
Progress reports

Report by the Secretariat

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Noncommunicable diseases

A. WHO GLOBAL DISABILITY ACTION PLAN 2014–2021: BETTER HEALTH FOR ALL PEOPLE WITH DISABILITY (resolution WHA67.7 (2014))

1. In May 2014, the Sixty-seventh World Health Assembly in resolution WHA67.7 adopted the global disability action plan 2014–2021. It requested the Director-General to implement the actions for the Secretariat in the action plan, namely: to remove barriers and improve access to health services and programmes; to strengthen and extend rehabilitation, habilitation, assistive technology, assistance and support services, and community-based rehabilitation; and to strengthen collection of relevant and internationally comparable data on disability and support research on disability and related services. The mandate for action was further strengthened by the adoption of a regional action plan by the Regional Committee for the Americas.¹

2. The following key activities have been undertaken by the Secretariat in line with the resolution.

3. **Development of guidance and tools.** The Secretariat, in consultation with international experts, developed the Model Disability Survey. The Survey has been implemented in Chile, Philippines and Sri Lanka, and will be carried out in Costa Rica and Panama in 2017. The Secretariat also published *Rehabilitation in health systems*,² a document which provides evidence-based guidance for Member States and relevant stakeholders to strengthen and expand the availability of quality rehabilitation services. In addition, the Secretariat developed, in consultation with Member States, a situation assessment tool to assist in data collection on rehabilitation service provision. This tool is part of a comprehensive rehabilitation toolkit that will support the strengthening of health systems in the provision of rehabilitation services. The indicators for monitoring community-based rehabilitation, as well as an online training programme, “INCLUDE”, were released in 2015 and have been widely used by stakeholders in countries. Extensive work has also been done to produce technical briefs and guidance on disability-inclusive emergency response and on rehabilitation packages of care for low- and middle-income countries.

4. **Building capacity and scaling up country action.** The Secretariat, in collaboration with partners, has begun work to strengthen coordination and the development of national plans and strategies at the country level by convening three regional workshops for Member States. The Secretariat conducted 15 country training visits to strengthen the capacity of health and social affairs ministries to respond to the increasing need for rehabilitation services. The Secretariat together with the CBR Global Network, hosted the CBR World Congress in Malaysia. Over 1000 participants from more than 50 countries participated in the congress, which served as a platform for training in community-based rehabilitation. The Global Cooperation on Assistive Technologies was launched in 2014, and a list of priority assistive products for country implementation was prepared and launched at the Sixty-ninth World Health Assembly.

5. **Awareness creation and advocacy.** The International Day of Persons with Disabilities continues to be the leading annual event for improving awareness in respect of persons with disabilities. Several activities were organized by WHO, other United Nations organizations and civil

¹ See resolution CD53.R12 (2014).

² Rehabilitation in health systems. Geneva: World Health Organization; 2017. (<http://apps.who.int/iris/bitstream/10665/254506/1/9789241549974-eng.pdf>, accessed 8 February 2017).

society, and over 100 Member States promoted activities during the day with the support of the Secretariat and partners. In February 2017, the Secretariat launched a call for action for coordinated and concerted global action towards strengthening rehabilitation capacity in health systems. It is anticipated that some 200 participants, including delegates from 23 Member States, will join the launch.

6. **Building the evidence base and monitoring progress.** The Secretariat dedicated major efforts to following the monitoring requirements set out in the action plan. Significant progress was made in engaging Member States to use standardized approaches to periodic data collection. All countries from the WHO Western Pacific Region have collected standardized data and a status report has been produced. Data collection in all other regions will start in 2017. A global status report is planned for 2020.

7. The Secretariat will continue to support Member States in their efforts to achieve universal health coverage by improving access to general health services to people with disabilities and by strengthening rehabilitation services.

B. ADDRESSING THE CHALLENGES OF THE UNITED NATIONS DECADE OF ACTION FOR ROAD SAFETY (2011–2020): OUTCOME OF THE SECOND GLOBAL HIGH-LEVEL CONFERENCE ON ROAD SAFETY – TIME FOR RESULTS (resolution WHA69.7 (2016))

8. Resolution WHA69.7, adopted in 2016, endorsed the Brasilia Declaration on Road Safety – the outcome document of the second Global High-level Conference on Road Safety – and called for a range of activities to be carried out by Member States and the Secretariat. In response, several initiatives have been undertaken.

9. A process to develop voluntary global road safety targets has been agreed.¹ A meeting with technical road safety experts held in September 2016 led to the generation of a draft WHO discussion paper, which was made available for a web-based consultation from October to December 2016, and an informal Member State discussion in November 2016. A first revision of the WHO discussion paper will be developed in early 2017 and submitted for further consultations involving, among others, the Inland Transport Committee² (February 2017), road safety civil society organizations (March 2017) and the private sector (June 2017). The second revision of the WHO discussion paper will be shared during WHO regional committee meetings, and then discussed by a formal meeting of Member States and organizations of the United Nations system in the fourth quarter of 2017.

10. Regional reports, based on the third *Global status report on road safety 2015*,³ which showed that around 1.25 million people are killed in road traffic collisions every year, were developed during 2016 to provide further guidance to Member States in implementing national road safety strategies in line with the goals of the Decade of Action for Road Safety (2011–2020) and Sustainable

¹ On the process to develop the global targets, see: http://www.who.int/violence_injury_prevention/road_traffic/road-safety-targets/en/ (accessed 27 January 2017).

² The Inland Transport Committee is the United Nations Economic Commission for Europe's highest policy-making body in the field of transport.

³ Global status report on road safety 2015: Geneva: World Health Organization; 2015 (http://www.who.int/violence_injury_prevention/road_safety_status/2015/en/, accessed 27 January 2017).

Development Goal 3, target 3.6, namely: to halve the road traffic death toll by 2020. The Secretariat has begun to develop the fourth global status report on road safety, which is due for publication in 2018.

11. The Secretariat supported Member States in raising awareness of the importance of laws to reduce road traffic injuries and fatalities. Laws were modified in the Philippines, Thailand and Viet Nam in 2016, while Bangladesh, China, India, Kyrgyzstan and Sri Lanka have conducted assessments as an initial step towards making improvements to their road safety laws. The Secretariat has also developed a free online course for lawyers and road safety advocates; is implementing legal development programmes and journalist fellowships in selected countries; and has launched a Global Forum for Road Safety Legislators.

12. In order to provide further support to Member States, the Secretariat, together with partners, is developing for publication a document called *Save LIVES: A road safety technical package*, which encourages countries to implement 22 effective and cost-efficient interventions.

13. Several Member States have taken steps to improve their road safety databases. The Secretariat, together with OECD, conducted a training workshop for countries in Africa on strategies to improve health, police and transport data. Furthermore, in an effort to enhance the capacity of leaders in low- and middle-income countries to improve road safety, the Secretariat collaborated with the Global Road Safety Partnership and Johns Hopkins University to run the first Global Road Safety Leadership courses. Sixty young road safety professionals from 15 countries received training. In the future, the course will be organized on a biannual basis.

14. Use of the WHO emergency care system assessment tool – which identifies strengths and weaknesses in a national emergency care system and prioritizes actions – and associated action plan development is under way in 25 Member States and is planned in a further 25 in 2017. In addition, the WHO basic emergency care course, which prepares frontline providers to address life-threatening conditions within a limited-resource context, has been implemented in Uganda, United Republic of Tanzania and Zambia.

15. The fourth United Nations Road Safety Week (8–14 May 2017) will be dedicated to speed management. Member State-led events are being planned around the world to raise awareness about the need to tackle inappropriate speed, which is a major risk factor for road traffic injuries and deaths.

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

16. In resolution WHA66.4 (2013), the World 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

17. 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.

