to access the survey. Note that you may access the questionnaire as many times as needed, saving your responses as you go.

Thank you in advance.

INFORMATION ON THOSE WHO COMPLETED THE QUESTIONS

Who is the focal point who provided the responses?

Name:

Position:

Organization:

Country:

Email Address:



INFRASTRUCTURE

1. Are the Ministry of Health (or equivalent institutes) staff with responsibility for NCDs and their risk factors being reassigned/deployed to help with overall COVID-19 response?

- Yes - All staff supporting COVID-19 efforts full time
- Yes - All staff partially supporting COVID-19 efforts along with routine NCD activities
- Yes - Some staff supporting COVID-19 efforts full time
- Yes - Some staff partially supporting COVID-19 efforts along with routine NCD activities
- No
- Don't know

2. How much of the government (or Ministry of Health) funds initially allocated for NCDs have been reassigned to non-NCD services due to COVID-19 response efforts?

- None or not yet
- 1-25%
- 26 -50%
- 51-75%
- 76 -100%
- Don't know

POLICIES AND PLANS

3. Is ensuring continuity of NCD services included in the list of essential health services in your country's COVID-19 response plan?

IF RESPONSE IS "No/Not Yet" or "Don't Know", SKIP TO QUESTION 5.

- Yes
 - No / Not Yet
 - Don't know
- (Kindly upload your country's COVID-19 response plan if available)

4. Which NCD services are included in the list of essential health services of your country's COVID-19 response plan?

- a. Cardiovascular diseases services Yes No
- b. Cancer services Yes No
- c. Diabetes services Yes No
- d. Chronic respiratory disease services Yes No
- e. Chronic kidney disease and dialysis services Yes No
- f. Dental services Yes No
- g. Rehabilitation services Yes No
- h. Tobacco cessation services Yes No
- i. Others (please specify other NCD services included in the list of essential services).....

5. Is there additional funding allocated for NCDs in the government budget for the COVID-19 response?

- Yes
- No
- Don't know

6. Which of the following Ministry of Health NCD activities planned for this year have been postponed because of COVID-19? (check all that apply)

- None
- Implementation of NCD Surveys
- Public screening programs for NCDs
- WHO Package for Essential NCDs (PEN) training and implementation in Primary Health Care
- WHO HEARTS technical package
- Mass communication campaigns
- Others (please specify what other NCD activity/activities have been postponed due to COVID-19)



NCD-RELATED HEALTH SERVICES

7. During the COVID-19 pandemic, what are the government policies for access to essential NCD services at primary, secondary and tertiary care levels? (please answer for both outpatient and inpatient services)

- a. Outpatient NCD services are open
 Outpatient NCD services are open with limited access and/or staff or in alternate locations or with different modes
 Outpatient NCD services are closed
 Don't know
- b. Inpatient NCD management services are open
 Inpatient NCD management services are open for emergencies only
 Inpatient NCD management services are closed
 Don't know

8. Which of the following NCD-related services have been disrupted due to COVID-19?

IF RESPONSE TO ALL SUBQUESTIONS IS "Not disrupted" OR "Don't know", SKIP TO QUESTION 12

- a. Hypertension Management
 Completely disrupted Partially disrupted
 Not disrupted Don't know
- b. Cardiovascular emergencies (including MI, Stroke and cardiac Arrhythmias)
 Completely disrupted Partially disrupted
 Not disrupted Don't know
- c. Cancer Treatment
 Completely disrupted Partially disrupted
 Not disrupted Don't know
- d. Diabetes and Diabetic Complications Management
 Completely disrupted Partially disrupted
 Not disrupted Don't know
- e. Asthma services
 Completely disrupted Partially disrupted
 Not disrupted Don't know
- f. Urgent dental care
 Completely disrupted Partially disrupted
 Not disrupted Don't know
- g. Rehabilitation services
 Completely disrupted Partially disrupted
 Not disrupted Don't know
- h. Palliative care services
 Completely disrupted Partially disrupted
 Not disrupted Don't know

9. What are the main causes of this disruption(s)? (check all that apply)

- Closure of outpatient NCD services as per government directive
 Closure of outpatient disease specific consultation clinics
 Closure of population level screening programs
 Decrease in outpatient volume due to patients not presenting
 Decrease in inpatient volume due to cancellation of elective care
 Inpatient services/hospital beds not available
 Insufficient staff to provide services
 NCD related clinical staff deployed to provide COVID-19 relief
 Insufficient Personal Protective Equipment (PPE) available for health care providers to provide services
 Unavailability/Stock out of essential medicines, medical diagnostics or other health products at health facilities
 Government or public transport lockdowns hindering access to the health facilities for patients
 Others (please specify what are the other causes of this disruption):

10. What approaches are being used to overcome the service disruptions to NCD management and prevention in public sector health facilities? (check all that apply)

- Telemedicine deployment to replace in-person consults
 Task shifting/role delegation
 Novel supply chain and/or dispensing approaches for NCD medicines (e.g. anti-hypertensives, insulin, painkillers, antibiotics) through other channels
 Triaging to identify priorities
 Redirection of patients with NCDs to alternate health care facilities
 Others (please describe what other approaches are being used):.....

11. What are your country's plans to re-initiate any suspended NCD services?

.....

SURVEILLANCE

12. Is the Ministry of Health collecting or collating data on NCD-related comorbidities in COVID-19 patients?

- Yes No Don't know
 Not applicable

OTHER SUGGESTIONS

13. Are there any technical guidance or tools that you would suggest WHO to develop related to NCDs during COVID-19 outbreak?

Please use the text box to give your suggestions

Please add any comments on the questions above

Thank you for taking time to give your input for this survey. If you have any queries or questions regarding this survey, please reach out to us at ncdmonitoring@who.int

TERMS

- 1. Reassigned/deployed:** Temporarily assigned to another unit or team
- 2. Level of disruption of services**
 - Completely disrupted (more than 50% of in-patients not treated as usual)
 - Partially disrupted (5% to 50% of in-patients not treated as usual)
 - Not disrupted (less than 5% of in-patients not treated as usual)



**World Health
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