Defining competent maternal and newborn health professionals

Background document to the 2018 joint statement by WHO, UNFPA, UNICEF, ICM, ICN, FIGO and IPA: definition of skilled health personnel providing care during childbirth

World Health Organization

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International Confederation of Midwives Strengthening Midwifery Globally

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Acronyms and abbreviations[1]

BEmONC	basic emergency obstetric and newborn care
CEmONC	comprehensive emergency obstetric and newborn care
DHS	Demographic and Health Surveys
EPMM	ending preventable maternal mortality
FIGO	International Federation of Gynecology and Obstetrics
ICM	International Confederation of Midwives
ICN	International Council of Nurses
ILO	International Labour Organization
IPA	International Pediatric Association
ISCO	International Standard Classification of Occupations
MDG	Millennium Development Goal
MNH	maternal and newborn health
QoC	quality of care
SBA	skilled birth attendant
SDG	Sustainable Development Goal
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

1 Concepts and technical terms are defined in the glossary (Annex 1).

Executive summary

The Sustainable Development Goal on health (SDG 3) includes ambitious global targets to reduce maternal and neonatal mortality in all countries by 2030. But to achieve these targets, better definition of terms is needed to bring about the necessary focus and improved system functioning that will reduce complications and deaths around the critical time of birth. In particular, a revised definition of "skilled health personnel" who are competent to provide care during labour and childbirth, and expanded guidance regarding education, training and regulation of maternal and newborn health (MNH) professionals are needed. These can also be expected to support a wider strategy to improve the health of women and newborns globally.

This background document – a companion document to the 2018 joint statement[2] – outlines eight categories of MNH competencies that proficient MNH professionals must possess as an integrated team, while focusing in particular on the competencies of the MNH professional providing intrapartum care.

Standards of practice, including education, training and regulation standards for health-care professionals, may require adaptation to country and context, potentially including revision of curricula and legislation.

This background document and the new joint statement also link the competent MNH professional with the enabling environment comprising the six building blocks of the health system – service delivery; health workforce; information; medical products, vaccines and technologies; financing; and leadership and governance – which are essential for effective, timely, continuous, quality care.

Data collected through household surveys, as well as routine administrative data collection methods, must be adjusted and strengthened in accordance with the revised (2018) definition (see Box 1) to support more accurate measurement of SDG indicator 3.1.2: proportion of births attended by skilled health personnel.

Box 1. The 2018 definition of skilled health personnel (competent health-care professionals) providing care during childbirth (often referred to as "skilled birth attendants" or SBAs)

Skilled health personnel, as referenced by SDG indicator 3.1.2, are competent maternal and newborn health (MNH) professionals educated, trained and regulated to national and international standards. They are competent to: (i) provide and promote evidence-based, human-rights-based, quality, socioculturally sensitive and dignified care to women and newborns; (ii) facilitate physiological processes during labour and delivery to ensure a clean and positive childbirth experience; and (iii) identify and manage or refer women and/or newborns with complications.

In addition, as part of an integrated team of MNH professionals (including, in alphabetical order, anaesthetists, doctors [such as obstetricians and paediatricians], midwives and nurses), they perform all signal functions of emergency maternal and newborn care to optimize the health and well-being of women and newborns.

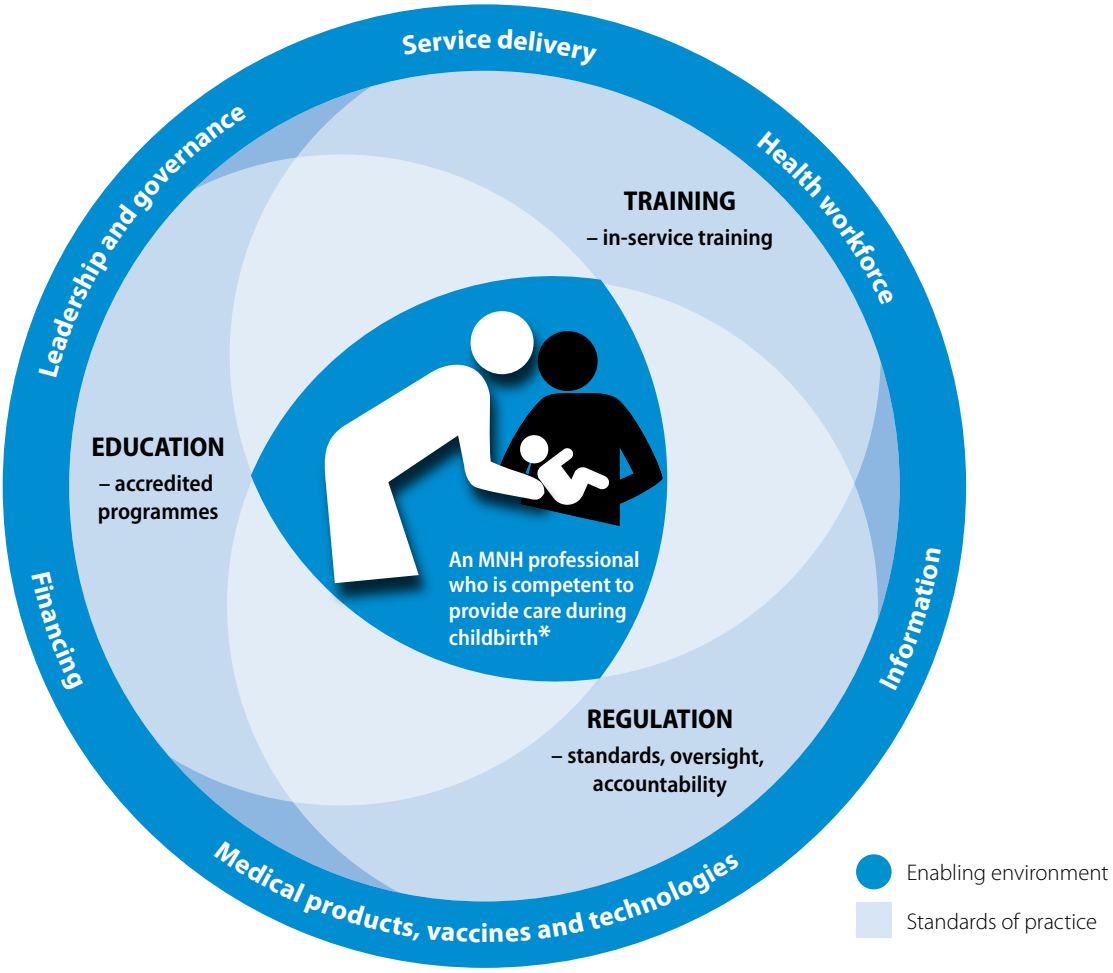
Within an enabling environment, midwives educated and regulated to International Confederation of Midwives (ICM) standards can provide nearly all of the essential care needed for women and newborns.* (In different countries, these competencies are held by professionals with varying occupational titles).

* The state of the world's midwifery 2014: a universal pathway: a woman's right to health. New York (NY): United Nations Population Fund; 2014 (www.unfpa.org/sowmy).