18. **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. The Secretariat supported Member States in using the tools, which has enabled national eye care assessments to be completed in 31 Member States, while in many others the assessments are being conducted or will be initiated in 2017. Extensive work to produce technical briefs and guidance on cataract and diabetic retinopathy management is under way.

19. **Building capacity and scaling up country action.** The Secretariat, in collaboration with partners, has 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 implementation of the action plan.

20. **Awareness creation and advocacy.** 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 the World Sight Day with the support of the Secretariat and partners through the provision of critical evidence, strategic communications and infographics.

21. **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 now 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 epidemiological studies conducted in selected areas and communities of 55 Member States.

22. 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 the universal coverage of such services.

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).

Communicable diseases

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

23. Since the 1980s, national eradication programmes have eliminated dracunculiasis in 17 countries¹ in which it was previously endemic, reducing the number of individuals affected from an estimated 3.5 million in 1986 to only 25 in 2016. For the first time ever, Mali has reported zero human cases in 2016. Indigenous transmission to humans has now been restricted to three countries: Chad, Ethiopia and South Sudan, where 16, three and six cases were reported, respectively, in 2016. The 25 cases occurred in 19 villages.

24. Efforts continue to ensure that support is provided wherever needed. The Carter Center provides operational support to eradication activities in those three countries and Mali. UNICEF supports the provision of improved sources of drinking-water in villages at risk of the disease or where it is endemic. WHO provides support in order to: strengthen surveillance in the pre- and post-certification countries and in refugee camps for displaced persons in both endemic and non-endemic countries; prepare countries for certification; and monitor and regularly report on the existing guinea-worm disease situation. The WHO Collaborating Centre at the Centers for Disease Control and Prevention (Atlanta, Georgia, United States of America) provides laboratory diagnostic support to the Guinea-Worm Eradication Programme.

25. Upon recommendations of the International Commission for the Certification of Dracunculiasis Eradication, WHO has certified a total of 198 countries, territories and areas, including 186 WHO Member States, as free from dracunculiasis transmission. Eight Member States remain to be certified: Chad, Ethiopia, Mali and South Sudan; Kenya and Sudan, which remain in the pre-certification stage; and Angola and the Democratic Republic of the Congo, which have had no recent history of the disease but need to provide evidence for the absence of any transmission.

26. Active surveillance was carried out in endemic countries in more than 5300 villages in 2016 compared with 4200 villages in 2015. Control of copepods through the use of the larvicide temephos covered all localities reporting cases, except in Chad, where many water bodies were estimated to be too large. In light of the operational research outcomes, the programme is preparing for more robust vector control interventions.

27. In the Democratic Republic of the Congo, a total of 289 140 households were searched for cases of dracunculiasis. This effort involved more than 28 300 villages in 222 districts, covering 15 of the country's 26 states. A total of 300 rumours were recorded and investigated but none turned out to be cases of dracunculiasis. In Angola, one third of the country has already been searched for guinea-worm disease through integration with mappings of other neglected tropical diseases: no guinea-worm cases were confirmed during these exercises. Kenya and Sudan are in advanced stage of preparing for certification. Kenya and Sudan have stepped up a campaign to raise awareness of the cash reward, particularly in the formerly endemic districts, prior to finalizing their country reports.

28. The polio surveillance network continues to support searches for dracunculiasis cases during its national immunization day campaigns in endemic and pre-certification countries.

¹ Prior to South Sudan's independence in 2011, the disease was endemic in 20 countries.

29. All countries that remain to be certified, except Angola, continue to offer cash rewards for voluntary case reporting. Overall, approximately 85% of districts reported on a monthly basis during 2016; more than 26 000 rumours were reported, 98% of them investigated within 24 hours. The majority of post-certification countries continued to submit quarterly reports to WHO in 2016. The investigation of 178 rumours in five post-certification countries¹ confirmed no cases of dracunculiasis.

30. *Dracunculus medinensis* infection in dogs has emerged as a challenge to the programme, particularly in Chad and to a lesser extent in Ethiopia and Mali. More than 1000 dogs in Chad, 14 in Ethiopia and 11 in Mali were reported and confirmed to have guinea-worm infection in 2016. Given this unusually high rate of infection in dogs, the national programme in Chad, the Carter Center, WHO and the Centers for Disease Control and Prevention are undertaking an operational research programme to find appropriate ways to accelerate interruption of transmission. WHO, The Carter Center, CDC and the Chad GWEP are following up on the priority areas for operational research identified by the January 2015 and April 2016 scientific meetings to address the situation in Chad and Ethiopia. Preliminary results indicate that transmission can be interrupted through the application of current strategies, including vigorous pursuit of copepod control and the prevention of transmission (containment) from human cases and dog infections.

31. Insecurity and inaccessibility due to conflicts continued to hinder eradication efforts in certain areas. In Mali, despite some improvement, security concerns in the regions of Gao, Kidal, Mopti and Segou remain a hurdle to programme implementation, verification of interruption of transmission, and certification of eradication. United Nations humanitarian support bodies continue to facilitate intermittent surveillance. Surveillance has been stepped up among Malian refugees in camps in Burkina Faso, Mauritania and Niger in order to detect any imported cases and to prevent further spread of the disease. Civil unrest, including cattle raids, and massive population displacement in South Sudan is hampering programme implementation and restricting access to endemic areas.

32. The Director-General monitors the eradication programme regularly and there is an annual review meeting of all national dracunculiasis eradication programmes during which countries officially report on the status of their programmes during the preceding year.

33. An informal meeting during the Sixty-ninth World Health Assembly, chaired by the WHO Regional Director for Africa, requested the health ministers of the countries where dracunculiasis remained endemic to maintain their leadership in advocating for and supporting their national eradication programme, and to redouble efforts during this last stage in the process; they and others in attendance pledged their continued commitment to interrupting transmission of the disease as soon as possible.

34. A funding gap of about US\$ 37 million for the period 2017–2020 must be closed in order to achieve the goals of eradication and its certification.

E. GLOBAL STRATEGY AND TARGETS FOR TUBERCULOSIS PREVENTION, CARE AND CONTROL AFTER 2015 (resolution WHA67.1 (2014))

35. In May 2014, the Sixty-seventh World Health Assembly adopted resolution WHA67.1 on the global strategy and targets for tuberculosis prevention, care and control after 2015, later known as the

¹ Cameroon, Côte d'Ivoire, Ghana, Mauritania and Niger.

End TB Strategy. Subsequently, the new strategy was variously endorsed, adapted, and promoted by regional committees; regional action plans have also been developed.¹ In 2015, the United Nations adopted the Sustainable Development Goals for 2030. One health-related target is to “end the global tuberculosis epidemic”. Considering the current situation and persistent challenges,² achieving this target will require a paradigm shift and substantial multisectoral effort. Global, regional and country-level actions as well as investments fall far short of those needed for such efforts. In order to garner high-level global support and regional and national commitments, WHO is organizing a regional meeting of health ministers to be hosted by the WHO Regional Office for South-East Asia in March 2017, together with a global ministerial meeting to be hosted by the Russian Federation in November 2017. The United Nations General Assembly has called for a high-level meeting on tuberculosis to be held in 2018.

36. WHO has been supporting Member States to achieve the necessary paradigm shift for ending the tuberculosis epidemic through rights-based, ethical approaches; equitable focus on vulnerable populations; and multisectoral action. Guidance on the essentials of implementing the strategy has been developed. A framework for achieving elimination of tuberculosis in low-incidence countries has also been finalized. WHO facilitated exchanges of approaches and innovations in rolling out the new strategy at two annual summits of countries with a high burden of tuberculosis, along with partners including the Global Fund to Fight AIDS, Tuberculosis and Malaria, the International Drug Purchase Facility (UNITAID) and bilateral donors, as well as at annual regional meetings. The Stop TB Partnership launched the global plan to end tuberculosis, which estimates the resources required for 2016–2020.

