SEVENTY-THIRD WORLD HEALTH ASSEMBLY A73/32
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Progress reports[1]

Report by the Director-General

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[1] Section H is contained in document A73/32 Add.1.

A. GLOBAL ACTION PLAN ON THE PUBLIC HEALTH RESPONSE TO DEMENTIA 2017–2025 (decision WHA70(17) (2017))

1. In decision WHA70(17) (2017), the Seventieth World Health Assembly endorsed the global action plan on the public health response to dementia 2017–2025. This report provides an update on the implementation of the global action plan.

2. In December 2017, WHO launched the Global Dementia Observatory as the monitoring mechanism for decision WHA70(17). The Observatory collects information from Member States in the strategic domains of policy, service delivery and information and research. As at January 2020, it included data from 52 countries, representing 61% of the world's population, of which 60% were high-income and 40% low- and middle-income countries.

3. In 2018, WHO published a guide for the development and implementation of dementia plans. Currently, 40 Member States have national plans for dementia; the majority are high-income countries (73%). A further 26 Member States are developing such plans. However, substantial further action is required in low- and middle-income countries where the burden is greatest. In addition, sustained efforts to prioritize dementia are needed in countries where existing plans expire before 2025.

4. In order to support countries in implementing the global dementia action plan, WHO organized seven regional and multiregional workshops to facilitate mutual learning across WHO regions and countries, bringing together stakeholders from 71 countries including governments, civil society, academic institutions and people with dementia.

5. Dementia awareness raising helps to reduce stigmatization. WHO has developed a tool kit to foster a dementia-inclusive society that will be launched in the first half of 2020. At least one national dementia awareness and/or risk reduction campaign was organized in 39 of the countries currently covered by the Observatory. In September 2019, Alzheimer's Disease International and the Pan American Health Organization launched an international dementia awareness campaign; Alzheimer's Disease International reports that awareness-raising events were held in 94 countries during World Alzheimer's Month 2019.[1] In addition, 27 countries in the Americas implemented an awareness campaign.

6. WHO guidelines on risk reduction of cognitive decline and dementia provide guidance on interventions for reducing the risk of dementia. Further work is required in countries to integrate dementia into broader noncommunicable diseases programmes, particularly in low- and middle-income countries.

7. A dementia diagnosis is an essential step to receiving appropriate care. However, diagnostic rates remain low. The WHO Mental Health Gap Action Programme and WHO Guidelines on Integrated Care for Older People support countries in strengthening effective dementia care pathways and diagnostic services.

8. Carers constitute the cornerstone of dementia care globally. According to Observatory data, 38 countries provide services for dementia carers, measured as including at least one of caregiver training, psychosocial support, respite services, legal advice and financial benefits. However, such services are unequally distributed. One in four of these countries offer services only in capital or main

[1] See https://www.alz.co.uk/sites/default/files/pdfs/WAM%20Campaign%20Report%202019.pdf (accessed 17 February 2020).

cities; they are provided in over 90% of high-income countries but in only 44% of low- and middle-income countries. WHO recently launched iSupport for dementia, a skills training and support manual for carers of people with dementia.

9. The number of people with dementia is routinely monitored by 16 of the countries currently covered by the Observatory. Member States are building capacity to aggregate national-level dementia data for policy, planning or management purposes. The Observatory helps to support countries in measuring progress on actions outlined in the global dementia action plan.

10. In 2017, less than 1% of PubMed research output focused on dementia. This figure is significantly lower than for other noncommunicable diseases such as cancer (10.7%), cardiovascular disease (7.0%), or diabetes (1.7%). In view of the dearth of research in this important area, WHO is developing a blueprint for research and innovation to help coordinate and stimulate investment in research efforts globally.

B. TOWARDS UNIVERSAL EYE HEALTH: A GLOBAL ACTION PLAN 2014–2019 (resolution WHA66.4 (2013))

11. In resolution WHA66.4 (2013), the Health Assembly endorsed the global action plan 2014–2019 on universal eye health. It requested the Director-General to: provide technical support to Member States for the implementation of the action plan; to further develop the global action plan, in particular with regard to the inclusion of universal and equitable access to services; and to continue to give priority to the prevention of avoidable visual impairment. The mandate for action was further strengthened when the Regional Office for the Americas and the Regional Office for the Western Pacific adopted regional action plans.[1]

12. In line with the resolution, the Secretariat has undertaken the activities described below in order to provide Member States with guidance and technical support for implementation of the action plan.

13. **Development of guidance and tools.** The Secretariat, through consultation with international experts, developed needs assessment tools to assist in data collection on eye care service provision and access at the national and district levels. In 2018–2019, it supported Member States in using the tools, enabling national eye care assessments to be completed by an additional 17 Member States.

14. **Building capacity and scaling up country action.** The Secretariat, in collaboration with partners, strengthened coordination and activities at country level by convening 13 regional workshops to engage Member States in operationalizing the action plan, through the assessment of eye care services, identification of needs and development of national plans and strategies. Globally, 56 Member States reported the development of national eye health plans and strategies supported by the action plan, while many others integrated the action plan into their broader national health plans. More than 50 Member States reported that the establishment of a national eye health committee or a similar coordinating mechanism was critical to the implementation of the action plan. In 2018–2019, a further 55 Member States strengthened implementation of services for eye and hearing care in cooperation with the Secretariat. During the same period, the Secretariat assisted in the expansion of child blindness

[1] Respectively, the Plan of Action for the Prevention of Blindness and Visual Impairment 2014–2019 (resolution CD53.R8) and Towards Universal Eye Health: A Regional Action Plan for the Western Pacific Region (2014–2019) (resolution WPR/RC64.R4).

prevention programmes in three Member States; plans to implement similar programmes in a further three Member States have been agreed for 2020.

15. **Awareness creation and advocacy.** The Secretariat oversaw the global launch of the first *World report on vision* on 9 October 2019, with the aim of galvanizing action to address key challenges facing the eye care sector over the coming decade. Two national launches of the report were organized in 2019 and a further 30 are planned in 2020. World Sight Day continued to be the leading annual event for improving awareness of the prevention and treatment of loss of vision and identifying opportunities for health care providers to ensure a universal health coverage approach to strengthening preventive and curative eye care services, including rehabilitation. More than 70 Member States now observe and promote World Sight Day with the support of the Secretariat and partners through the provision of critical evidence, strategic communications and infographics.

16. **Building the evidence base and monitoring progress.** The Secretariat has dedicated major efforts to following the monitoring requirements set out in the action plan. Significant progress has been made in engaging Member States in using standardized approaches to periodic data collection. The focus has been on human resources for eye care, and 74 Member States now report data on eye care personnel. The annual number of cataract surgeries has been identified as a proxy indicator for monitoring eye care service provision. This information has been collected from 86 Member States. The intention is to obtain annual updates from all Member States. There has also been progress in understanding the prevalence and causes of visual impairment, through more than 60 population-based surveys conducted by 35 Member States since 2010.