2 The joint statement is available at: www.who.int/reproductivehealth/defining-competent-mnh-professionals

Figure 1. A conceptual framework for the definition of skilled health personnel (competent health-care professionals) providing care during childbirth

At the core of this framework is the maternal and newborn health (MNH) professional who is competent to provide care during childbirth. This person possesses competencies in intrapartum care,* and is also supported by appropriate standards of practice (education, training and regulation), and operates within an enabling environment (a well functioning health system, comprising six building blocks).[a] SDG indicator 3.1.2 – proportion of births attended by skilled health personnel[b] – should be calculated as those births attended by a person who fits this definition. "Competent, motivated human resources" is one of the eight domains of the WHO framework for the quality of maternal and newborn health care.[c]



* This individual possesses the following required competencies (knowledge, skills, behaviours) in the area of intrapartum care:[d]

- can provide and promote evidence-based, human-rights-based, quality, socioculturally sensitive and dignified care to women and newborns
- can facilitate physiological processes during labour and delivery to ensure a clean and positive childbirth experience
- can identify and manage or refer women and/or newborns with complications
- can perform (as part of a team) all signal functions of emergency maternal and newborn care (basic emergency obstetric and newborn care – BEmONC; comprehensive emergency obstetric and newborn care – CEmONC) to optimize their health and well-being.

a Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action. Geneva: WHO; 2007 (www.who.int/healthsystems/strategy/en/).

b Sustainable Development Goal 3. In: Sustainable Development Knowledge Platform [website]. New York (NY): United Nations Department of Economic and Social Affairs; 2017 (https://sustainabledevelopment.un.org/sdg3).

c Standards for improving quality of maternal and newborn care in health facilities. Geneva: WHO; 2016 (www.who.int/reproductivehealth/publications/maternal_perinatal_health/improving-mnh-health-facilities/).

d There are eight categories of MNH competencies that competent MNH professionals must possess as an integrated team: Scope of knowledge, Scope of practice, Pre-pregnancy and antenatal care, Intrapartum care, Postpartum and postnatal care, Newborn care, Care related to loss or termination, Leadership. Further information is provided in section 3 of this document.

1. Introduction

This background document summarizes the process, methods, rationale and context for the review and revision of the 2004 joint statement on *Making pregnancy safe: the critical role of the skilled attendant (1)*. The resulting new 2018 joint statement by the World Health Organization (WHO), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the International Confederation of Midwives (ICM), the International Council of Nurses (ICN), the International Federation of Gynecology and Obstetrics (FIGO) and the International Pediatric Association (IPA) is titled: *Definition of skilled health personnel providing care during childbirth*.[3] This background document should be treated as a companion to the new joint statement.

The 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs) adopted in 2015 *(2)* highlight the importance of continued attention to maternal and newborn health (MNH) under SDG 3: Ensure healthy lives and promote well-being for all at all ages (Box 2).

Box 2. SDG 3: Ensure healthy lives and promote well-being for all at all ages *(3)*

Target 3.1: By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births

Indicator 3.1.1: Maternal mortality ratio

Indicator 3.1.2: Proportion of births attended by skilled health personnel

Target 3.2: By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births

Indicator 3.2.1: Under-five mortality rate

Indicator 3.2.2: Neonatal mortality rate

Targets in support of achieving SDG 3 include reducing the global maternal mortality ratio to less than 70 maternal deaths per 100 000 live births, and for all countries to reduce neonatal mortality to at least as low as 12 per 1000 live births by 2030 *(3)*. The goals of the 2014 *Every Newborn* action plan are (i) to end preventable newborn deaths (to reach 10 or fewer per 1000 live births) and (ii) to end preventable stillbirths (to reach 10 or fewer per 1000 total births) in all countries by 2035 *(4)*.

Achieving these targets will require strong and effective strategies, as well as accurate measurement and monitoring of progress on key MNH indicators. A critical progress indicator, explicitly adopted for SDG 3 (indicator 3.1.2) and also by the *Global Strategy for Women's, Children's and Adolescents' Health, 2016–2030*, and by the framework for ending preventable maternal mortality (EPMM), 2015–2030, is the "proportion of births attended by skilled health personnel" *(3,5,6)*.

Measurement methods and metadata used for reporting on skilled health personnel attending births took guidance from the 2004 WHO–FIGO–ICM joint statement, which provided a definition of skilled birth attendant (SBA) and described the core functions of that individual's role within the context of improving MNH *(1)*. However, using this information from the 2004 joint statement as a basis for measurement and metadata was beyond the original intent of that joint statement, which was a policy document. Reviews have since explored factors that influence the provision of antenatal, intrapartum and postnatal care by skilled birth attendants *(7)*. Analysis of existing reporting has shown, however, that while countries reported relatively high levels of birth attendance by an SBA, maternal and neonatal mortality were not reduced proportionally *(8)*. In consideration of this paradoxical finding, the transition between the Millennium Development Goal (MDG) and SDG reporting eras provides an opportunity to reflect critically on global measurement of SBA coverage: is

3 The joint statement is available at: www.who.int/reproductivehealth/defining-competent-mnh-professionals

the problem the metadata for the indicator, its measurement, or both?

A major limitation lies in the varying interpretations of the 2004 definition of SBA; consequently, measurement of coverage of deliveries by an SBA in many countries is challenged by lack of guidelines, standardization of job titles and functions, and the blurring or overlap of provider roles, which could inadvertently be brought about by the optimization of MNH roles through **task sharing/shifting**[4] *(9)*. Many countries have found that there are large gaps between international standards (e.g. those set by international organizations and associations such as FIGO, ICM, ICN, IPA, WHO, etc.) and the actual competencies possessed by existing birth attendants *(10)*.

To address these challenges, an interagency group including WHO, UNICEF and UNFPA initiated a process to clarify and refine the definition of the widely used term "skilled birth attendant" (SBA) with the aim of ultimately informing improved measurement of births attended by "skilled health personnel" (in support of SDG indicator 3.1.2). First, a two-day Expert Consultation on Definition and Measurement of Skilled Attendance at Birth was held in New York, United States of America, in June 2016 to make recommendations regarding the need for a revised definition and more accurate measurement strategies for improved global reporting. Following this, a Task Force comprising representatives of WHO, UNFPA, UNICEF, ICM, ICN, FIGO and IPA was convened to review and revise the 2004 WHO–FIGO–ICM joint statement in order to issue a new joint statement presenting a revised definition of "skilled health personnel" providing care during labour and childbirth (also widely known as SBAs), which can be used for measurement purposes, in support of more robust measurement and metadata as required by the SDGs.

The scope of the new joint statement was also expanded from a narrow focus on the **care providers** (SBAs) as individuals in the 2004 statement. Instead, it is made clear in the revised definition that these personnel are: (a) **competent MNH professionals** who hold identified competencies (and as a team, these professionals possess all the MNH competencies in the eight categories listed in section 3); (b) educated, trained and regulated to national and international standards; and (c) supported within an enabling environment comprising the six building blocks of the health system. The conceptual framework in Figure 1 illustrates all of these elements.