37. Achieving the tuberculosis targets and milestones will greatly depend on the actions taken in relation to Sustainable Development Goal 3 (Ensure healthy lives and promote well-being for all at all ages), notably on universal health coverage and financial protection. Progress towards most other development goals will also contribute to achievement of Goal 3 and the effort to end tuberculosis. To that effect, WHO is working closely with a multiplicity of partners. While about 80% of current financing to tackle the tuberculosis epidemic in high-burden, middle-income countries is domestic, low-income countries continue to rely on international donors for 90% of their financing. By 2020, an additional US\$ 6 billion will be needed annually for low- and middle-income countries and at least US\$ 2 billion annually will be required for tuberculosis research.²

38. WHO has developed and updated normative and policy guidance, tools and strategic approaches to help implement the End TB Strategy. The areas covered include: the introduction and expansion of new diagnostics, new medicines and shorter regimens for multidrug-resistant tuberculosis; active drug safety monitoring; screening for active tuberculosis; collaborative tuberculosis and HIV activities; management of latent tuberculosis infection; assessment of patient costs; developing national tuberculosis research agendas; ensuring access to care for migrants; and digital health options.

39. In order to support the monitoring of implementation of the End TB Strategy and the evaluation of its impact, in keeping with the targets adopted in resolution WHA67.1, WHO has a well established global monitoring and reporting system and a set of indicators, milestones and targets. Progress is

¹ Relevant documents include: AFR/RC66/10, CD54.R10, SEA/RC68/13, EUR/RC65/R6 and WPR/RC66.R3.

² WHO’s annual global tuberculosis reports summarize the progress made towards ending the tuberculosis epidemic and the challenges faced. The 2016 report is available at: http://www.who.int/tb/publications/global_report/en/ (accessed 7 February 2016).

monitored by combining data from national surveillance and health information systems with data from periodic surveys on prevalence, drug resistance, and costs of care for affected patients.

40. Further innovation and research across the spectrum, spanning fundamental research to implementation research, are critical. In 2015, WHO launched an action framework to foster high-quality national and global tuberculosis research and is working with ministries of science and technology, ministries of health, funders and stakeholders in driving strategic planning and prioritization. In 2016, four new diagnostic tests were recommended by WHO; nine drugs are in advanced phases of clinical trials for treatment and 13 vaccine candidates are in clinical trials.

41. Multidisciplinary and multisectoral approaches to tackling the biomedical and socioeconomic dimensions of the tuberculosis epidemic require strong partnerships. WHO will continue to work closely with all existing partners, while also seeking new ones. In 2015, WHO organized a consultative global workshop with community representatives, nongovernmental and other civil society organizations to enhance their engagement in the implementation of the End TB Strategy, which resulted in a call to action and a civil society task force on tuberculosis.

F. GLOBAL TECHNICAL STRATEGY AND TARGETS FOR MALARIA 2016–2030 (resolution WHA68.2 (2015))

42. Between 2000 and 2015, malaria case incidence decreased by 41% and the malaria mortality rate fell by 62%. In the last five years of that period (2010–2015), the rates fell by 21% and 29%, respectively. Between 2000 and 2015, 17 countries eliminated malaria and six were certified as malaria free by WHO. In 2015, 10 countries and territories reported fewer than 150 indigenous cases and a further nine countries reported between 150 and 1000 indigenous cases. Following on from these successes, the global technical strategy for malaria 2016–2030 set ambitious new milestones for the global effort, namely: a 40% reduction in malaria case incidence and mortality rates by 2020 and malaria elimination in at least 10 countries (compared to a 2015 baseline).

43. For the 2020 milestones to be achieved globally, progress must accelerate in the highest-burden countries. In support of this, malaria funding must increase substantially from 2015 levels, which at US\$ 2.9 billion represented only 45% of the funding needed to optimize malaria control in the period leading up to 2020.

44. **Universal access to malaria prevention, diagnosis and treatment.** Common methods to prevent malaria are sleeping under an insecticide treated bednet and indoor residual spraying. The proportion of the at-risk population in sub-Saharan Africa benefitting from one or other of these methods is estimated to have risen from 37% in 2010 to 57% in 2015. Delivery of intermittent preventive treatment in pregnancy is also improving, with 31% of eligible pregnant women receiving three or more doses in 2015 compared with 6% in 2010.

45. In the WHO African Region, the reported proportion of suspected malaria cases in the public sector receiving a parasitological test increased from 40% in 2010 to 76% in 2015, largely as a result of increased use of rapid diagnostic tests. Further investments are required to improve tracking of the proportion of malaria cases that test positive and receive first-line malaria treatment. WHO is planning an analysis of coverage gaps, together with a response to ensure universal access to malaria diagnosis and treatment.

46. Potential biological challenges to the ability of current tools to prevent and treat malaria are vector insecticide resistance and antimalarial drug resistance. In response, WHO coordinated a multicountry evaluation to assess the impact of resistance on the effectiveness of vector control. The findings, summarized in the publication *Implications of insecticide resistance for malaria vector*

control,¹ indicated that people who slept under an insecticide treated bednet had fewer malaria infections than those who did not use a bednet (even though local mosquitoes showed some resistance to the insecticide used on the nets), supporting the case for continued scale-up of coverage with insecticide treated bednets.

47. Resistance to artemisinin in *Plasmodium falciparum* has been detected in five countries in the Greater Mekong subregion. In 2015, WHO launched the strategy for malaria elimination in the Greater Mekong subregion (2015–2030) with which all five countries in the region have aligned their national strategies. Between 2012 and 2015 the subregion reduced malaria case incidence by an estimated 54% and mortality rates by 84%.

48. **Accelerating efforts towards elimination.** A WHO analysis of recent country-level progress towards elimination – based on the number of reported indigenous cases, the declared national target for elimination and expert opinion – identified 21 countries that are in a position to eliminate malaria by 2020: Algeria, Belize, Bhutan, Botswana, Cabo Verde, China, Comoros, Costa Rica, Ecuador, El Salvador, Islamic Republic of Iran, Malaysia, Mexico, Nepal, Paraguay, Republic of Korea, Saudi Arabia, South Africa, Suriname, Swaziland and Timor-Leste.

49. **Transform surveillance into a core intervention.** The Secretariat has established a dedicated surveillance, monitoring and evaluation unit to provide updated guidance and training on surveillance and to support Member States in implementing effective surveillance systems, including an updated District Health Information System 2 malaria module. A key priority will be to support countries in generating data of high quality to track progress towards national and global targets and to improve decision-making for effective national programme implementation.

50. All WHO regional offices have developed regional frameworks or plans that are fully aligned with the global technical strategy for malaria 2016–2030 and many national strategic plans are already aligned or are in the process of being updated.

Promoting health through the life course

G. PUBLIC HEALTH IMPACTS OF EXPOSURE TO MERCURY AND MERCURY COMPOUNDS: THE ROLE OF WHO AND MINISTRIES OF PUBLIC HEALTH IN THE IMPLEMENTATION OF THE MINAMATA CONVENTION (resolution WHA67.11 (2014))

51. The Minamata Convention on Mercury was adopted in October 2013² and has the objective “to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds”. The Convention will enter into force after the fiftieth ratification.³

¹ WHO-coordinated multi-country evaluation: implications of insecticide resistance for malaria vector control. Geneva: World Health Organization; 2016 (<http://www.who.int/malaria/news/2016/iir-malaria-vector-control-evaluation-nov2016.pdf?ua=1>, accessed 13 February 2017).

² Document UNEP(DTIE)/Hg/CONF/3 (<http://www.mercuryconvention.org/Convention/tabid/3426/Default.aspx>, accessed 3 February 2017).