17. The Secretariat will continue to support Member States in their efforts to improve the provision of and access to comprehensive eye care services, and in strengthening efforts to achieve universal coverage of such services.

C. ERADICATION OF DRACUNCULIASIS (resolution WHA64.16 (2011))

18. In 2019, three countries reported a total of 53 human indigenous cases of dracunculiasis (guinea-worm disease), namely, Angola (one case), Chad (48 cases) and South Sudan (four cases), from a total of 28 villages. Cameroon reported one human case, probably imported from Chad. When eradication efforts were launched in the 1980s, the disease was endemic in 20 countries. Ethiopia has reported zero human cases since 2018, as has Mali since 2016. The eradication of dracunculiasis will contribute to the attainment of universal health coverage.

19. The global dracunculiasis eradication campaign is based on both community and country-focused interventions. WHO and its global partners (the United Nations Children's Fund, The Carter Center, and the WHO Collaborating Center for Dracunculiasis Eradication at the United States Centers for Disease Control and Prevention) have sustained the drive, together with donors, to ensure that support is provided to affected countries for dracunculiasis eradication efforts.

20. To date, following recommendations of the International Commission for the Certification of Dracunculiasis Eradication, WHO has certified a total of 199 countries, territories and areas, including 187 WHO Member States, as free of dracunculiasis transmission. Seven Member States remain to be certified: the disease remains endemic in Chad, Ethiopia, Mali and South Sudan, while Angola reported its second confirmed indigenous human case in 2019 (the first case was reported in 2018). Sudan is in the precertification stage, as is the Democratic Republic of the Congo, which has not reported the disease since the 1980s.

21. During 2019, Chad, Ethiopia, Mali and South Sudan maintained active community-based surveillance in 7735 villages, compared with 5075 villages in 2018. At the request of the Chadian Ministry of Health, an independent external evaluation of the programme will be conducted in Chad during the first half of 2020. Sudan maintained precertification surveillance, while Angola and the Democratic Republic of the Congo carried out additional active case searches along with strengthening their national surveillance.

22. In recent years, case searches in the Democratic Republic of the Congo have not found any human cases or infected animals.

23. Angola reported its second human case in January 2019, following strengthening of surveillance and awareness creation by the Ministry of Health with WHO support. Follow-up investigation suggests that both the cases concerned are the result of a small, indigenous transmission focus at the border with Namibia, though investigations carried out in Namibia at the border areas did not reveal evidence of transmission of the parasite. WHO continued its assistance to the Namibian Ministry of Health and provided support to strengthen cross-border surveillance.

24. All countries that remain uncertified continued to offer cash rewards for voluntary case reporting of dracunculiasis in 2019. Most of the certified, previously endemic countries continued to submit quarterly reports to WHO in 2019.

25. Cameroon is working to set up active surveillance in at-risk border areas, and to increase awareness of the reward nationwide with WHO support. Despite the challenging security issue, WHO is supporting the Central African Republic to improve surveillance in high-risk areas bordering Chad.

26. *Dracunculus medinensis* infection in dogs continues to pose a challenge to the global eradication campaign. In 2019, Chad reported 1935 infected dogs and 46 infected cats; Ethiopia reported two infected dogs, and six infected baboons; Mali reported infections in nine dogs and Angola in one dog. Transmission through animals can be interrupted through enhanced surveillance, case containment, health education for community members and animal owners, and vector control interventions. Countries in which the disease is currently transmitted took aggressive steps to expand vector control interventions during 2019.

27. Conflict and insecurity continued to delay eradication programme efforts and accessibility in certain areas of Mali. Population displacement in South Sudan continued to hamper programme implementation and restrict access to some areas where the infection is endemic.

28. The thirteenth meeting of the International Commission for the Certification of Dracunculiasis Eradication was held in April 2019 in Addis Ababa, during which a subcommittee was created to address the issue of certification of countries that reported guinea-worm infection in animals. The fourteenth meeting of the International Commission for the Certification of Dracunculiasis Eradication will be held in April 2020 in Geneva.

29. At the 23rd International Review Meeting of Guinea-Worm Eradication Program Managers in March 2019 in Atlanta (United States of America), countries reported on the status of their programmes during the preceding year. The 24th International Review Meeting will be held in March 2020, also in Atlanta. The fourth Biennial Review Meeting for Guinea-Worm Eradication Programmes in Certified Countries is due to be held in July 2020 in Cameroon, to review post-certification surveillance activities.

30. An informal meeting with health ministers of countries affected by dracunculiasis was held on the margins of the Seventy-second World Health Assembly in May 2019 at the request of the Government of Ethiopia. The ministers or their representatives expressed unwavering commitment to eradication of the disease.

31. The Director-General addressed a high-level joint advocacy and fundraising event organized by The Carter Center and WHO on 26 September 2019 alongside the United Nations General Assembly in New York.

D. IMPROVING THE PREVENTION, DIAGNOSIS AND CLINICAL MANAGEMENT OF SEPSIS (RESOLUTION WHA70.7 (2017))

32. In 2017, the Health Assembly adopted resolution WHA70.7 on improving the prevention, diagnosis and clinical management of sepsis. This first report describes the progress made in response.

WHO guidance on sepsis prevention and management

33. In 2018 WHO convened a Sepsis Technical Expert Meeting to support implementation of the resolution by identifying gaps, key players and short- and long-term priorities for future action.

34. In 2019, WHO updated the guidelines on the integrated management of childhood illness to include possible serious bacterial infections leading to sepsis. WHO also started the process of developing global guidelines on the clinical management of adult sepsis, to be issued in 2021.

35. Since 2017, a range of WHO trainings and clinical process tools to promote the early recognition and timely management of sepsis have been developed, including the course on *Basic emergency care: approach to the acutely ill and injured*, developed by WHO and the International Committee of the Red Cross in collaboration with the International Federation for Emergency Medicine.

36. In 2019, WHO and partners conducted research demonstrating that standard care protocols coupled with one of two monoclonal antibody treatments can reduce mortality in Ebola virus disease.

37. Between 2017 and 2019, WHO developed and tested a wide range of implementation and training resources to apply recommendations on the prevention of infections leading to sepsis in health care facilities, including surgical sepsis and infections due to antibiotic-resistant pathogens.

Estimating the global burden of sepsis

38. In May 2020, WHO will publish the first global report on sepsis epidemiology and burden. This will be based on inputs gathered from a wide range of international experts throughout 2019, on primary research conducted by WHO, and on several systematic reviews on sepsis epidemiology and burden in different patient populations.

39. WHO has led the development of a consensus definition of maternal sepsis,[1] and has conducted two large multicountry, facility-based observational studies on maternal infections[2] and abortion-related complications.[3]

40. WHO published the International Classification of Diseases, 11th Revision, allowing reporting of sepsis, in conjunction with the underlying infection.

41. In 2019, WHO published the *Landscape of diagnostics against antibacterial resistance, gaps and priorities*, and the Model List of Essential In Vitro Diagnostics, including in vitro diagnostics that play a role in the diagnosis of sepsis.