This document reflects the current thinking on antenatal care, intrapartum care, maternal and newborn care, as expressed in recent guidelines and frameworks such as:

- *WHO recommendations on intrapartum care for a positive childbirth experience (11)*
- *WHO recommendations on antenatal care for a positive pregnancy experience (12)*
- *Standards for improving quality of maternal and newborn care in health facilities (13)* and
- *Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice (14)*.

The revised (2018) definition for skilled health personnel providing care during childbirth (see Box 1) and the supporting information presented in this background document provide guidance for policy-makers and also provide a basis for data collection mechanisms and measurement approaches that can clearly distinguish which health-care providers can be counted as "skilled health personnel" for the purposes of measuring SDG indicator 3.1.2, thus documenting progress towards achievement of SDG 3, target 3.1, as well as the goals of the EPMM initiative and the *Every Newborn* action plan.

4 Please see the glossary in Annex 1 for details (all terms that are included in the glossary are emphasized in bold).

2. Methods and process

Following the June 2016 technical expert consultation and the formation of the Task Force comprising representatives of WHO, UNFPA, UNICEF, ICM, ICN, FIGO and IPA, the Task Force proceeded to discuss and draft the new joint statement and supporting documents according to the following timeline.

January 2017: A two-day Task Force meeting was convened to draft a revised definition of SBA/skilled health personnel to be submitted for further stakeholder and constituency feedback.

March–June 2017: Member States and stakeholders participated in an online consultation (see Annex 2 for further information about this process).

September 2017: A two-day Task Force meeting took place to review feedback from Member States' stakeholders and to revise the new joint statement, this background paper and all supporting documentation.

The Task Force adopted the following guiding principles for decision-making regarding the drafting of the new joint statement and supporting documents.

- The ultimate goal of the new statement (including the revised definition) is to ensure the best care for women and their newborn(s).
- The revisions should be evidence based.
- The revisions should strive to keep to high-level benchmarks (e.g. SDG wording) and provide rationale for any changes.
- Elements of the existing statement should be changed only if the changes will significantly improve the situation.
- The aim of the revision is to improve on the preciseness of the wording of the statement and the definition.
- The final document should refer to the continuum of care for sexual, reproductive, maternal and newborn health.
- The revision of the definition of SBA to encompass and clarify the SDG wording (from indicator 3.1.2) of "skilled health personnel" should include explicit efforts to harmonize with other measurement initiatives and processes, such as antenatal care, intrapartum care, postnatal care, quality of care, and existing country-level measurement efforts.
- The revision of the definition should explicitly consider the need to translate the text into other languages and the implications of this (e.g. to ensure that the terms used by translators will be appropriate and understood in local settings).

The Task Force also recognizes that the revision of the definition is an initial step towards improved measurement of this key coverage indicator. In order to inform and impact measurement, additional consultations and revisions to survey methods and administrative data collection mechanisms will be required.

3. Competencies in quality maternal and newborn health care

Two sets of evidence-based competencies currently exist in relation to maternal and newborn health care: WHO's generic *Sexual and reproductive health core competencies in primary care (15)* and ICM's *Essential competencies for basic midwifery practice*, which was specifically developed for midwives *(16)*. Drawing on the common themes within these two guidelines, an overarching set of competencies for health-care professionals providing quality MNH care has been developed. Please note that in this document we consider the terms "skilled health personnel" (as used in SDG indicator 3.1.2) and "competent health-care professionals" to be equivalent, such that where they are used to refer to skilled birth attendants (SBA), this means that the person is a professional with the required competencies – not a lay provider with basic training.

The concept of competence in quality MNH care is based on the technical and professional capacity of the care provider and also involves the application of a human-rights-based approach that aims to ensure that women[5] and newborns achieve the highest possible degree of health and well-being *(17)*. In addition to describing the specific competencies, the aim is also to promote accountability in accordance with human rights standards. In general, this approach, as set forth in the Global Strategy for Women's, Children's and Adolescents' Health, 2016–2030, emphasizes the need to: end preventable deaths, including stillbirths and maternal, newborn, child and adolescent deaths ("Survive"); ensure sexual and reproductive health and well-being ("Thrive"); and expand enabling environments and sustainable development for health ("Transform") *(5)*.

The term "competencies" encompasses the knowledge, skills and behaviours that support provision of appropriate and evidence-based care, as well as **respectful care and preservation of dignity**, communication, community knowledge, awareness and understanding, which are all required of the **health-care professional** for safe practice in any setting along the **continuum of care for maternal, newborn and child health**. The competencies are acquired through education and training and are supported and monitored through regulation (see section 4); they enable the health-care professional to make informed clinical decisions and take appropriate action.

The continuum of care ranges from pre-pregnancy to pregnancy, intrapartum and the postnatal[6] period, and care is most effectively provided by an integrated team of MNH professionals (anaesthetists, doctors, midwives and nurses, at all levels of the health system, available and referred to as indicated by the needs of each woman and newborn), within an enabling environment, i.e. a well functioning health system (see section 5) *(18)*. Within this enabling environment, midwives – educated and regulated to ICM competencies – can provide nearly all of the essential care needed for women and newborns *(19, 20)*. In different countries, midwifery, nursing, obstetric and paediatric competencies are held by professionals with varying occupational titles.

The competencies for MNH professionals address these questions:

- What is a competent MNH professional expected to know and how are they expected to behave?
- What skills are competent MNH professionals expected to possess (i.e. what services should they be able to provide?) and what resources do they require?
- What constitutes the enabling environment needed to support and ensure the effective provision of quality MNH care? *(13)*.

5 The term "women" includes mothers, nulliparous women and also adolescent girls. By using the term "women", we ensure that women who might not be mothers are included.

6 Postnatal care includes care for postpartum women and newborns.

The specific competencies of MNH professionals are detailed below, grouped into eight categories.

1. Scope of knowledge

Competent MNH professionals have the requisite knowledge, skills, behaviours and experience in the fields of midwifery, nursing, obstetrics, neonatology, social sciences, primary health care, public health, data analysis and reporting, monitoring and response, quality improvement, and ethics. With this cumulative knowledge, they are able to optimize the management of the relevant sociocultural, biological and psychological processes, and the provision of quality care for women, newborns and their families, by managing pregnancy, childbirth and the immediate postnatal period, in addition to common obstetric and neonatal complications.

2. Scope of practice

Competent MNH professionals provide, promote, advocate for, and communicate on all aspects of sexual and reproductive health, including health education, family planning and contraception counselling and services, gender-based violence awareness and bereavement care, as needed, to all women and their families in all settings. Health-care professionals can also play an important role in informing women/patients about and referring them to other services that could provide them with crucial assistance to help them overcome social, financial and legal issues, including those related to employment rights and/or welfare support.

3. Pre-pregnancy and antenatal care

Competent MNH professionals provide comprehensive and evidence-based pre-pregnancy care and antenatal care for adolescent girls and women. This includes health promotion and information about self-care, early identification of and support/management for risk factors for fetal loss/stillbirth and other adverse outcomes, and early detection and treatment or timely referral of complications to optimize the health and well-being of women and fetuses during pregnancy.