³ As at 21 February 2017 there were 38 ratifications. See <http://www.mercuryconvention.org/Countries/tabid/3428/Default.aspx> (accessed 21 February 2017).

52. Resolution WHA67.11 requested the Director-General, inter alia, to facilitate WHO's efforts to provide advice and support to Member States to support the implementation of the Minamata Convention on Mercury in all health aspects related to mercury, consistent with WHO's programme of work, in order to promote and protect human health; and to provide support to Member States in developing and implementing strategies and programmes to identify and protect populations at risk, particularly vulnerable populations. Further, in 2016, through resolution WHA69.4, the Health Assembly emphasized "the importance of bringing into force the Minamata Convention on Mercury as soon as possible".

53. The Secretariat's approach in this initial phase of work leading to entry into force of the Convention has been threefold.

54. Firstly, the Secretariat has aimed to raise awareness about the Convention among health ministries, provide opportunities for networking and disseminate relevant tools and guidance published by WHO. Regional or subregional workshops have been convened for health ministries in the Americas (October 2015 in Uruguay for Spanish speakers and October 2016 in Jamaica for Caribbean countries), Europe (June 2015 in Germany) and the Eastern Mediterranean (November 2016 in Jordan). An annotated bibliography of key WHO guidance and other materials, cross-referenced to the articles of the Convention, has been published and relevant materials placed on a dedicated website.¹ Different language versions of the materials are being progressively published.

55. Secondly, the Secretariat has reviewed, updated and developed new tools and guidance to support implementation of the Convention. In 2014, WHO and UNEP jointly published a report entitled "*Promoting the phase down of dental amalgam in developing countries.*"²

56. In 2015, the Secretariat published guidance for health ministries on developing national strategies for phasing-out mercury-containing thermometers and sphygmomanometers.³ This guidance aims to assist health ministries in planning and leading the development of the health system-wide national strategies that will be necessary to meet the obligations of the Convention. The guidance is available in English and Russian.

57. Tools, guidance and training materials are currently being developed to support countries in dealing with the public health impacts of artisanal and small-scale gold mining, as well as in developing the public health strategies required under Article 7 of the Minamata Convention. A technical paper on the subject was published in 2016.⁴ Guidance on the development of public health strategies is expected to be finalized in 2017 for presentation to the first Conference of the Parties to the Minamata Convention.

¹ See http://www.who.int/ipcs/assessment/public_health/mercury/en/ (accessed 3 February 2017).

² Promoting the phase down of dental amalgam in developing countries. Geneva: United Nations Environment Programme and World Health Organization; 2014 (http://www.who.int/oral_health/publications/promoting-phase-down-dental-amalgam-developing-countries/en/, accessed 21 February 2017).

³ Developing national strategies for phasing out mercury-containing thermometers and sphygmomanometers in health care, including in the context of the Minamata Convention on Mercury: key considerations and step-by-step guidance. Geneva: World Health Organization; 2015 (http://www.who.int/ipcs/assessment/public_health/WHOGuidanceReportonMercury2015.pdf, accessed 21 February, 2017).

⁴ Environmental and occupational health hazards associated with artisanal and small-scale gold mining. Geneva: World Health Organization; 2016 (<http://apps.who.int/iris/bitstream/10665/247195/1/9789241510271-eng.pdf>, accessed 21 February 2017).

58. Thirdly, the Secretariat is working to facilitate health ministry participation in country projects supported by the Global Environment Facility. The Secretariat is working in partnership with several Global Environment Facility implementing agencies in projects addressing: artisanal and small-scale gold mining in Ghana, Honduras, Mozambique and Nigeria; safe and environmentally sound management of mercury wastes in health care in Ghana, Honduras, Madagascar, United Republic of Tanzania and Zambia; global mercury monitoring (including human biomonitoring) in China, Costa Rica, Ghana, India, Kyrgyzstan, Mongolia and the Russian Federation, with the support of the WHO collaborating centre at the National Institute for Minamata Disease, Japan; phase down of dental amalgam in Kenya, United Republic of Tanzania and Uganda; development of Minamata Initial Assessments in Honduras and in seven French-speaking African countries (Benin, Burkina Faso, Guinea, Mali, Niger, Senegal and Togo). The Secretariat is also supporting individual countries upon request, for example by conducting a workshop in Armenia, and supporting the development of a conceptual framework for implementation of the health aspects of the Convention in Malaysia.

59. A considerable amount of work remains to be done. The Secretariat is hoping to be able to offer workshops for the remaining regions in order to provide guidance on the implementation of Article 16 of the Convention on “health aspects” and to make more WHO materials available in other languages. In addition, the Secretariat anticipates increased demand from Member States for support in dealing with the health impacts of artisanal and small-scale gold mining, and the implications of the phase-out by 2020 of the manufacture, import and export of mercury-containing thermometers and sphygmomanometers in health care. Manufacturing of mercury-containing thermometers and sphygmomanometers is believed to be concentrated in a very small number of countries, all of which are Parties to the Convention, therefore Parties and non-Parties alike need to be prepared for the reduced availability of these devices in the market.

H. STRATEGY FOR INTEGRATING GENDER ANALYSIS AND ACTIONS INTO THE WORK OF WHO (resolution WHA60.25 (2007))

60. This progress report focuses on advances in the implementation of resolution WHA60.25, which has become the cornerstone for scaling up action towards, and achieving, the health- and equality-related targets of the Sustainable Development Goals, and more broadly contributing to attainment of Goal 5 (Achieve gender equality and empower all women and girls). The report describes work on implementation at country level, how the Secretariat has responded to requests for support from Member States, and how gender mainstreaming is being strengthened within the Organization.

Country progress

61. In 2016, 65 countries experienced a reduction of health inequities, including gender inequality.¹

Support provided to Member States, in particular promoting the use of sex-disaggregated data and gender analysis

62. The Secretariat has responded to requests for technical support from Member States in implementing the resolution. In 2015–2016, it provided technical backup and capacity building for data disaggregation and health inequality monitoring in 15 countries in three regions (the Americas, South-East Asia and Eastern Mediterranean). In the Western Pacific Region, where gender, equity and

¹ See document EB140/36, baseline indicator for outcome 3.3.

human rights had been mainstreamed in the regional framework for action on ageing and health in the Western Pacific (2014–2019), the issue was placed at the centre of a review in 2015–2016 of six health systems strategies, including a study on water safety planning in the Philippines. In the Region of the Americas, consideration of gender, equity, human rights and ethnicity was updated in PAHO's manual for developing the Programme budget 2016–2017, and the Regional Office for the Americas/PAHO has led the initiation, in coordination with internal and external partners, of the design of key gender and health indicators relating to the Sustainable Development Goals as well as the Global Strategy for Women's, Children's and Adolescents' Health (2016–2030).

63. WHO increasingly uses disaggregated data and has published two major reports disaggregating data by four dimensions: on inequality and changes over 10 years across 23 indicators of reproductive, maternal, newborn and child health in 86 low- and middle-income countries¹ and the state of inequality regarding five childhood immunization indicators, covering 69 countries over 10 years.²

64. In 2016, WHO's Health Equity Monitor database included disaggregated data entailing more than 30 reproductive, maternal, newborn and child health indicators from 102 countries, up from 94 countries in 2015. In 2016, the Secretariat launched the Health Equity Assessment Toolkit, a software application that enables countries to assess inequalities using the database across five dimensions of inequality (economic status, education, place of residence, subnational region and child's sex, where applicable).

Building capacity in Member States and the Secretariat

65. Examples of the strengthening of country capacity through the Secretariat's technical guidance include the following.