Support to Member States

42. The WHO Global Antimicrobial Resistance Surveillance System supported countries in building clinical microbiology and epidemiology capacities and generated surveillance data on antimicrobial resistance and sepsis (87 countries participating as of January 2020).

43. Improving water, sanitation and hygiene is a critical element of infection prevention. The Seventy-second World Health Assembly (2019) adopted resolution WHA72.7 on water, sanitation and hygiene in health care facilities. WHO has developed a wide range of resources to support implementation of the resolution (including *Water, sanitation and hygiene in health care facilities: practical steps to achieve universal access to quality care*), and WHO, the United Nations Children's Fund and partners are supporting implementation of these in 21 countries.

44. WHO has facilitated implementation research and scale-up of new guidelines on serious bacterial infections in 19 African and Asian countries.

45. A campaign on health care workers' awareness and appropriate management of maternal sepsis was implemented in 53 countries in 2018.[4]

46. In collaboration with many stakeholders in the field of critical care and infection prevention, in 2018, WHO led a global campaign entitled "It's in your hands – prevent sepsis in health care". As of 2 May 2019, a total of 22 144 hospitals and health care facilities in 182 countries and areas had registered their commitment to the global campaign.

[1] Bonet M, Nogueira Pileggi V, Rijken MJ, Coomarasamy A, Lissauer D, Souza JP et al; Global Maternal and Neonatal Sepsis Initiative Working Group. Towards a consensus definition of maternal sepsis: results of a systematic review and expert consultation. Reproductive Health. 2017;14(1):67.

[2] Bonet M, Souza JP, Abalos E, Fawole B, Knight M, Kouanda S et al. The global maternal sepsis study and awareness campaign (GLOSS): study protocol. Reproductive Health. 2018;15(1):16.

[3] Kim CR, Tunçalp Ö, Ganatra B, Gülmezoglu AM; WHO MCS-A Research Group. WHO multi-country survey on abortion-related morbidity and mortality in health facilities: study protocol. BMJ Global Health. 2016;1(3):e000113.

[4] Brizuela V, Bonet M, Souza JP, Tunçalp Ö, Viswanath K, Langer A. Factors influencing awareness of healthcare providers on maternal sepsis: a mixed-methods approach. BMC Public Health. 2019;19:683.

47. The Integrated Interagency Triage Tool[1] and other process guidance for early identification and management of sepsis have been successfully piloted in several countries across five WHO regions over the last two years.

Collaboration with other organizations

48. WHO and the Surviving Sepsis Campaign are collaborating on updating clinical guidelines for sepsis.

49. WHO is collaborating with Neonatal AntiMicrobial Resistance to develop new, globally applicable, empirical antibiotic regimens and strategies for the treatment of neonatal sepsis.

50. In 2019, WHO and the United Nations Children's Fund launched the global report *Survive and thrive: transforming care for every small and sick newborn*, which includes neonatal sepsis and ways forward to address the quality of neonatal services.

51. WHO is collaborating with the London School of Hygiene and Tropical Medicine and international and national experts to develop a value proposition for the group B *Streptococcus* vaccine to be issued in 2021.

E. SMALLPOX ERADICATION: DESTRUCTION OF VARIOLA VIRUS STOCKS (resolution WHA60.1 (2007))

52. In May 2007, the Sixtieth World Health Assembly adopted resolution WHA60.1 on smallpox eradication: destruction of variola virus stocks.

53. In May 2019, the Seventy-second World Health Assembly discussed the report of the Director-General on this topic.[2] Member States noted the report – and thus the majority view of the WHO Advisory Committee on Variola Virus Research that research with live variola virus for the development of antiviral agents should continue in view of advances in synthetic biology and medical countermeasures; they re-emphasized that outcomes and benefits of countermeasures should be accessible to all; they underscored the importance of maintaining biosafety and biosecurity in the two live variola virus repositories; and they reiterated that variola virus stocks should be destroyed once the research programme was completed. It was agreed that the decision on the date of destruction of live variola virus stocks would be deferred to afford time to reflect on the best options for global public health. Furthermore, given the re-emergence of monkeypox in a number of countries, the Secretariat would continue to facilitate development of interventions, enhance preparedness and support access to medical countermeasures for smallpox and other orthopoxvirus outbreaks.

54. This progress report summarizes the proceedings and conclusions of the twenty-first meeting of the WHO Advisory Committee on Variola Virus Research (Geneva, 30 October–1 November 2019)[3] and provides an update on the status of the biennial biosafety inspections of the two authorized

[1] See the operational considerations for case management of COVID-19 in health facility and community (https://apps.who.int/iris/bitstream/handle/10665/331492/WHO-2019-nCoV-HCF_operations-2020.1-eng.pdf, accessed 23 March 2020).

[2] Document A72/28; see also document WHA72/2019/REC/3, summary records of Committee B, section 2.

[3] The meeting report will be posted on the WHO website on the following page: https://www.who.int/csr/disease/smallpox/resources/en/.

repositories of variola virus stocks (the WHO Collaborating Centre for Orthopoxvirus Diagnosis and Repository for Variola Virus Strains and DNA, State Research Centre for Virology and Biotechnology (VECTOR), Koltsovo, Novosibirsk Region, Russian Federation, and the WHO Collaborating Centre for Smallpox and Other Poxvirus Infections, Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, United States of America).

55. At its twenty-first meeting, the Advisory Committee on Variola Virus Research received reports from the Secretariat on its work during the year, including updates on the status of the Smallpox Vaccine Emergency Stockpile, and reports from the two collaborating centres on the variola virus collections held in the repositories. It considered progress made through the authorized smallpox research programme and reviewed 10 proposals for continuing research.

56. With regard to research on antiviral agents for smallpox, the Advisory Committee noted that submissions for licensing the antiviral agent tecovirimat, approved in the United States of America for treatment of smallpox in July 2018, were being prepared for Canada and the European Union. It further noted continuing progress in the development of other antiviral agents, including NIOCH-14, brincidofovir and monoclonal antibodies, which are in advanced stages of preclinical and clinical trials. Proposed work to continue developing animal models for smallpox in order to assess antiviral agents remains under discussion; the value of animal models for smallpox, which is exclusively a human disease, is controversial.

57. Development of vaccinia-based vaccines against smallpox continues, with the primary objective of enhancing vaccine safety. Modified vaccinia Ankara (MVA) vaccine was approved in the United States of America in September 2019. With partners, Japan continues to study a third-generation vaccinia vaccine and progress is being made towards licensing a fourth-generation vaccine in the Russian Federation. Research to develop these vaccine candidates continues. In view of these developments, the Secretariat reported on plans to review the operational framework for the deployment of the WHO Smallpox Vaccine Emergency Stockpile in response to a smallpox event.