4. Intrapartum care

Competent MNH professionals provide evidence-based, human-rights-based, quality, socioculturally sensitive and dignified care, and facilitate physiological processes during labour and delivery to ensure a clean and positive childbirth experience. As needed, they identify and manage or refer women and/or newborns with complications. In addition, as part of an integrated team of MNH professionals (including, in alphabetical order, anaesthetists, doctors [such as obstetricians and paediatricians], midwives and nurses), they perform all signal functions of emergency maternal and newborn care (basic emergency obstetric and newborn care – **BEmONC**; comprehensive emergency obstetric and newborn care – **CEmONC** *[21]*) to optimize the health and well-being of women and newborns.

Note:
Skilled health personnel, as referenced by SDG indicator 3.1.2 (see the full 2018 definition in Box 1, and Figure 1), i.e. those professionals who are competent to provide care during labour and childbirth, must possess the particular set of competencies required for intrapartum care (competency category 4).

5. Postpartum and postnatal care

Competent MNH professionals provide comprehensive and evidence-based postpartum and postnatal care. This includes education on breastfeeding and family planning, and provision of contraceptive services, as well as provision of or referral for lactation support and for bereavement care after miscarriage, stillbirth, neonatal and/or maternal death.

6. Newborn care

Competent MNH professionals provide comprehensive and evidence-based postnatal care for all newborns, which includes all elements of essential newborn care (ENC), such as neonatal resuscitation, thermal protection, breastfeeding/nutritional support, meticulous hygiene, and consultation/referral, as needed *(14)*. They provide

immunization services and promote newborn well-being by educating caregivers and parents, linking them to continued care from primary health care centres and assisting with birth registration.

7. Care related to loss or termination

Competent MNH professionals provide a range of individualized abortion-related or postnatal (including postpartum) services based on respectful care and shared decision-making (involving the woman, her partner and the provider) for women requiring or experiencing pregnancy termination, stillbirth, miscarriage or neonatal death. This care should be provided according to applicable laws, regulations and international protocols.

8. Leadership

Competent MNH professionals provide advocacy, leadership and management that contributes towards the creation and maintenance of a favourable work environment that enables effective and efficient provision of BEmONC and CEmONC services, and promotes communication and effective teamwork across all levels of health care delivery. They evaluate their physical setting, equipment and hygiene practices, and promote improvement of quality, in order to attain the highest standard of care. They also facilitate the education, training and development of leaders, and support the integration of MNH services and health promotion within the wider health system and the local community.

- **All competent MNH professionals in a team provide evidence-based, human-rights-based, quality, socioculturally sensitive and dignified care to women, newborns and their families.**

4. Standards of practice

Competent MNH professionals are educated, trained and regulated in accordance with national and international standards based on their knowledge and application of the competencies described in section 3,[7] and they operate most effectively within an enabling environment (a well functioning health system – see section 5). Midwives, nurses, obstetricians, paediatricians and anaesthetists have competencies that complement each other in the context of an integrated team, so that collectively they can provide the full spectrum of MNH care. The web appendix provides a mapping of the competencies listed in section 3 to WHO's *Sexual and reproductive health core competencies in primary care (15)* and ICM's *Essential competencies for basic midwifery practice (16)*.

4.1 Education and training

4.1.1 Education

Quality education is the basis for the development of a competent health-care professional. A formal education (completion of programmes that have full accreditation), followed by registration and licensing and an ongoing process of regulation (for periodic recertification/relicensing), as applicable, are required to ensure compliance with national and international standards of practice.

Regulatory authorities must accredit and control the quality of education programmes, including qualifying examinations, as applicable, prior to registration and licensing. Education institutions must maintain their faculty and curricula to meet (or exceed) the standards set by national and international rules and regulations *(22,23)*.

Midwifery education is described as "the bedrock for equipping midwives with appropriate competencies to provide a high standard of safe, evidence-based care" *(24)*. Yet there is increasing evidence to demonstrate a significant need to improve the quality of midwifery education *(24–26)*. The concerns are multifaceted, but include limited capacity of educators to teach theoretical knowledge due to lack of access to up-to-date, evidence-based teaching materials, and limited opportunities in the teaching of practical midwifery care *(27)*.

The Lancet Series on Midwifery (2014) provided the first evidence-based definition of the "midwifery philosophy" *(28)*. This definition refers to midwifery as the care provided by a range of practitioners (this is mainly by midwives,[8] but can also include nurses, doctors, etc.). The evidence provided in *The Lancet's* Series shows that 83% of all maternal deaths, stillbirths and newborn deaths could be averted through the provision of the full package of midwifery care, when personnel are educated to international standards, including on family planning *(19)*. Midwifery care is described as having a "pivotal, yet widely neglected, part to play in accelerating progress to end preventable mortality of women and children" *(28)*, with 56 sexual, reproductive, maternal, newborn and adolescent health outcomes being improved by midwifery.[9]

However, *The state of the world's midwifery 2014* provided data which indicated that only 4 of the 73 low- and middle-income countries have sufficient numbers of personnel with the skills to provide the necessary care, i.e. midwives, nurses and doctors *(29)*.

In many countries with high burdens of maternal and newborn mortality, multiple, short-term, unregulated courses have been introduced to train skilled birth attendants, with few countries simultaneously investing in long-term and sustainable midwifery care *(30)*. While short courses can provide a short-term solution, issues such as staff turnover and the need to update skills are barriers to long-term

7 The ICM competencies go even further than the eight competency categories described in section 3. The ICM competencies are the accepted international minimum professional standards for midwives. See the web appendix for a mapping of competencies, available here: www.who.int/reproductivehealth/defining-competent-mnh-professionals

8 The ICM definition of a midwife can be found here: http://internationalmidwives.org/who-we-are/policy-and-practice/icm-international-definition-of-the-midwife/

9 The ICM definition of midwifery can be found here: https://internationalmidwives.org/assets/uploads/documents/CoreDocuments/CD2017_001%20ENG%20Definition_Midwifery.pdf

impact. Furthermore, if not quality-assured, practical and part of a broader educational programme, they are unlikely to equip staff with the level of decision-making skills, leadership skills and independent critical thinking skills needed to effectively manage situations requiring emergency obstetric interventions, especially for those working alone in remote areas without a supportive health system *(31,32)*. In addition, new research has shown that sociocultural, economic and professional barriers – which are deeply embedded in gender inequality and unique to the cultural context of childbirth – further constrain the provision of quality midwifery care *(33)*. These barriers include poor-quality midwifery education.

4.1.2 Training

Quality in-service training is an essential component of the preparation to become a competent MNH professional, and to remain competent and retain professional certification. Training institutions should be accredited and must seek to retain their accredited status in order to continue to perform according to national standards. Training programmes may be formal or informal, as required by regulating bodies and professional organizations. Training may include continuing education programmes that include modules conducted through online and/or offline platforms.