- Work was undertaken to increase the capability to mainstream gender in public health in 69 countries in four WHO regions (Africa, the Americas, Eastern Mediterranean and Western Pacific). The Regional Office for the Western Pacific, for instance, coordinated a regional campaign for social mobilization and advocacy "Human Together" in order to promote gender equality and reduce gender-based violence.
- The Regional Office for the Americas/PAHO has provided follow-up guidance to 33 countries on integrating gender, equity, human rights and ethnicity into health self-assessments.
- In 2016, WHO launched the Innov8 approach for reviewing national health programmes to leave no one behind.³ Updated national strategies, plans and programming in Indonesia and Nepal reflected recommendations that emerged from the piloting of Innov8 in several countries. The Regional Office for South-East Asia organized a regional workshop on strengthening gender, equity, rights and social determinants of health (Kathmandu,

¹ WHO, International Center for Equity in Health. State of inequality: reproductive, maternal, newborn and child health. Geneva: World Health Organization; 2015 (http://apps.who.int/iris/bitstream/10665/164590/1/9789241564908_eng.pdf?ua=1&ua=1, accessed 2 March 2017).

² State of inequality: childhood immunization, Geneva: World Health Organization; 2016 (<http://apps.who.int/iris/bitstream/10665/252541/1/9789241511735-eng.pdf?ua=1>, accessed 2 March 2017).

³ See http://www.who.int/social_determinants/Health_sector_reorientation/en/ (accessed 3 March 2017).

21–23 June 2016) to present the Innov8 approach and guidance on implementing the Global Accelerated Action for the Health of Adolescents.

- In 2015–2016, the Secretariat continued its work on ways to assess barriers to health services, including hindrances related to gender and intersecting factors such as low educational level, low income and rural living. An assessment of barriers to primary health care in disadvantaged districts in Viet Nam emphasized the need to reinforce primary health care and improve the referral system; the findings were presented at a national stakeholder meeting to feed into planning processes. Quantitative and qualitative instruments for identifying barriers to services (and integrating findings into programme planning) were adapted for preventive chemotherapy of some neglected tropical diseases and piloting plans were developed for a set of countries in the African Region.
- In Viet Nam, the Secretariat collaborated with partners to support capacity-building for gender-sensitive monitoring and evaluation in HIV prevention and control.

66. Several regional offices held awareness-raising and training workshops on gender analysis and placing gender, equity and human rights at the centre of planning. The Regional Office for Europe focused on training national programme officers, and the regional offices for South-East Asia, the Eastern Mediterranean and the Western Pacific targeted selected gender, equity and human rights country office and regional office staff. In the Regional Office for the Americas all staff were trained on gender issues as well as cross-cutting themes of equity, human rights and diversity.

67. The WHO's Roadmap for Action (2014–2019)¹ provides guidance on the corporate integration of gender, equity human rights and social determinants into the work of the Organization. The roadmap's directions are reflected in the framework and guidance document for the Global Accelerated Action for the Health of Adolescents, the strategy on women's health and well-being in the WHO European Region (adopted by the Regional Committee for Europe in 2016), and the report by the Regional Office for Europe on women's health and well-being in Europe.²

68. The capability of the Secretariat's staff members to mainstream gender, equity and human rights into their work was also strengthened through targeted technical support to those working in programme areas focusing on programme budget formulation and inclusion of the subject in staff inductions and new e-learning modules.

Mainstreaming gender into WHO's management and establishing accountability

69. In 2016, 13 WHO programme areas incorporated aspects of gender, equity and human rights, compared with 10 in 2015. Furthermore, work is under way to include an average of four actions on gender, equity and human rights in each of 20 programme areas in the Proposed programme budget 2018–2019 being submitted to the Health Assembly in May 2017.

¹ Roadmap for action, 2014–2019: integrating equity, gender, human rights and social determinants into the work of WHO. Geneva: World Health Organization; 2015 (<http://www.who.int/gender-equity-rights/knowledge/roadmap/en/>, accessed 3 March 2017).

² Women's health and well-being in Europe: beyond the mortality advantage (2016). Copenhagen: WHO Regional Office for Europe; 2016 (<http://www.euro.who.int/en/health-topics/health-determinants/gender/publications/2016/womens-health-and-well-being-in-europe-beyond-the-mortality-advantage-2016>, accessed 3 March 2017).

70. The Secretariat's unit on gender, equity and human rights has provided client-oriented guidance to staff in programme areas to facilitate mainstreaming of the subject across the work of the Organization, for example, the programme budget, WHO country cooperation strategies, and the induction of heads of WHO offices in countries, territories and areas. The planning, monitoring and assessment cycles of the Regional Office for the Americas include an analysis of the integration of gender, equity, human rights and ethnicity into technical reports. In the Regional Office for Europe, executive management adopted an action plan for equity through social and environmental determinants, gender and human rights approaches.

71. Beginning in 2016, WHO is profiting from the United Nations System Staff College's learning programme on leadership, women and the United Nations, aimed at women at the P4 and P5 levels, by sending female staff members.

72. The Secretariat is responsible and accountable for the following actions:

- meeting the requirements of the accountability framework of the United Nations System-Wide Action Plan on Gender Equality and Women's Empowerment, and in particular improving performance on six of 15 performance indicators, including policy and planning, monitoring and reporting, and organizational culture;
- reaching targets on gender equality in staffing through both the Secretariat's strategy on gender parity and policy on gender equality in staffing, introduced in 2016, and its commitments to the International Gender Champions – Geneva;
- achieving gender targets (in the compacts with assistant directors-general and other senior staff in headquarters under the WHO Accountability Framework and in the enhanced staff performance evaluation system) and demonstrating diversity-respectful behaviours.

Health systems

I. PROGRESS IN THE RATIONAL USE OF MEDICINES (resolution WHA60.16 (2007))

73. In response to resolution WHA60.16 (2007), Member States, in collaboration with the Secretariat and partners, are working to promote the rational use of medicines, aiming to minimize overuse, underuse and misuse of medicines through the following: planning and implementation of interventions, such as evidence-based selection; policy guidance and promotion of best practices; capacity building; and collection and analysis of data on the use of medicines.

Norms and standards for selection and rational use

74. Additional medicines for cancer and new medicines for hepatitis C and tuberculosis were included in the 19th WHO Model List of Essential Medicines and the 5th WHO Model List of Essential Medicines for Children. A review of antibiotics for infectious diseases, sexually transmitted infections and paediatric indications will be undertaken by the 21st Expert Committee on the Selection and Use of Essential Medicines in March 2017. Reviews by the Expert Committee will also include medicines for noncommunicable diseases such as cancer and diabetes.

75. WHO is preparing treatment guidelines for the management of pain in cancer patients. The methodology was defined at a meeting in 2016 and a review of opioid medicines for pain management has been undertaken for consideration by the 21st Expert Committee on the Selection and Use of Essential Medicines.

Responsible use of antimicrobials

76. The Secretariat is leading work on surveillance of the consumption and use of antimicrobial medicines. An expert consultation was organized in March 2016, contributing to the development of a WHO methodology for surveillance of antimicrobial consumption.¹ Training and survey implementation began in 2016. A protocol for the WHO hospital point prevalence survey on antimicrobial use has been developed based on the protocol of the European Centre For Disease Prevention and Control. Survey implementation is planned in 2017 for countries in the WHO African, South-East Asia and Western Pacific regions. Data obtained will be comparable with data obtained from countries in the WHO European Region.

77. The WHO Antimicrobial Medicine Consumption network supports countries in setting up or strengthening surveillance of antimicrobial medicine consumption. Efforts are coordinated with partners to ensure that data are compatible and comparable. The Regional Office for Europe has supported the development of software to facilitate and simplify data analysis. A report on consumption data from 2011 to 2014 is being prepared.

78. A consultative expert meeting on combatting antimicrobial resistance was organized by the Regional Office for Africa in May 2015, contributing to country action plans on antimicrobial resistance and to plans for work on responsible use of antimicrobials.