58. The Advisory Committee recommended that previously reported work in development of diagnostics regarding polymerase chain reaction technology, rapid DNA-based diagnostic assays for orthopoxviruses including variola virus, and protein-based diagnostic assays should continue in order to accomplish the transition of the technology into new platforms.

59. With regard to the emerging issue of paleogenomic research in human remains, where variola virus DNA may be an incidental finding or the proposed subject of investigation, the Advisory Committee recognized the need for guidance on risk assessment for ancient DNA research in the broader context of responsible life sciences research for global health security and that the WHO Recommendations concerning the distribution, handling and synthesis of variola virus DNA[1] may need to be further revised. WHO will review potential risks and benefits associated with this emerging area of research and the implications for the Recommendations.

60. The Advisory Committee discussed the progress of studies to apply smallpox medical countermeasures to monkeypox prevention and control in affected countries. The MVA vaccine approved for smallpox was also approved in the United States of America for monkeypox prevention, making it the first monkeypox vaccine available. The Advisory Committee also discussed vaccine field studies under way in affected countries and approaches for expanding indications for tecovirimat to

[1] Available at https://www.who.int/csr/disease/smallpox/handling-synthesis-variola-DNA.pdf?ua=1 (accessed 31 January 2020).

include treatment and control of infection due to monkeypox virus. It emphasized the importance of building national laboratory capacity for the rapid confirmation of monkeypox and smallpox, and the need for orthopoxvirus diagnostics to be widely available. Reviewing incidents reported to WHO involving vaccinia virus, it highlighted the importance of making vaccine and treatments available for laboratory personnel who need it, as recommended by the Strategic Advisory Group of Experts on Immunization.

61. Biosafety inspections took place at VECTOR (28 January–2 February 2019) and at CDC (20–24 May 2019) with the same international team of biosafety experts led by WHO. The protocol used for the inspections follows the European Committee for Standardization Laboratory Biorisk Management Standard CWA 15793. For both repositories, the inspection team concluded that international standards of biosafety and biosecurity were met; inspection reports are available on the WHO website.[1] The next round of inspections will take place in 2020 and 2021.

62. On 8 May 1980, the Thirty-third World Health Assembly in resolution WHA33.3[2] declared the global eradication of smallpox. In May 2020, at the Seventy-third World Health Assembly the world will celebrate the fortieth anniversary of this momentous achievement. To commemorate the occasion, the Director-General will launch an online exhibition on smallpox prepared by the Secretariat.

F. ADDRESSING THE BURDEN OF SNAKEBITE ENVENOMING (resolution WHA71.5 (2018))

63. In May 2018, the World Health Assembly adopted resolution WHA71.5 on addressing the burden of snakebite envenoming. This report describes progress achieved in this regard to date.

64. The Secretariat, in order to coordinate and accelerate global efforts to control snakebite envenoming, developed and launched *Snakebite envenoming: a strategy for prevention and control*[3] in May 2019. This global strategy was developed with the support and advice of a 28-member working group composed of international experts and WHO staff at headquarters and from regional offices in affected areas.

65. The strategy, which aims to reduce by 50% deaths and disabilities caused by snakebite envenoming by 2030, prioritizes: empowering and engaging with affected communities; ensuring access to safe, effective and affordable treatments; strengthening health systems and incorporating snakebite envenoming in efforts to achieve Sustainable Development Goals and universal health coverage; and building partnerships, delivering coordination and securing the resources to achieve operational objectives on the ground in affected countries. Medically important venomous snakes are present in 132 countries worldwide; in order to fully implement resolution WHA71.5 and the strategy, an estimated US$ 8.96 million is needed for the initial phase, with an additional US$ 45.44 million in 2021–2024 and US$ 82.36 million in 2025–2030.

66. The Secretariat has continued to offer technical support to institutions working on research into snakebite envenoming, such as the Structured Operational Research and Training IniTiative (SORT IT),

[1] See documents WHO/WHE/CPI/2019.25 and WHO/WHE/CPI/2019.26.

[2] See https://apps.who.int/iris/bitstream/handle/10665/155528/WHA33_R3_eng.pdf?sequence=1&isAllowed=y (accessed 17 March 2020).

[3] Snakebite envenoming: a strategy for prevention and control. Geneva: World Health Organization; 2019 (https://www.who.int/publications-detail/9789241515641, accessed 18 February 2020).

a global partnership-based initiative coordinated by the UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases. SORT IT has initiated eight operational research projects in Ethiopia and Kenya since May 2018 and plans to expand to other countries and regions, with the objective of building the capacity of health systems to ensure that high quality, timely and disaggregated data is available to inform decisions on snakebites and, consequently, to improve health care delivery and outcomes.

67. The Secretariat has sought to develop technical capacity by recognizing WHO collaborating centres in support of improved, evidence-based disease control efforts, and to address the need for reference materials that can facilitate the development of a prequalification pathway for snake antivenom preparations. The designation of a WHO collaborating centre for venoms and antivenoms research is being prioritized and appropriately qualified laboratories are being reviewed for consideration.

68. The Secretariat has continued to assess the risk-benefit of antivenoms manufactured for use in the treatment of snakebite envenoming in sub-Saharan Africa. One product for the treatment of envenoming by carpet vipers (*Echis* spp.) was listed by WHO in June 2019 as being suitable for *Echis ocellatus* (West African carpet viper) and *Echis pyramidum* (East African carpet viper).[1] Two manufacturers of pan-African polyvalent antivenoms have been recognized by WHO as compliant with good manufacturing practices and should receive positive recommendations for procurement from WHO in mid-2020, subject to final laboratory testing of specific activity against certain snake venoms. The Secretariat is working with other manufacturers to resolve issues around good manufacturing practices compliance and product effectiveness. A new round of antivenom risk-benefit assessments targeting products manufactured for countries in the South-East Asia and Western Pacific regions will take place over the coming two years with support from WHO partners.

69. In addition to evaluating risk-benefit profiles of current antivenoms, the Secretariat has fostered international efforts to improve the availability, accessibility and affordability of safe and effective antivenoms for all, including by: developing a workshop course on antivenoms and their production for regulators and manufacturers, held for the first time in Bangkok in November 2019; conducting a global review of antivenoms currently registered by national regulatory agencies or ministries of health; conducting a review of global antivenom manufacturers; preparing an update of the WHO antivenoms database; and investigating the viability of an antivenom stockpiling project to increase access to safe, effective WHO-recommended antivenoms.

70. The Secretariat has provided support to Member States who have sought it to strengthen their capacities to improve awareness, prevention and access to treatment and reduce and control snakebite envenoming, both through the development and publication of the global strategy and the provision of expert advice and technical support relating to antivenoms.

71. The WHO Regional Office for Africa has planned two high-level consultative meetings to promote strategy integration into national health plans in East and West Africa later in 2020. In July 2019, Member States requested the WHO Regional Office for South-East Asia to develop a regional plan of action for snakebite prevention and control based on the global strategy;[2] regional experts are

[1] See https://www.who.int/docs/default-source/medicines/echitabg-micropharm-1dose-2019-082.pdf (accessed 19 February 2020).