4.2 Regulation

The overall aim for professional regulation based on the standards set by national and/or international organizations is to ensure the safety of women and newborns. Ideally, the regulatory body should be autonomous and active in overseeing the health workforce that is providing MNH care *(34)*. For each cadre providing quality MNH care, a scope of practice should be defined and standards for education, training, registration, licensing and relicensing should be developed, as applicable. Renewal processes should be in place for registration/certification/licences and this should be linked to regulatory body oversight to ensure continuing compliance with competence standards. The relevant regulatory body should have the authority to provide a code of conduct and ethics to protect the public and to ensure professional standards are met. The regulatory body should provide mechanisms for accountability, for transparent and accessible complaint submission, for dispute resolution, and for disciplinary action. If a professional does not adhere to the code of conduct and/or is found to fall short of competence standards, the regulatory body should have the authority to apply sanctions and/or withdraw the professional's licence to practise. Local legislation may enable the competent MNH professional to supervise other cadres as defined by individual countries. Regulators may issue specific guidance to health-care professionals in relation to delegation of duties, support and supervision.

4.3 Continuing professional development

The provision of opportunities for continuing education and training enables all cadres to maintain and upgrade their competencies. These should be linked to a career development pathway for all competent MNH professionals such that they can progress and be promoted to roles of increasing responsibility, as regulated by appropriate career path development mechanisms.

However, an issue facing nurses and midwives (among other health-care professionals) in many countries is that career progression can occur only through moving into management, supervisory and administrative roles. Thus skilled, experienced clinical practitioners either suffer by not being promoted or they are promoted and thus move out of their clinical roles. Rather, career progression structures should also have the capacity to recognize and reward clinical excellence among individuals committed to providing high-quality intrapartum care, who are role models for learners and are key to setting and maintaining high care standards.

5. Enabling environment within the health system

The enabling environment is a complex concept that includes many elements within the health system that are needed to support competent MNH professionals, allowing them to effectively provide quality health care to the highest attainable standards. These elements – some of which overlap – are described in *WHO's framework for action*, and include the six building blocks of a health system: service delivery; health workforce; information; medical products, vaccines and technologies; financing; and leadership and governance *(35)*. It should be noted that at the individual level, an enabling environment includes supervision, support, mentorship and decent work conditions.

5.1 Service delivery

Maternal and newborn health care is optimal when delivered by an integrated team of professionals who hold competencies in midwifery, nursing, obstetrics, paediatrics and anaesthesiology, organized around women's and newborns' needs. Integrated primary-, secondary- and tertiary-level health services, including effective communication and referral systems for consultation as well as availability of functional and affordable transportation, are essential to achieve high standards and ensure quality care. Service delivery is further optimized when financial and institutional barriers to care are eliminated through universal health coverage for women and newborns. Safe and non-hazardous working conditions as well as a supportive environment are paramount to the effectiveness of the competent professional.

5.2 Health workforce

Human resources for health are a driving factor of economies. A planned and well resourced health workforce is essential to ensure adequate numbers of competent MNH professionals. Ethical recruitment, deployment and retention mechanisms ensure that the supply of staff matches critical staffing needs *(29, 36)*. Regular health workforce data collection is essential to inform health system planning. The *National health workforce accounts* (NHWA) *(37)* provide a data collection framework to monitor the active health workforce and the implementation of the *Global strategy on human resources for health: workforce 2030 (38)*. Essential data include but are not limited to: health workforce current headcount (size), age distribution, number of full-time equivalent posts, geographic distribution, proportion of health workers who are foreign trained/born, and the country's ability to generate information to meet the requirements for reporting on skilled attendance at birth. Data on length of education, enrolments into, attrition and graduation from education, and involuntary and voluntary attrition from the workforce should also be collected *(39)*.

5.3 Information

This background document is centred around the measurement of SDG indicator 3.1.2: proportion of births attended by skilled health personnel *(3)*. The measurement of this indicator is meaningful only if accurate data are collected, analysed and evaluated based on a clear definition of "skilled health personnel" with reference to competencies for providing care during labour and childbirth (see Box 1 and Figure 1), and based on internationally agreed standards so that the data can be directly compared between countries. It is also essential to interpret this indicator with consideration for the context of data collection and analysis systems at the national, regional and global levels, which will vary. In addition, functional monitoring and evaluation systems, informed by accurate documentation, are needed for health services, **quality of care** and for educational and training programmes; these systems need to be based on accurate information and data, so that in turn the results can meaningfully inform policy and programming improvements.

5.4 Medical products, vaccines and technologies

Essential resources must be available for provision of quality care. These include but are not limited to: supplies, lifesaving medicines, vaccinations, medical technology and personal safety and protection

equipment. Adequate infrastructure – telecommunication networks, roadways, transportation and referral systems – provides essential support for all elements of the wider health system. Strategic and mitigation planning for natural and human-made disasters and infectious disease outbreaks should be in place, with appropriate resources and equipment to enable competent health-care professionals to continue effective, uninterrupted service delivery.

5.5 Financing

Adequate financing is an important component of the enabling environment for competent health-care professionals. This includes fair and timely compensation for time spent and services delivered. In addition, adequate financing also ensures capital investment, continued availability of supplies, maintenance of facilities/equipment, and provision of appropriate education and training.

5.6 Leadership and governance

Leadership and governance play a vital role in the health system within which the competent MNH professional operates, delivering services. Leadership includes providing and promoting standards for education and training programmes, opportunities for continuing education, and maintenance of competencies and career development. Leadership is also needed for mentorship and supervision, and for encouraging and motivating competent health-care professionals in their careers. Effective leadership also helps to maintain public respect for the roles of health-care professionals and ensures a platform where the voices of health-care professionals are valued and can contribute to shared decision-making processes.

Governance is essential within this enabling environment. It incorporates workforce planning and development to provide adequate numbers of health-care professionals with appropriate and complementary competencies, and to administer their deployment according to population and geographical needs. Governance should ensure that regulatory mechanisms are established by a national authority and by professional bodies in order to define the national standards of care, the scope of practice, and the professional rules and regulation frameworks that operate as a mechanism to eliminate corruption and gender inequality and to provide accountability of the health-care professional to the public, as well as accountability of the government to the public and health-care professionals. It is also imperative that governance provides security in times of conflict and natural disaster to enable health-care professionals to continue effective service delivery.

6. Quality of maternal and newborn health care

WHO defines quality of care (QoC) as:

> [T]he extent to which health care services provided to individuals and patient populations improve desired health outcomes. In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centred *(40)*.

As stated in the 2016 WHO *Standards for improving quality of maternal and newborn care in health facilities*:

> [T]he quality of care for women and newborns is therefore the degree to which maternal and newborn health services (for individuals and populations) increase the likelihood of timely, appropriate care for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and take into account the preferences and aspirations of individual women and their families *(13)*.