Progress in regions and countries

79. In the Region of the Americas, the sixty-eighth session of the Regional Committee for the Americas adopted a resolution on access to and rational use of strategic and high-cost medicines and other health technologies.² Another resolution³ was adopted by the Meeting of the Ministers of Health of the Andean Region in 2015, endorsing a strategy and plan of action for the rational use of medicines in the region. Guidance has been published on developing, implementing and monitoring national medicines policies to reinforce strategies for the rational use of medicines. Cuba, Mexico and Paraguay have conducted a pilot assessment of basic indicators of rational use of medicines for health services. Twenty-three countries, territories and areas in the Region of the Americas have updated their essential medicines lists since 2014. Seven countries have reported on defined standards and procedures for the development or adaptation of clinical practice guidelines.

¹ http://www.who.int/medicines/areas/rational_use/WHO_AMCsurveillance_1.0.pdf?ua=1 (accessed 19 January 2017).

² Resolution CD55.R10, Rev.1 (2016).

³ XXXV Reunión de Ministras y Ministros de Salud del Área Andina (REMSAA), Resolución REMSAA XXXV/501, Estrategia Andina y Plan de Acción de Uso Racional de Medicamentos y otras Tecnologías Sanitarias y Observatorio Andino de Medicamentos. Cochabamba, Bolivia; October 2015. Available online, in Spanish only: <http://www.orasconhu.org/sites/default/files/Resolucion%20XXXV%20501%20Medicamentos%20y%20OAM.pdf> (accessed 20 February 2017).

80. In the African Region, 17 countries have worked to improve the selection, prescribing, dispensing and use of medicines. Activities have included revision of national essential medicines lists and/or standard treatment guidelines, training on prescribing and use, and surveys to assess prescribing and use of medicines.

81. The Regional Office for Europe collaborates with partners in order to support community pharmacists in 32 countries to promote greater engagement in issues related to the responsible use of medicines. The Regional Office for Europe co-convened a course to assist countries in understanding how multifaceted models can improve adherence to recommendations on quality use of medicines in primary and hospital care.

82. The Regional Office for the Eastern Mediterranean has provided training for health ministry and regulatory authorities personnel in eight countries on addressing barriers to access to opioid medicines and their use, on topics such as conducting surveys on accessibility, availability, affordability and use, and estimation of future needs. A survey on causes and current trends in medicine shortages and stock-outs was also carried out.

The way forward

83. Despite the diverse initiatives in rational use described above, more effort is required to address the rational use of medicines, including in national policies and plans, through regional initiatives and by committing resources as recommended in resolution WHA60.16.

J. REGULATORY SYSTEM STRENGTHENING FOR MEDICAL PRODUCTS (resolution WHA67.20 (2014))

84. The following text provides details of the activities undertaken by the Secretariat in response to resolution WHA67.20 (2014).

85. **Regulatory systems strengthening.** Between June 2014 and January 2017, the Secretariat supported approximately 60 Member States in developing their regulatory capacity, training more than 1000 regulatory staff globally on a range of topics.

86. WHO has begun work on adopting more innovative and effective approaches to regulatory system strengthening. It is intended that, once finalized, these will include the formation of a coalition with partner organizations; the establishment of centres of excellence; and the development of a prioritization tool aimed at increasing the impact of interventions.

87. **Norms and standards.** WHO has developed guidance on all aspects of resolution WHA67.20, including the following documents that have been approved by WHO expert committees:

- guidelines on biotherapeutic products, most recently on the evaluation of monoclonal antibodies as similar biotherapeutic products;
- guidance on management of blood and blood components as essential medicines; on estimation of residual risk of infection with HIV, hepatitis B or hepatitis C virus via cellular blood components or plasma; and on preparation of secondary standards for in vitro diagnostic assays designed for infectious disease nucleic acid or antigen testing;

- a guideline for non-vaccine-producing countries on regulatory preparedness for the expedited approval of influenza vaccines used in response to a pandemic emergency;
- the global model regulatory framework for medical devices, including in vitro diagnostics, targeting countries with limited or no regulation of medical devices.

88. In addition, WHO developed:

- a draft guideline on good regulatory practices as a means of establishing sound, affordable and effective regulation of medical products. The guideline also defines and encourages the use of reliance on the work of other authorities;
- a naming policy for cell therapy products to complement the one established for gene therapy products.

89. **Engagement and coordination at all levels of the Organization.** WHO continues to ensure that regulatory system strengthening efforts are supported at all levels of the Organization through planning, execution and reporting under category 4 of the Twelfth General Programme of Work, 2014–2019.

90. **Prequalification programme.** WHO, industry groups and key partners have agreed on a new financing arrangement to ensure the financial sustainability and quality of WHO's prequalification programme in the coming years.

91. WHO has also worked to promote the use of the collaborative registration procedure for prequalified products, with 30 countries to date having used this procedure for medicines. The procedure is also being piloted by the Caribbean Regulatory System.

92. **Regulatory networks.** WHO provided technical support to the African Medicines Regulatory Harmonization Initiative in increasing the number of participating African regional organizations in addition to the East African Community. WHO also supported expansion of the Harmonization Initiative from generic medicines to other product areas and regulatory functions.

93. In order to promote the effectiveness of initiatives for collaboration and cooperation, and of involvement in them, WHO has:

- facilitated effective platforms for work-sharing, reliance on the work of other authorities and emergency preparedness, notably the African Vaccine Regulatory Forum and the Developing Countries Vaccine Regulators' Network, both of which have also expanded in scope to include medicines;
- supported the establishment of an ASEAN group on joint assessment of priority medicines;
- initiated a global network of vaccine control laboratories responsible for the release of WHO-prequalified vaccines.

94. **International Conference of Drug Regulatory Authorities (ICDRA).** WHO supported the 16th International Conference of Drug Regulatory Authorities in Rio de Janeiro, Brazil (26–29 August 2014), and the 17th International Conference of Drug Regulatory Authorities in Cape Town, South Africa (27 and 28 November 2016), both attended by more than 500 participants

representing more than 100 WHO Member States. Recommendations agreed at the conferences helped to establish the regulatory policy agenda for the Secretariat and Member States, most recently on the importance of effective regulatory cooperation to making available essential medical products of assured quality.

95. **Coordination with work undertaken through the Member State mechanism on substandard/spurious/falsely-labelled/falsified/counterfeit medical products.** The Secretariat has been working closely with the Steering Committee of the Member State mechanism to ensure that efforts are not duplicated.

96. Well-functioning regulatory systems are critical to ensuring access to safe and effective medical products of assured quality. WHO has adopted a multifaceted approach to regulatory systems strengthening, guided by resolution WHA67.20 and the principles of sound science and risk-based approaches, that takes into consideration the value of regulatory activities to public health and the growing importance of regulatory cooperation and reliance on the work of other authorities. The full realization of the vision that all countries will have a functioning regulatory system will require continued and long-term efforts from both Member States and the Secretariat.

K. STRENGTHENING EMERGENCY AND ESSENTIAL SURGICAL CARE AND ANAESTHESIA AS A COMPONENT OF UNIVERSAL HEALTH COVERAGE (resolution WHA68.15 (2015))

97. Resolution WHA68.15 (2015) provides a platform for national, regional and international activities to strengthen the delivery of emergency and essential surgical care and anaesthesia.

98. The Secretariat, working through the WHO Emergency and Essential Surgical Care Programme, together with other key stakeholders, generated a road map for implementation of resolution WHA68.15. The road map included the set out below.

(a) **Advocacy.** Working with strategic partners, advocacy events have been conducted in all six WHO regions, raising awareness of the unmet need for surgery and the cost-effectiveness of surgical care and anaesthesia when integrated into primary health care systems.