[2] Regional Snakebite Prevention and Control Plan of Action. Delhi: World Health Organization Regional Office for South-East Asia. 2019. https://apps.who.int/iris/bitstream/handle/10665/327912/Agenda8.7-sea-rc72-12-eng.pdf, accessed 19 February 2020.

contributing to a draft plan of action, scheduled for finalization by May 2020. The WHO Western Pacific Regional Office is currently finalizing an assessment of regional snakebite burden.

72. The adoption of resolution WHA71.5 stimulated new interest in finding sustainable solutions for the prevention and control of snakebite envenoming. In that regard, support promised for research and other activities has increased and should bring the production of snakebite treatments into the 21st century and partially sustain some of the work in this area as a public health priority. Strong efforts continue to be required to ensure access to additional resources to build and sustain WHO's snakebite prevention and control strategy.

73. The Secretariat has fostered technical cooperation among affected Member States as a means of strengthening surveillance, treatment and rehabilitation services, including by: incorporating snakebite envenoming into the District Health Information System (version 2) (DHIS2), so enabling Member States to collate and report data as a means of strengthening surveillance; revising regional snakebite treatment guidelines and establishing national guidelines; and supporting the development of collaboration to implement the WHO strategy through regional cooperative meetings.

G. STRENGTHENING INTEGRATED, PEOPLE-CENTRED HEALTH SERVICES (resolution WHA69.24 (2016))

74. In May 2016 the Sixty-ninth World Health Assembly, in resolution WHA69.24, adopted the framework on integrated, people-centred health services. This report provides details of the activities undertaken by the Secretariat in response to this resolution during 2018–2020.

75. **Provision of support and guidance to Member States.** Three types of support and guidance have been provided, as outlined in the following paragraphs.

76. First, direct technical and financial support has been provided for the implementation of road maps on integrated, people-centred health services in 15 countries.

77. Second, activities related to integrated, people-centred health services have been implemented in countries in collaboration with WHO regional offices. For example, the Regional Office for the Americas has supported the integration of health services in 11 countries as part of broader health reforms; the Primary Health Care Measurement and Improvement Initiative has been implemented in 20 countries in the Eastern Mediterranean Region as part of strengthening people-centred health system efforts; the European Region has actively supported 36 countries through a variety of activities, including country assessment and training courses on integrated primary health care services; and the Western Pacific Region has collaborated with nine Member States on a range of service delivery reforms with the objective of strengthening primary health care.

78. Third, the framework has been incorporated into to regional commitments and national health plans and strategies. For example, the WHO African Region has updated the regional prenatal consultation guide based on the framework, and the guide has been adopted by 19 countries; while in the WHO South-East Asia Region, 10 countries have incorporated into the framework into their national health policies. Additionally, the Secretariat has supported 45 Member States in strengthening their emergency care systems to serve as an integrated platform for delivering accessible, quality and timely health services for acute illness and injury across the life course.

79. **Development of technical documents, instruments and tools.** The Secretariat, in collaboration with experts and international organizations, has developed advocacy briefs and position papers on a

number of related issues, including on the role of hospitals within the framework, on a vision for primary health care in the 21st century (related to the Astana Declaration on Primary Health Care), and on integrating services. Policy and practice briefs have been drafted to provide evidence-informed recommendations in a variety of contexts. The topics of these briefs include reaching underserved and marginalized populations; integrating vertical programmes into health systems; health innovation; multidisciplinary teams; and continuity and coordination of care. Additionally, to help implement reform towards integrated, people-centred health services at country level, the Secretariat has produced a document entitled *Critical pathways towards integrated, people-centred health services*, accompanied by a toolkit on local engagement, assessment and planning (LEAP), which aims to support subnational health authorities in identifying opportunities for the delivery of integrated, people-centred health services.

80. **Knowledge exchange.** There are two web platforms that support knowledge exchange on integrated, people-centred health services: the "IntegratedCare4People" and a WHO dedicated website, with the former hosting six communities of practice. Both platforms have attracted over 70 000 visitors during this period.

81. **Building the evidence base and monitoring progress.** A total of 14 indicators for monitoring global progress on integrated, people-centred health services, as well as 19 indicators for measuring national and subnational improvement, have been identified and are being considered in the development of the monitoring and evaluation framework for primary health care.

82. **Partnership development.** The Secretariat continues to work closely with all existing partners, including WHO collaborating centres (on integrated health services and primary health care), international actors such as the International Foundation for Integrated Care, development agencies and academic institutions, while also seeking opportunities to engage with new actors.

83. **Mainstreaming.** The capability of staff members of the Organization to bring an approach based on integrated, people-centred health services into the mainstream of their work has also been strengthened through technical meetings and through the provision of advice and support to other technical programme areas, including ageing and the life course; gender, equity and human rights; communicable diseases; and rehabilitation, hearing and vision.

84. **The way forward.** Despite significant progress made by the Secretariat in response to resolution WHA69.24, a considerable amount of work remains to be done. Two factors will facilitate this task: (a) global efforts on primary health care provide an opportunity for advancing the agenda on integrated, people-centred health services; and (b) the Secretariat has created a "clinical services and systems" unit focused on integrated delivery platforms, which will facilitate more integrated and effective implementation of WHO's normative guidance at country level. The Secretariat will continue to provide technical support and guidance to Member States in their efforts to adapt the framework to their national strategies and plans, and will provide support to them in implementing health service delivery reforms in coordination with primary health care global initiatives to achieve universal health coverage.

I. HEALTH AND THE ENVIRONMENT: ROAD MAP FOR AN ENHANCED GLOBAL RESPONSE TO THE ADVERSE HEALTH EFFECTS OF AIR POLLUTION (decision WHA69(11) (2016))

85. In 2016, the Sixty-ninth World Health Assembly, in decision WHA69(11), welcomed the road map for an enhanced global response to the adverse health effects of air pollution and requested the

Director-General to report its achievements to the Seventy-third World Health Assembly.[1] The road map, drafted pursuant to resolution WHA68.8 (2015), aims to expand the knowledge base, enhance monitoring and reporting on health trends associated with air pollution, demonstrate global leadership and strengthen institutional capacity. This report summarizes progress achieved since the previous report in 2018.[2]

Expanding the knowledge base

86. Substantial advances have been made in the development of knowledge products and tools to measure the health effects and health care cost of air pollution, such as health impact assessment and health economic and sector-specific tools, at national and subnational levels. In addition, techniques to estimate population exposure to ambient air pollution have been improved, as well as it has the attribution of health impacts to the combined impacts of ambient and household air pollution exposure, including attribution/estimation by specific age groups. WHO also reviewed the latest scientific evidence on risk communication and personal level interventions to reduce exposure and to minimize the health effects of air pollution.