This approach covers the continuum of care from pre-pregnancy to the postnatal period and:

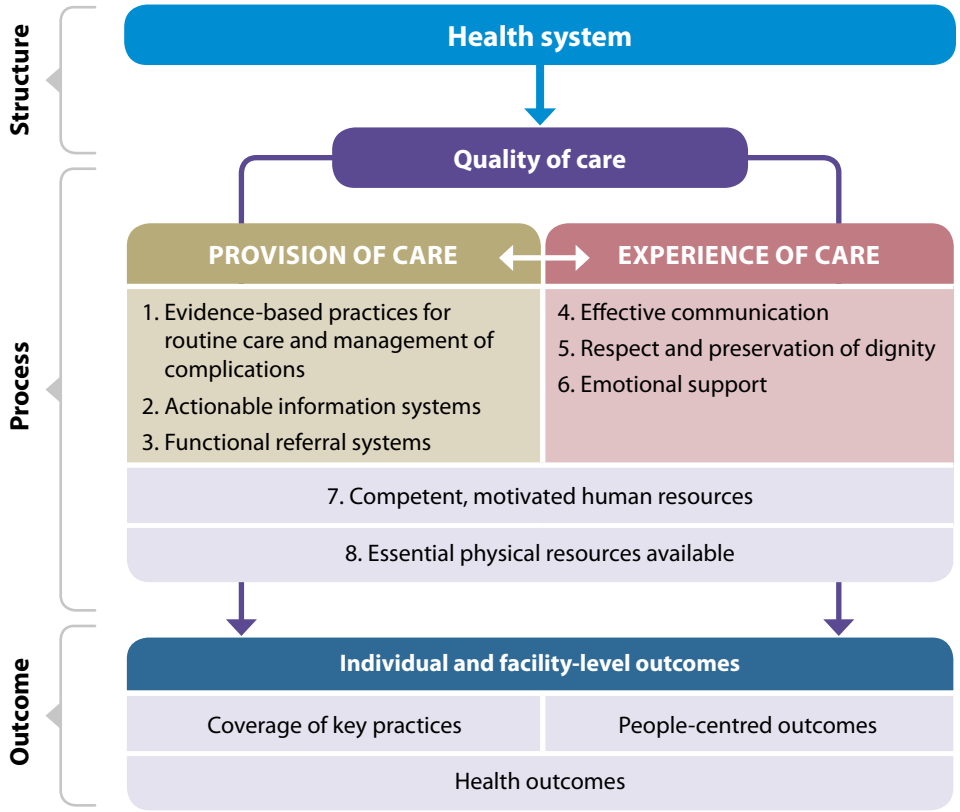
> [It] takes into consideration the characteristics of quality of care and two important components of care: the quality of the provision of care and the quality of care as experienced by women, newborns and their families *(13)*.

Maternal and newborn health (MNH) care is provided by an integrated team of MNH professionals who are educated, regulated, enabled and supported according to evidence-based standards that are high enough to ensure that they are fully competent and adequately motivated *(13,28)*.

Following the above definition and descriptions of QoC, and synthesis of different models, the WHO framework for the quality of maternal and newborn health care was developed and consists of eight QoC domains (Figure 2). There are also 31 quality statements that go with this framework; these can be found in the 2016 publication *(13)*.

Irrespective of country or local setting, the WHO QoC framework – with its health systems approach – aims to provide a structure for quality improvement. Within this framework, and within the health system, "provision of care" includes: use of evidence-based practices for preventive, routine and emergency care; information systems in which record-keeping allows review and auditing; and functioning systems for referral between different levels of care. "Experience of care" consists of: effective communication with women and their families about care provided, their expectations and their rights; care with respect and preservation of dignity; and access to social and emotional support. Both dimensions rely on the availability of competent, motivated MNH professionals and on the availability of physical resources that are required for provision of high-quality care in health-care facilities *(13)*.

Figure 2. WHO framework for the quality of maternal and newborn health care



Source: WHO, 2016 *(13)*.

7. Measurement

Regular data collection, analysis and reporting according to agreed indicators is an essential component of functional health system monitoring. SDG indicator 3.1.2, "proportion of births attended by skilled health personnel", is used to measure "coverage of care" for childbirth – and the higher this coverage is, the greater reductions we would expect to see in maternal and neonatal mortality and morbidity (SDG 3 targets 3.1 and 3.2). Metadata are available on the SDGs website specifying the following computation method for indicator 3.1.2: "The number of women aged 15–49 with a live birth attended by a skilled health personnel (doctors, nurses or midwives) during delivery is expressed as a percentage of women aged 15-49 with a live birth in the same period" *(41)*. This is based on the definition of skilled health personnel (or "skilled birth attendant" [SBA]) provided in the 2004 joint statement (i.e. "doctors, nurses or midwives"). The revised (2018) definition provided in this background document (Box 1) and in the new joint statement aspires to clarify the metadata and the issues related to measurement and calculation, and is intended for immediate adaptation by all stakeholders in order to ensure more accurate measurement of SBA coverage.

During the MDG period (2000–2015) and now during the SDG period (2016–2030), two main sources of national data exist: national administrative records and national population-based household surveys. Examples of these surveys include Multiple Indicator Cluster Surveys (MICS) *(42)*, Demographic and Health Surveys (DHS) *(43)* and Reproductive Health Surveys (RHS) *(44)*.

The measurement and reporting of coverage of care for childbirth refers to the contact the woman and her newborn have with a "skilled birth attendant" (SBA) during the time of delivery, as reported by the woman in a population-based survey or as reported in national administrative records via the routine health management information system (HMIS).

When a survey is designed and customized for each specific country, the national cadres are specified by a team that includes the country's ministry of health and other national stakeholders. These cadres are defined and listed as options on the survey form for responding to the question of who provided assistance during childbirth.

In household surveys, respondents who are women who have had a live birth during a reference period (usually 2–5 years before the survey) are asked about the delivery of their last live-born baby and who assisted. When the results are tabulated, the responses regarding type of birth attendant can be grouped into "skilled" and "unskilled" care providers. Even though the surveys capture the full range of persons potentially attending a birth, the categorization of these different types of providers as skilled or unskilled has not always been consistent over time or across countries. At the country level, the various cadres of health-care providers considered to be "skilled" can change based on new national health policy and/or training programmes as well as task shifting between cadres. The existing trend data may in some instances be difficult to interpret and compare.

It is also important to recognize that household surveys, such as DHS and MICS, are not designed to collect information on the quality of care provided, the birth attendant's competencies or even, in many instances, the specific job title of the provider; they are also not designed to shed light on the environment in which deliveries are conducted. While some of this information can potentially be derived from HMIS data, an effective HMIS requires the availability, analysis and use of accurate and complete data (at the national, district and insitutional level), as well as information about implementation gaps and challenges. For data generation and use of data to be sustainable, the HMIS design must be adapted to the local context.

Furthermore, the lack of oversight, regulation and accreditation of individuals considered to be "SBAs" (i.e. considered to be "skilled") in many low- and middle-income settings may continue to pose additional challenges in measuring this indicator accurately in such settings. Thus, in terms of

measuring quality of care during childbirth and the postpartum period, different methods of data collection and analysis should be considered, as no one method is likely to capture all the information needed. These constraints need to be taken into account when collecting data on the type of birth attendant and should be considered when customizing data collection tools for specific country contexts, as well as in the interpretation of data for national, regional and global trend analyses.

To date, globally agreed standards and criteria for which health-care provider cadres should be considered as "skilled" or "unskilled" have not been available to guide survey customization or analysis.

With the revision of the definition SDG indicator 3.1.2, it is anticipated that national household surveys and administrative records databases will in the near future be able to be queried to determine whether or not the type of birth attendant reported qualifies as "skilled", not only in terms of the competencies they possess (see section 3) but also in terms of the education, training and regulatory standards of practice (see section 4).