(b) **System delivery.** Member States in the African Region (Ethiopia, Madagascar, United Republic of Tanzania and Zambia), the Region of the Americas (Brazil, Ecuador, Nicaragua and Peru), the South-East Asia Region (India) and the Western Pacific Region (Australia, Cook Islands, Fiji, Kiribati, Micronesia (Federated States of), Nauru, New Zealand, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu and Vanuatu) have planned or hosted surgical care forums and initiated national capacity assessments in support of the development of national surgical, obstetric and anaesthesia care plans.¹

(c) **Information management.** A multidisciplinary technical working group (with all six regions represented) has developed an electronic tool for assessing surgical, obstetric and anaesthesia care capacity.

¹ Further information is available at <http://www.who.int/surgery/publications/WHA-progress-report-annex.pdf>, accessed 20 February 2017.

(d) **Essential medicines and supplies.** The Secretariat has tackled matters relating to the access to and availability and affordability of essential medicines for surgical, obstetric and anaesthesia care. The Secretariat's efforts have also included working to resolve issues of antibiotic stewardship in surgery, which is a factor in the fight against antimicrobial resistance.

(e) **Workforce development.** The Secretariat has been working with Member States and surgical colleges¹ and development partners to provide platforms for sharing evidence of best practices, and to develop minimum standards and core curricula for fully trained and mid-level providers (through task sharing) in the surgical, obstetric and anaesthesia health workforce.

99. Key partners include WHO collaborating centres on surgical care and anaesthesia,² five non-State actors in official relations with WHO,³ several permanent missions, as well as WHO country offices, to mobilize resources and provide technical expertise at all levels.

100. While progress has been made in implementing specific action areas of the resolution, it is clear that significant resource mobilization and programme development are needed, both at country and international levels, if full implementation of the resolution is to be achieved. Further threats are also anticipated to the availability of essential medicines, including those posed to ketamine and narcotic drugs. Finally, given the enormous needs involved, the creation of an adequate health workforce through training programmes in surgery, anaesthesia and obstetrics will be essential.

101. The Secretariat has planned activities for implementation of resolution WHA68.15 at the global, regional and country levels over the next five years. These are set out below.

(a) **Global level.** Develop a framework of national surgical, obstetric and anaesthesia care plans based on core indicators; promote essential medicines at local, regional and international levels; implement pilot curricula; and benchmark minimal credentialing standards.

(b) **Regional level.** Establish regional partners and collaborating centres in emergency and essential surgical care; produce best practice guidelines on developing national surgical care plans based on evidence from model countries; and develop strategic planning tools concerning the surgical, obstetric and anaesthesia health workforce, based on regional data and in line with the WHO Health Workforce 2030 strategic priorities.

(c) **Country level.** Monitor national surgical, obstetric and anaesthesia care plans and internal referral networks and use evidence-based indicators to develop national policy; encourage strong, national standardized curricula and credentialing for all surgical care providers; and carry out advocacy at the local level to promote the availability of surgical, obstetric and anaesthesia care services at the primary care level.

¹ American College of Surgeons, Royal College of Surgeons of England, Royal College of Surgeons in Ireland, Royal Australasian College of Surgeons, College of Surgeons of East, Central and Southern Africa, and West African College of Surgeons.

² Mongolian National University of Medical Sciences and University of Western Ontario.

³ International College of Surgeons, International Federation of Surgical Colleges, Société internationale de Chirurgie orthopédique et de Traumatologie, World Federation of Societies of Anaesthesiologists, and World Federation of Neurosurgical Societies.

Preparedness, surveillance and response

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

102. At the Sixty-ninth World Health Assembly in May 2016, Member States discussed the issue of the timing of the destruction of existing variola virus stocks. The advent of synthetic biology technologies, which makes it possible to create variola virus using publicly available information and common laboratory procedures, has underscored the need for the WHO Advisory Committee on Variola Virus Research to review the current research needs using live variola virus. The Health Assembly agreed to include on the provisional agenda of the Seventy-second World Health Assembly a substantive item on the destruction of variola virus stocks in order to allow time for any additional research, with annual progress reports in the interim on the status of the research.¹

103. This progress report provides an overview of the work undertaken by the Secretariat since the Sixty-ninth World Health Assembly. It summarizes the proceedings and conclusions of the eighteenth meeting of the WHO Advisory Committee on Variola Virus Research (Geneva, 2 and 3 November 2016)² and the biennial biosafety inspections of the two authorized repositories of variola virus (the State Research Centre for Virology and Biotechnology (VECTOR), Koltsovo, Novosibirsk Region, Russian Federation and the Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, United States of America). The membership of the Advisory Committee was recently expanded and incorporates relevant expertise for synthetic biology technologies.

104. At its eighteenth meeting, the Advisory Committee received reports from the Secretariat, including the status of the Smallpox Emergency Vaccine Stockpile, which is managed by WHO. The Advisory Committee also received reports on the virus collections held at the two WHO collaborating centres that are the authorized repositories of variola virus stocks. The Committee reviewed the work of the authorized programme of research with live variola virus at each repository. In 2016, eight research proposals were received by WHO and evaluated by the Advisory Committee's Scientific Subcommittee; five (two from VECTOR and three from CDC) were deemed to be "essential research for public health benefit that requires use of live variola virus" and therefore were recommended by the Scientific Subcommittee for approval by WHO.

105. The Advisory Committee also considered updates on the use of live variola virus for the development of diagnostic tests, two animal models, smallpox vaccines and two therapeutic agents. Representatives from pharmaceutical companies described the status of progress towards both licensure of the antivirals and testing and registration of third-generation non-replicating variola virus vaccines that could be suitable for use in people who are immunologically compromised. The United States Food and Drug Administration presented its views on the licensure process.

¹ See document WHA69/2016/REC/3, summary record of Committee A, sixth meeting.

² The report will be published soon on the WHO website at <http://www.who.int/csr/disease/smallpox/en/> under "Highlights".

106. The Advisory Committee carefully reviewed and strongly concurred with the assessment of the Independent Advisory Group on Public Health Implications of Synthetic Biology Technology Related to Smallpox, which stated in its 2015 report: “there will always be the potential to recreate variola virus, and therefore the risk of smallpox re-emerging can never be fully eradicated.”¹ The Advisory Committee recognized that synthetic biology has changed – and will continue to change – the landscape concerning variola virus and diseases slated for eradication. In this regard, the Committee emphasized preparedness at country and global levels, in particular the availability and accessibility of diagnostics and other related tools.

107. The current round of the WHO’s biennial biosafety inspections of the repository sites was initiated at VECTOR (10 to 15 October 2016). The inspection of CDC will take place in May 2017 with the same international team of biosafety experts, again led by WHO. Reports of both inspections will be finalized in 2017. The protocol used for the inspections follows the European Committee for Standardization’s Laboratory Biorisk Management Standard CWA 15793, which covers 16 elements of laboratory biorisk management.

M. ENHANCEMENT OF LABORATORY BIOSAFETY (resolution WHA58.29 (2005))

108. In resolution WHA58.29, adopted in 2005, the Health Assembly urged Member States to take a series of actions to enhance laboratory biosafety through, inter alia, development of national plans and implementation of specific programmes for safe handling and transport of microbiological agents and toxins. It also requested the Director-General to ensure that WHO played an active role in improving laboratory safety and that the Secretariat provided technical support, including fostering the generation and sharing of knowledge and experience through the update of relevant WHO guidelines and manuals.

109. Pursuant to the resolution, WHO has scaled up its work, in tandem with Member States and partners including international organizations, public health institutions and competent authorities, global financing instruments and biosafety associations, in order to ensure safe and secure laboratory operations, containment of biological hazards, and prevention of natural, accidental or deliberate release. The concerted efforts of all parties have led to steady progress in enhancement of biosafety.