87. The new update of WHO air quality guidelines is at an advanced stage.

88. WHO has convened regular meetings of the Global Platform on Air Quality and Health – a WHO-led initiative, in partnership with international and national organizations, and scientists – in order to review the evidence base on air quality and health for policy-making, identify research gaps and strengthen and synergize efforts to enhance air quality and health monitoring. Through these meetings, the global community has identified growing priorities such as desert and sand dust.

Monitoring and reporting

89. WHO has monitored and reported on air pollution-related Sustainable Development Goal indicators 3.9.1 (Mortality rate attributed to household and ambient air pollution), 7.1.2 (Proportion of population with primary reliance on clean fuels and technology) and 11.6.2 (Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)) regularly and will continue to do so. Updated country estimates for access to clean fuels and technologies for cooking under indicator 7.1.2 are included in the annual joint report of the custodian agencies, entitled *Tracking SDG7: The Energy Progress Report*,[3] and in the World Health Statistics report, as are the other air pollution-related indicators. In order to further support countries in monitoring these indicators, the Secretariat has developed more robust statistical methods and enhanced survey tools to better assess the health impacts of ambient air pollution and household energy use.

90. The WHO global ambient air pollution, and household energy databases have been updated and expanded regularly to identify and include more locations, pollutants and sources of exposure. In 2018, the fourth update of the WHO Global Ambient Air Quality Database, which covers more than 4300 cities and settlements, was released. In addition, data were compiled on trends in air pollution exposure for 2010–2016.

[1] Document A69/18.

[2] Document A71/10 Add.1.

[3] Tracking SDG7: the Energy Progress Report (available at https://trackingsdg7.esmap.org/, accessed 17 March 2020).

Global leadership and coordination

91. In the regions, efforts have been driven forward through the development of regional plans of action; country air pollution and health profiles have also been drawn up when requested by Member States.

92. WHO, with other entities of the United Nations system, developed the global BreatheLife Campaign to raise awareness of the scale and importance of air pollution as a health risk and to share solutions and mobilize action. Since its launch in October 2016, 76 cities, regions and countries have officially joined the network.

93. As envisaged in the road map, in 2018 WHO convened the First Global Conference on Air Pollution and Health (at WHO headquarters between 30 October and 1 November), bringing together key stakeholders from governments, civil society, academic institutions and the media to work towards a global framework for enhanced action.

94. WHO, with other United Nations entities, launched the Health and Energy Platform of Action at the Seventy-second World Health Assembly in 2019. The Platform aims to strengthen political and technical cooperation between the health and energy sectors at global, regional and country levels in order to accelerate the transition to clean energy, with an initial focus on clean cooking and the electrification of health care facilities.

95. The recognition, at the third High-level Meeting of the United Nations General Assembly on the prevention and control of non-communicable diseases (on 27 September 2018), of air pollution as a fifth major risk factor for noncommunicable diseases is a substantial achievement, as is the inclusion of air pollution in regional and national multisectoral action plans on noncommunicable diseases.

Institutional capacity strengthening

96. Over past years, WHO has been developing and fine-tuning a set of analytical tools to build evidence of the health and economic effects of air pollution, such as the AirQ+ software tool, as well as sector-specific tools, such as the health economic assessment tool for walking and cycling. The Secretariat has undertaken rapid situational assessments and stakeholder mappings for the Clean Household Energy Solutions Toolkit in countries with heavy reliance on use of biomass for cooking. It is currently developing training materials for health care professionals, aimed at strengthening capacity to understand the risks of air pollution to health and communicate them to patients and communities.

97. The Secretariat has worked continuously to provide direct country support, with targeted technical training workshops to build institutional capacities to address air pollution and health. As part of the same effort, regional meetings have been held in the majority of WHO regions, including multiple workshops on developing national clean cookstove standards. In addition, the Secretariat has been working to mobilize and strengthen health sector capacity to address air pollution at the local level through the implementation of two pilot projects under the WHO Urban Health Initiative.

98. WHO has undertaken a number of joint missions with other United Nations entities in order to strengthen their work on air pollution and health, and to plan and enhance country support, e.g. organized with the UN resident coordinator in India and involving UNDP, UNIDO, UNEP, UINCEF and FAO.

J. FEMALE GENITAL MUTILATION (resolution WHA61.16 (2008))

99. In response to resolution WHA61.16, the Secretariat is working with Member States and international, regional and national partners to eliminate the practice of female genital mutilation and to improve the health and well-being of those living with the negative health consequences of the practice. This report highlights the progress made since 2017.

100. Recognizing that 200 million women and girls globally have undergone female genital mutilation, according to the most recent global estimates (2016),[1] the Sustainable Development Goals include a target (5.3) calling on Member States to "Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation".

101. In July 2018, the Human Rights Council adopted resolution 38/6 on elimination of female genital mutilation,[2] calling on States to adopt legislation prohibiting female genital mutilation and to develop comprehensive strategies and policies in partnership with relevant duty bearers and stakeholders.

102. In December 2018, the United Nations General Assembly adopted resolution 73/149 intensifying global efforts for the elimination of female genital mutilation, which emphasizes the need to support policies and programmes that contribute to elimination of the practice.[3]

103. The 2018 Ouagadougou Call to Action on Eliminating Female Genital Mutilation[4] launched the African Union Initiative on Ending Female Genital Mutilation, a continent-wide social marketing initiative scaling up the Saleema Communication Initiative. The African Union Initiative uses innovative approaches to encourage communities to abandon the practice, including targeted messages in mass media, branded tools such as clothing, and drama and theatre performance.[5]

104. Survey data from 30 Member States in Africa, the Middle East and Asia have demonstrated reductions in the prevalence of female genital mutilation between 1988 and 2018. In that period, the percentage of girls aged 15–19 years who had undergone female genital mutilation in high-prevalence countries declined from 49% to 34%, most notably in Burkina Faso, Egypt, Kenya, Liberia and Togo.[6]

105. Member States continue to carry out social norm change activities towards abandonment of the practice, including community declarations of abandonment, alternative rites of passage, youth-focused

[1] Female genital mutilation/cutting: a global concern. United Nations Children's Fund; 2016 (http://data.unicef.org/resources/female-genital-mutilation-cutting-a-global-concern.html, accessed 3 February 2020).

[2] Elimination of female genital mutilation. A/HRC/RES/38/6. Human Rights Council, Thirty-eighth session, 18 June–6 July 2018. United Nations General Assembly; 2018 (https://ap.ohchr.org/documents/dpage_e.aspx?si=A/HRC/RES/38/6, accessed 3 February 2020).

[3] Intensifying global efforts for the elimination of female genital mutilation: report of the Secretary General. Resolution 73/149. United Nations General Assembly, Seventy-third session, September 2018 (https://undocs.org/en/A/RES/73/149, accessed 3 February 2020).

[4] Ouagadougou Call to Action on Eliminating Female Genital Mutilation. Addis Ababa: African Union; 23 October 2018.

[5] Saleema Initiative. United Nations Children's Fund (https://www.unicef.org/sudan/saleema-initiative, accessed 3 February 2020).