8. Operationalization

The new joint statement and this background document, presenting the revised (2018) definition of skilled health personnel (competent health-care professionals often referred to as "skilled birth attendants" or SBAs) providing care during labour and childbirth, collectively aim to effect change on multiple levels. This includes: improved quality of MNH care; decreased maternal and neonatal mortality and morbidity; and more accurate measurement of SDG indicator 3.1.2 ("proportion of births attended by skilled health personnel") based on a clear definition requiring that education, training and regulation of competent MNH professionals meet national and international standards in order for them to qualify as "skilled health personnel" in this context. For further clarification on the difference between this 2018 definition and the 2004 one, refer to Annex 3.

With regard to the field of MNH, "skilled health personnel" (or competent MNH professionals) are those who possess competencies across the eight categories of competencies presented in section 3. For the purposes of the 2018 definition in support of SDG indicator 3.1.2, "skilled health personnel" refers specifically to a professional with the competencies listed under "intrapartum care", as made clear in the definition (see Box 1) and the conceptual framework (Figure 1). Standards of practice, including education, training and regulation standards, may require adaptation to country and context, potentially including revision of curricula and legislation (section 4). The enabling environment comprises the six building blocks of a health system, as presented in *WHO's framework for action (35)* (section 5). The overall goal is to provide evidence-based, human-rights-based, quality, socioculturally sensitive and dignified care to women, newborns and their families, in line with the WHO QoC framework (section 6). Measurements and surveys as well as facility- and community-based data collection should be adjusted and strengthened in accordance with the 2018 definition (section 7).

8.1 Dissemination

The new joint statement and this background document, including the 2018 definition of skilled health personnel providing care during childbirth, are published as technical reference documents and will be translated into Arabic, French, Russian and Spanish for wider circulation. The publications will be available for downloading from the WHO website and from partner agencies involved in MNH care.

8.2 Implementation approach

Given the broad implications of the 2018 definition – in terms of changes to measurement and reporting of coverage, as well as changes in standards for education, training and regulation of health-care professionals – technical support for adaptation and implementation will be provided on various levels depending on specific context and needs (e.g. for staff at the level of the ministry of health, district-level providers, statistics bureaus, etc.).

At a WHO meeting on strengthening quality midwifery education in July 2016, five urgent and five longer-term actions were agreed (see Box 3).

Box 3. Outcome of 2016 consultation on strengthening quality midwifery education

Five urgent actions agreed:

i. A "Global Platform for Action" to be established, with potential for regional and country platforms to follow.

ii. A "Global Strengthening Midwifery Education Action Plan 2016–2030", to include monitoring and evaluation to be drawn up.

iii. Global mapping of two key areas:

- Mapping of midwives educated to International Confederation of Midwives (ICM) midwifery competencies, to be based on the ICM definition of a midwife and the ICM *Essential competencies for basic midwifery practice (16)*.
- Mapping of existing education materials among partners, with potential for developing a global midwifery education toolkit.

iv. Evidence-based ICM updated competencies to be drawn up to ensure alignment with the evidence from *The Lancet Series on Midwifery (28)* and the two global strategies mentioned above.

v. Leadership roles and responsibilities for key partners at global, regional and country levels to be clarified to support a collective, unified midwifery position and voice.

Five longer-term actions agreed:

vi. Develop a synthesis of available and ongoing research evidence, and a system for easy dissemination and access.

vii. Engage in advocacy for midwifery education, and link to other ongoing advocacy platforms.

viii. Promote a human-rights-based approach to drive improvements in midwifery education.

ix. Develop an economic analysis of midwifery-led care to strengthen the evidence for investment in education.

x. Develop a gender analysis of midwifery to identify gender-transformative actions that will help overcome the professional, economic and sociocultural barriers to the provision of quality midwifery care.

Source: adapted from WHO, 2017 *(26)*.

8.3 Suggested areas for operationalization and further research in relation to the 2018 definition of skilled health personnel providing care during childbirth

1. Measurement

- Increase of the use of qualitative research to complement findings from quantitative data such as existing household surveys.
- Develop the data collection/management capacity of staff at ministries of health to improve measurement.
- Improve the design of survey questions and methodology to reflect the 2018 definition in the local context.
- Collaborate with other organizations, such as the International Labour Organization (ILO), to refine definitions of health cadres within the ***International Standard Classification of Occupations (ISCO)*** *(45)*. Refer to Annex 4 for a list of health-related occupations according to ISCO-08.
- Conduct mapping of health-care provider cadres based on their competencies.
- Collect workforce data regularly, and not only a headcount, but also percentage of work time spent on sexual, reproductive, maternal, newborn, child and adolescent health, age distribution, retirement age, length of education, enrolments into, attrition and graduation from education, and voluntary attrition from the workforce *(39)*.
- Link with global, regional and national monitoring of the health workforce and global strategic directions for strengthening nursing and midwifery *(39,46)*.
- Link with global efforts to develop the quality of care indicator framework *(47)*.
- Develop a standardized data set in the area of health workforce accounts: dentists, doctors, midwives, nurses, pharmacists *(38)*.
- Develop a global platform for labour markets *(48)*.

2. Education and training

- Make use of tools such as ICM's *Global standards for midwifery education (49)*, *ICM standard equipment list for competency-based skills training in midwifery schools (50)* and WHO's *Midwifery educator core competencies (22)*.

3. Regulation

- Make use of tools such as the *ICM Regulation Toolkit (51)* and ICM's *Global standards for midwifery regulation (34)*.

4. Enabling environment

- Remove social, economic and professional barriers – including underlying bullying/harassment and gender inequality – to the provision of quality and dignified MNH care *(33)*.
- Ensure community-based services are integrated into the wider health system through effective communication, referral and transport systems.

Work to strengthen the use of the 2018 definition will not only provide more accurate data regarding care provision for childbirth globally, but it will also provide guidance and information regarding education, training and regulation of the health-care workforce worldwide. Collaboration with organizations such as ILO will inform the next iteration of ISCO definitions for MNH health cadres. Finally, efforts to clarify and guide the definition of skilled health personnel/competent MNH professionals will be successful in contributing to achievement of the SDG targets of decreasing maternal and newborn mortality (as well as the *Every Newborn* action plan goal on reducing stillbirths and the goals of the EPMM initiative) only if performed in concert with work towards other SDG targets worldwide.