110. WHO has published several **strategic and technical documents** on laboratory biosafety. Examples include the biennial update of the guidance on regulations for the transport of infectious substances,² laboratory biosecurity guidance,³ laboratory capacity requirements for International Health Regulations (2005) and their implementation in the African Region,⁴ the Asia Pacific Strategy

¹ See http://apps.who.int/iris/bitstream/10665/198357/1/WHO_HSE_PED_2015.1_eng.pdf?ua=1, page 5 (accessed 1 March 2017).

² Guidance on regulations for the transport of infectious substances 2015–2016. Geneva: World Health Organization; 2015 (http://www.who.int/ihr/publications/who_hse_ihr_2015.2/en/, accessed 7 March 2017).

³ Biorisk management: Laboratory biosecurity guidance. Geneva: World Health Organization; 2006. http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_EPR_2006_6.pdf (accessed 1 March 2017).

⁴ Laboratory capacity requirements for International Health Regulations and their Implementation in the WHO African Region. Brazzaville: World Health Organization; 2013. <http://www.afro.who.int/en/clusters-a-programmes/3951-lab-capacity-requirements-for-ihr-and-their-implementation-in-the-who-afro.html>, (accessed 1 March 2017).

for Emerging Diseases: 2010,¹ the Asia Pacific strategy for strengthening health laboratory services,² the strategic framework for strengthening health laboratory services 2016–2020 in the Eastern Mediterranean Region,³ responsible life sciences research for global health security⁴ and the tuberculosis laboratory biosafety manual.⁵

111. WHO has made available **instruments and tools** for monitoring the status, progress and challenges in enhancing laboratory biosafety. One such tool proposes an intersectoral, whole-of-government evaluation of the national biosafety and biosecurity system.⁶ In 2016 the Regional Office for Africa developed an assessment tool for biosafety level 3 containment laboratories in the Region, focusing on key processes associated with the design, construction, operation, maintenance and regulation of such laboratories.⁷

112. **Capacity building.** WHO has implemented several multicountry and individual country-focused projects in support of countries such as Bangladesh, Indonesia, Myanmar, Nepal, Oman and Pakistan. In addition to providing training opportunities, these projects met specific needs and requests, such as awareness and multisectoral coordination, development of and training on national biosafety guidelines and standard operating procedures, review of national regulations and policies relating to biosafety, and procurement of essential biosafety equipment and consumables. Guidance on the design of biosafety level 3 facilities has been provided to 21 countries in the Americas.

113. One issue regularly identified was that only a limited number of countries had in place an effective regulatory framework and oversight mechanism to ensure safety of laboratories and containment of microbiological agents and toxins. The Secretariat has provided support to Pakistan and Viet Nam in their endeavours to set out the national biosafety policy and update the regulatory framework.

114. WHO has developed a training course on biological risk management for introducing a systematic approach to assessing and mitigating biological risks. Running the courses has generated a

¹ Asia Pacific strategy for emerging diseases: 2010. Manila: Regional Office for the Western Pacific, and New Delhi: Regional Office for South-East Asia, 2010. http://apps.searo.who.int/PDS_DOCS/B4694.pdf, (accessed 1 March 2017).

² Asia Pacific strategy for strengthening health laboratory services (2010–2015). Manila: Regional Office for the Western Pacific and New Delhi: Regional Office for South-East Asia, 2010. http://www.searo.who.int/about/administration_structure/cds/BCT_Asia_Pacific_Strategy10-15.pdf (accessed 1 March 2017).

³ Strategic framework for strengthening health laboratory services 2016–2020, Regional Committee for the Eastern Mediterranean, document EM/RC63/5 Rev.1 (http://applications.emro.who.int/docs/RC_technical_papers_2016_5_6_19028_EN.pdf?ua=1, accessed 1 March 2017).

⁴ Responsible life sciences research for global health security: a guidance document. Geneva: World Health Organization; 2010 (http://apps.who.int/iris/bitstream/10665/70507/1/WHO_HSE_GAR_BDP_2010.2_eng.pdf, accessed 1 March 2017).

⁵ Tuberculosis laboratory biosafety manual. Geneva: World Health Organization; 2012 (http://apps.who.int/iris/bitstream/10665/77949/1/9789241504638_eng.pdf, accessed 1 March 2017).

⁶ Joint external evaluation tool: International Health Regulations (2005). Geneva: World Health Organization; 2016 (http://apps.who.int/iris/bitstream/10665/204368/1/9789241510172_eng.pdf, accessed 2 March 2017).

⁷ Assessment tool for key processes associated with the design, construction, operation, maintenance and regulation of BSL-3 facilities in the WHO African Region. Brazzaville: World Health Organization; 2016 (<http://apps.who.int/iris/bitstream/10665/246157/1/9789290233046-eng.pdf?ua=1&ua=1>, accessed 2 March 2017).

cadre of trainers and more than 3000 second-line trainees in more than 100 countries in all six regions. Some countries have replicated the course nationally, resulting in hundreds of laboratory staff being instructed by a small pool of national trainers.

115. Extensive training has been given on the safe shipping of infectious substances, with 1600 shippers in all regions trained and successfully certified for a two-year period. Regional training opportunities have been provided on good microbiological practices in South-East Asia, proper use of personal protective equipment in the Americas as well as on national biosecurity systems in Europe.

116. **Containment of microbiological agents.** Substantial progress has been made in containment of microbiological agents, in particular poliovirus and variola virus. WHO's global action plan for poliovirus containment¹ sets out the recommended requirements for facilities retaining polioviruses in preparing for the post-eradication era. An extensive survey was conducted by Member States which further designated their poliovirus-essential facilities in a drive to reduce the number of facilities retaining poliovirus, starting with type 2 poliovirus. Pursuant to the request to the Director-General in resolution WHA60.1 (2007) on smallpox eradication: destruction of variola virus stocks, WHO inspects the two authorized repositories of variola virus biennially in order to ensure the highest level of biosafety and biosecurity.²

117. **Building the evidence base and monitoring progress.** Three meetings of WHO's Extended Biosafety Advisory Group have been held, in 2010, 2014 and 2016, to provide the Secretariat with guidance and direction for biosafety-related activities. The meetings also provided a forum to facilitate cooperation among Member States as well as with the Secretariat and other international organizations. In 2010, the Group formulated the WHO Biorisk Management Strategic Framework for Action 2012–2016.³ In 2014 participants reviewed the strategic framework and identified further priority areas, including revision of WHO's laboratory safety manual, the current version of which was published in 2004. That manual is currently under comprehensive review by an editorial committee that has met regularly since 2015, with the aim of providing a practical, risk- and evidence-based approach that enables equitable access to necessary laboratory testing.

118. Despite the significant progress made by Member States, common problems persist, especially in resource-limited countries, with gaps in the safety culture, regulations and practices, and paucity of technical and financial resources to maintain adequate biosafety infrastructure and equipment. Greater engagement and sustainable resources continue to be needed to fulfil all the provisions of resolution WHA58.29.

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¹ WHO Global Action Plan to minimize poliovirus facility-associated risk after type-specific eradication of wild polioviruses and sequential cessation of oral polio vaccine use: GAPIII. Geneva: World Health Organization; 2015 (http://polioeradication.org/wp-content/uploads/2016/12/GAPIII_2014.pdf, accessed 2 March 2017).

² For further information see the accompanying progress report on smallpox eradication: destruction of variola virus stocks (resolution WHA60.1 (2007)) (document A70/38) and the WHO website: <http://www.who.int/csr/disease/smallpox/safety-inspections/en/> (accessed 2 March 2017).

³ Laboratory Biorisk Management: Strategic Framework for Action 2012–2016. Geneva: World Health Organization; 2012. http://apps.who.int/iris/bitstream/10665/70878/1/WHO_HSE_2012.3_eng.pdf (accessed 2 March 2017).