[6] Female genital mutilation (FGM). United Nations Children's Fund (https://data.unicef.org/topic/child-protection/female-genital-mutilation/, accessed 3 February 2020).

awareness-raising activities, mass media and social media campaigns, and engagement of community and religious leaders.

106. The Secretariat supports a health systems approach to improve the care provided to women and girls living with female genital mutilation and to promote abandonment of the practice, building on the Global Strategy to Stop Health-Care Providers from Performing Female Genital Mutilation (2010).[1] This approach establishes national health policies to prevent medicalization, integrates related content into training curricula, develops novel approaches to strengthen the role of health care providers as opinion leaders, and generates evidence, including through monitoring and evaluating implementation.

107. The Secretariat also supports Member States in the collection of data through health information systems to improve the epidemiological evidence base, as well as the care and treatment of women and girls. Models of facility-based surveillance are being piloted in Burkina Faso, Kenya and Sudan.

108. In May 2018, the Secretariat launched a clinical handbook on the care of women and girls living with female genital mutilation, constituting a package of evidence-based tools to ensure that women experiencing health complications from the practice receive the highest-quality care. The Secretariat is supporting high-prevalence countries to develop health sector action plans and to implement activities, such as integrating relevant content into pre-service and in-service training for health care providers.

K. PUBLIC HEALTH DIMENSION OF THE WORLD DRUG PROBLEM (decision WHA70(18) (2017))

109. The Seventieth World Health Assembly, in decision WHA70(18) (2017), requested the Director-General to continue efforts to improve WHO's coordination and collaboration with the United Nations Office on Drugs and Crime (UNODC) and the International Narcotics Control Board, and to report on the implementation of the decision to the Seventy-first, Seventy-third and Seventy-fifth World Health Assemblies and keep the Commission on Narcotic Drugs appropriately informed of relevant programmes and progress.

110. Following the progress reported to the Seventy-first World Health Assembly[2] and in line with WHO strategic priorities outlined in the Thirteenth General Programme of Work, 2019–2023 and operational recommendations from the 2016 United Nations General Assembly Special Session on the World Drug Problem, WHO further strengthened collaboration with UNODC and the International Narcotics Control Board and informed the Commission during its 62nd and 63rd sessions about WHO programme activities on public health dimensions of the world drug problem, including at side events organized or cosponsored by WHO.

111. At its Forty-first meeting (2018), the Expert Committee on Drug Dependence recommended that several synthetic opioids, cannabinoids and stimulants should be placed under international control. In addition, it conducted its first ever review of cannabis and cannabis-related substances and made recommendations for a change of level of control in accordance with the objectives of international drug control conventions to protect health and ensure the availability of substances for medical and scientific purposes. At its 42nd meeting (2019), the Committee reviewed a number of opioids, cannabinoids, stimulants and benzodiazepines. UNODC and International Narcotics Control Board representatives

[1] Global Strategy to Stop Health-Care Providers from Performing Female Genital Mutilation. World Health Organization: Geneva; 2010 (https://www.who.int/reproductivehealth/publications/fgm/rhr_10_9/en/, accessed 3 February 2020).

[2] See document A71/41 Rev.2.

participated in both meetings as observers and provided WHO with information required for the Committee's recommendations as to whether or not substances should be placed under international control.

112. Implementation of the Joint UNODC/WHO Programme on Drug Dependence Treatment and Care has focused on: country support for the prevention and management of opioid overdose under the Stop Overdose Safely (SOS) initiative; completion of work on updating the *International standards for the treatment of drug use disorders*; training of health professionals on the identification and management of drug use and drug use disorders during pregnancy; and development of various information products. The SOS initiative was rolled out in four countries of central Asia and eastern Europe, with: the development of the SOS package for cascade training on opioid overdose prevention and management; distribution of 40 000 ampoules of naloxone for effective management of opioid overdose; and training of 16 000 potential overdose witnesses in four countries. WHO and UNODC updated the *International standards on drug use prevention* and released a second edition in 2018.[1] Representatives of UNODC and the International Narcotics Control Board participated in the second WHO Forum on alcohol, drugs and addictive behaviours, held in Geneva in June 2019. WHO staff contributed to several meetings organized by UNODC in consultation with WHO, including on new psychoactive substances, comorbidity, family-based treatment for adolescents with drug use disorders, and stigma and discrimination against people using drugs.

113. The Organization is concerned by the very low access to medication for moderate and severe pain, particularly in low- and middle-income countries, and recognizes that the need for access to pain relief must be balanced with concerns about the harm arising from the misuse of medications, including opioids. In view of scientific evidence that has emerged since 2011, WHO is developing guidelines for policy-makers, programme managers and experts, to ensure that balanced national policies on access to controlled medicines and their safe use are formulated and implemented. The guidelines are scheduled for release by the end of 2020. Through the Joint Global Programme on access to controlled drugs for medical purposes, WHO and UNODC support the development of balanced policies and capacity-building for appropriate use of controlled medicines in Timor-Leste.

114. WHO continues to develop normative guidance on substance use and communicable diseases, in particular on improving access to and uptake of services for HIV, tuberculosis and viral hepatitis for people who use drugs and people in prisons. The Secretariat continues to support countries to implement and scale up evidence-based harm reduction programmes under global health sector strategies on HIV and viral hepatitis targets aimed at eliminating these conditions. WHO works closely with UNODC and other key stakeholders on the development of tools, including: prevention of mother-to-child transmission; comprehensive services in prisons; amphetamine-type stimulant use and HIV transmission; and human rights-based drug policies. In 2020, WHO will update the existing consolidated guidelines for key populations[2] to include population-specific modules, including one for people who use drugs.

115. UNODC, WHO and the International Narcotics Control Board are developing an interagency toolkit on synthetic drugs in order to ensure that policy-makers and drug policy experts in countries have access to the most up-to-date relevant information to address synthetic drug challenges and prevent harm to health. The Secretariat engaged actively in the discussions that resulted in the establishment in 2018

[1] Available at https://www.unodc.org/unodc/fr/prevention/prevention-standards.html (accessed 20 February 2020).

[2] Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations. Geneva: World Health Organization; 2014 (https://apps.who.int/iris/bitstream/handle/10665/128048/9789241507431_eng.pdf?sequence=1, accessed 20 February 2020).

of the United Nations system common position supporting the implementation of the international drug control policy through effective interagency collaboration, and of the United Nations system coordination task team led by UNODC.

116. As the two United Nations custodian agencies for Sustainable Development Goal (SDG) indicator 3.5.1 on coverage of treatment interventions for substance use disorders, WHO and UNODC developed a collaborative approach to producing the estimates on the basis of which indicator 3.5.1 was upgraded to Tier II by the Inter-agency and Expert Group on SDG Indicators. The Secretariat has commenced work on the global status report on progress with regard to SDG health target 3.5 (Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol).

L. THE WHO STRATEGY ON RESEARCH FOR HEALTH (resolution WHA63.21 (2010))

117. The WHO strategy on research for health is now the responsibility of the WHO Chief Scientist and the Science Division, established in March 2019 as a major feature of the WHO transformation agenda. The Science Division has as its main functions (1) to ensure that WHO anticipates and keeps abreast of the latest scientific developments and identifies opportunities to harness those developments to improve global public health and deliver impact at country level; and (2) to ensure the excellence, relevance and efficacy of WHO's core technical functions, including global public health goods that are norms and standards, as well as data, research and innovation.

118. The Science Division comprises three new departments: Quality Assurance for Norms and Standards, Research for Health, and Digital Health and Innovation, as well as three research entities, namely the Special Programme for Research and Training in Tropical Diseases, the Alliance for Health Policy and Systems Research, and the Special Programme of Research, Development and Research Training in Human Reproduction.

119. The Secretariat has reviewed the work of the previous Advisory Committee on Health Research. In consultation with the Director-General, it has been decided to establish a new Council for Science and Innovation as the voice of scientific leadership to directly advise the Director-General and facilitate the adoption of new ideas and opportunities in research and innovation to improve global health. The Science Division, through the Research for Health department, will facilitate the Council's role in setting WHO's science and innovation priorities, independently from programme-specific priorities, focusing on areas where gaps exist. The Council will also serve as a voice for health science and research globally and amplify WHO's messages on research for health to the wider global community.

120. As part of the WHO transformation agenda, the Secretariat has reviewed several aspects of its work on research and will develop these further, as indicated in the Thirteenth General Programme of Work, 2019–2023, including prioritizing the research needed to address important public health problems, horizon scanning for important new innovations and technologies, supporting the research needed through a new end-to-end research process, and ensuring that research evidence can be implemented effectively at country level.

121. The WHO Global Observatory on Health Research and Development provides the basic information to support the prioritization of research needs and analyse gaps. It has continued to expand since its launch in January 2017, both in terms of the number of data sources used and functionality, employing state-of-the-art analysis techniques and interactive data visualizations. To date, the Global Observatory uses information from 24 data sources that cover a range of data relevant to health research

and development, including on biomedical grants by major funders; health products for all diseases, from discovery to market launch; funding flows for product-related health research and development for neglected diseases; clinical trials; the availability of health researchers; the availability of health research-related higher education institutions; and other relevant global indicators for comparison, such as gross domestic expenditure on health research and development, and official development assistance by donor and recipient countries for medical research.

122. The WHO Global Observatory on Health Research and Development is used, inter alia, to track research and development resources for antimicrobial resistance. It is also used as a key resource for the WHO research and development blueprint for action to prevent epidemics, to track and analyse research and development on priority pathogens and to report these data and information. Two reviews of antibacterial products in the preclinical and clinical phases of development were published by the Secretariat in 2018 and 2019.[1,2] The Global Observatory also continues to update its narrative reports on research and development priorities and on resources for both areas on a regular basis.[3]

123. During the course of 2019, building on previous work, the Global Observatory developed a set of core indicators to assess the capacity of national health research systems and agreed with the WHO regional focal points to collect data jointly, with the Global Observatory reporting thereon on a regular basis.

124. The WHO International Clinical Trials Registry Platform (ICTRP) has continued to strengthen its goal to ensure that a complete view of research is accessible to all those involved in health care decision-making, to improve research transparency and ultimately to strengthen the validity and value of the scientific evidence base. Two new primary registries from Japan and Lebanon and a new partner registry from China were added to the ICTRP Registry Network in 2019. A collaboration agreement was signed with Orphanet, based at the French National Institute for Health and Medical Research (INSERM),” and improvements were made to the ICTRP search portal in order to facilitate the searching and downloading of data related to ongoing clinical trials. The ICTRP clinical database was used to create the new global registry on human genome editing.

125. During the biennium 2020–2021, the Secretariat will develop a process for standardizing the publication of target product profiles as well as horizon scanning, including research on dual-use technologies.

126. The Secretariat’s activities in the field of global health ethics have in particular contributed to the following three interrelated goals of the WHO strategy on research for health:

(1) **Organization-related goal.** The Secretariat supported (i) the implementation of the code of conduct for responsible research and the policy on misconduct in research; (ii) the establishment of the WHO Public Health Ethics Consultative Group; and (iii) the strengthening of ethical standards through the ongoing work of the WHO Research Ethics Review Committee.

[1] See https://www.who.int/research-observatory/monitoring/processes/antibacterial_products/en/ (accessed 2 March 2020).

[2] See https://www.who.int/research-observatory/monitoring/processes/antibacterial_products_preclinical/en/ (accessed 2 March 2020).

[3] See https://www.who.int/research-observatory/analyses/en/ (accessed 2 March 2020).

(2) **Capacity-related goal.** Training tools on the ethics of implementation research were developed jointly with the Special Programme for Research and Training in Tropical Diseases.

(3) **Standards-related goal.** Two WHO guidance documents were developed on ethical considerations for health policy and systems research[1] and on ethics in implementation research.[2]

127. Over the last two years, the WHO Research Ethics Review Committee has reviewed over 230 research protocols for research that is funded or supported technically by WHO. As part of the work on ensuring an effective process for research transparency, a register of WHO research studies will be established by the end of 2020.

128. The Secretariat continues to expand its collaboration and partnerships with various key stakeholders in health research and development to ensure effective communication of WHO's positions and priorities and a more harmonized approach to data sharing. Examples of partnerships include collaboration, through WHO's membership of the Heads of International Research Organizations, with the Steering Group of the World RePORT platform, which collates, on an annual basis, data on health research grants from key funders; membership of the ESSENCE on Health Research[3] working group for the development of a mechanism for reviewing investments in clinical research capacity building; and board membership of the Coalition for Epidemic Preparedness Innovations, which funds new vaccine research and development targeting emerging infectious diseases prioritized by the WHO research and development blueprint.

129. Regional offices have continued to be active in implementing the WHO strategy on research for health, and advisory committees on health research have remained active in five of the six regional offices. The Evidence-Informed Policy Network, established by WHO in 2005, is now active at the country and regional levels in the WHO African, European and Eastern Mediterranean Regions, and in the WHO Region of the Americas.

130. An evaluation of the work of WHO collaborating centres has been undertaken by the WHO Evaluation Office. Further work is required to ensure the best alignment between the work of collaborating centres and the Thirteenth General Programme of Work, 2019–2023. The matter will be the subject of a further review to be undertaken in 2020.

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[1] Ethical considerations for health policy and systems research. Geneva: World Health Organization; 2019 (https://www.who.int/alliance-hpsr/resources/publications/ethical-considerations-hpsr/en/, accessed 2 March 2020).

[2] Training course on ethics in implementation research. Geneva: World Health Organization; 2019 (https://www.who.int/tdr/publications/year/2019/ethics-in-ir-course/en/, accessed 2 March 2020).

[3] See https://www.who.int/tdr/partnerships/essence/about/en/, accessed 24 March 2020.