References

1. Making pregnancy safer: the critical role of the skilled attendant: a joint statement by WHO, ICM and FIGO. Geneva: World Health Organization; 2004 (www.who.int/maternal_child_adolescent/documents/9241591692/en/, accessed 13 April 2018).
2. Sustainable Development Knowledge Platform [website]. New York (NY): United Nations Department of Economic and Social Affairs; 2015 (https://sustainabledevelopment.un.org/sdgs, accessed 13 April 2018).
3. Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages. In: Sustainable Development Knowledge Platorm [website]. New York (NY): United Nations Department of Economic and Social Affairs; 2017 (https://sustainabledevelopment.un.org/sdg3, accessed 13 April 2018).
4. Every Woman Every Child. Every Newborn: an action plan to end preventable deaths. Geneva: World Health Organization; 2014 (http://apps.who.int/iris/bitstream/10665/127938/1/9789241507448_eng.pdf, accessed 13 April 2018).
5. Every Woman Every Child. Global Strategy for Women's, Children's and Adolescents' Health, 2016–2030. New York (NY): United Nations; 2015 (www.who.int/life-course/partners/global-strategy/ewec-globalstrategyreport-200915.pdf, accessed 13 April 2018).
6. Moran AC, Jolivet RR, Chou D, Dalglish SL, Hill K, Ramsey K, et al. A common monitoring framework for ending preventable maternal mortality, 2015–2030: phase I of a multi-step process. BMC Pregnancy Childbirth. 2016;16:250. doi:10.1186/s12884-016-1035-4.
7. Munabi-Babigumira S, Glenton C, Lewin S, Fretheim A, Nabudere H. Factors that influence the provision of intrapartum and postnatal care by skilled birth attendants in low- and middle-income countries: a qualitative evidence synthesis. Cochrane Database Syst Rev. 2017;(11):CD011558.
8. Proportion of births attended by a skilled health worker, 2008 updates. Factsheet. Geneva: World Health Organization; 2008 (www.who.int/reproductivehealth/publications/maternal_perinatal_health/2008_skilled_attendants/en/, accessed 13 April 2018).
9. Lassi ZS, Musavi NB, Maliqi B, Mansoor N, de Francisco A, Toure K, et al. Systematic review on human resources for health interventions to improve maternal health outcomes: evidence from low- and middle-income countries. Hum Resour Health. 2016;14:10. doi:10.1186/s12960-016-0106-y.
10. Harvey SA, Blandon YC, McCaw-Binns A, Sandino I, Urbina L, Rodriguez C, et al. Are skilled birth attendants really skilled? A measurement method, some disturbing results and a potential way forward. Bull World Health Organ. 2007;85(10):783–90. doi:10.2471/BLT.06.038455.
11. WHO recommendations: intrapartum care for a positive childbirth experience. Geneva: World Health Organization; 2018 (www.who.int/reproductivehealth/publications/intrapartum-care-guidelines, accessed 13 April 2018).
12. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization; 2016 (www.who.int/reproductivehealth/publications/maternal_perinatal_health/anc-positive-pregnancy-experience/en/, accessed 13 April 2018).
13. Standards for improving quality of maternal and newborn care in health facilities. Geneva: World Health Organization; 2016 (www.who.int/maternal_child_adolescent/documents/improving-maternal-newborn-care-quality/en/, accessed 13 April 2018).
14. World Health Organization (WHO), United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF). Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice, third edition. Geneva: WHO; 2015 (www.who.int/maternal_child_adolescent/documents/imca-essential-practice-guide/en/, accessed 13 April 2018).
15. Sexual and reproductive health core competencies in primary care: attitudes, knowledge, ethics, human rights, leadership, management, teamwork, community work, education, counselling, clinical settings, service, provision. Geneva: World Health Organization; 2011 (www.who.int/reproductivehealth/publications/health_systems/9789241501002/en/, accessed 13 April 2018).
16. Essential competencies for basic midwifery practice 2010. International Confederation of Midwives (ICM); revised 2013 (https://internationalmidwives.org/core-documents, accessed 13 April 2018).
17. Office of the United Nations High Commissioner for Human Rights (OHCHR). Technical guidance on the application of a human rights-based approach to the implementation of policies and programmes to reduce preventable maternal morbidity and mortality. New York (NY): United Nations General Assembley; 2012 (www2.ohchr.org/english/issues/women/docs/A.HRC.21.22_en.pdf, accessed 31 October 2017).
18. Kerber KJ, de Graft-Johnson JE, Bhutta ZA, Okong P, Starrs A, Lawn JE. Continuum of care for maternal, newborn, and child health: from slogan to service delivery. Lancet. 2007;370(9595):1358–69. doi:10.1016/S0140-6736(07)61578-5.

19. Homer CSE, Friberg IK, Bastos Dias MA, ten Hoope-Bender P, Sandall J, Speciale AM, Bartlett LA. The projected effect of scaling up midwifery. Lancet. 2014;384(9948):1146–57. doi:10.1016/S0140-6736(14)60790-X.

20. Day-Stirk F, McConville F, Campbell J, Laski L, Guerra-Arias M, Hoope-Bender PT, et al. Delivering the evidence to improve the health of women and newborns: State of the World's Midwifery, report 2014. Reprod Health. 2014;11:89. doi:10.1186/1742-4755-11-89.

21. Campbell OM, Calvert C, Testa A, Strehlow M, Benova L, Keyes E, et al. The scale, scope, coverage, and capability of childbirth care. Lancet. 2016;388(10056):2193–208. doi:10.1016/S0140-6736(16)31528-8.

22. Midwifery educator core competencies. Geneva: World Health Organization; 2014 (www.who.int/hrh/nursing_midwifery/educator_competencies/en/, accessed 31 October 2017).

23. Nurse educator core competencies. Geneva: World Health Organization; 2016 (www.who.int/hrh/nursing_midwifery/nurse_educ_core_competencies/en/, accessed 31 October 2017).

24. Bharj KK, Luyben A, Avery MD, Johnson PG, O'Connell R, Barger MK, Bick D. Commentary. An agenda for midwifery education: advancing the state of the world's midwifery. Midwifery. 2016;33:3–6. doi:10.1016/j.midw.2016.01.004.

25. Thompson JE. Competencies for midwifery teachers. Midwifery. 2002;18(4):256–9.

26. Strengthening quality midwifery education. WHO Meeting Report. Dundee, Scotland, 25–26 July 2016. Geneva: World Health Organization; 2017 (WHO/FWC/MCA/17.12; www.who.int/maternal_child_adolescent/documents/strengthening-quality-midwifery-education/en/, accessed 6 April 2018).

27. Johnson P, Fogarty L, Fullerton J, Bluestone J, Drake M. An integrative review and evidence-based conceptual model of the essential components of pre-service education. Hum Resour Health. 2013;11:42. doi:10.1186/1478-4491-11-42.

28. The Lancet Series on Midwifery. 2014;384(9948):1129–235 (www.thelancet.com/series/midwifery, accessed 13 April 2018).

29. United Nations Population Fund (UNFPA), International Confederation of Midwives (ICM), World Health Organization (WHO). The state of the world's midwifery 2014: a universal pathway: a woman's right to health. New York (NY): UNFPA; 2014 (www.unfpa.org/sowmy, accessed 31 October 2017).

30. Shaban I, Barclay L, Lock L, Homer C. Barriers to developing midwifery as a primary health-care strategy: a Jordanian study. Midwifery. 2012;28;106–11. doi:10.1016/j.midw.2010.11.012.

31. Kwast BE, Bentley J. Introducing confident midwives: midwifery education – action for safe motherhood. Midwifery. 1991;7;1;8–19.

32. Schoon GM, Motlolometsi MW. Poor maternal outcomes: a factor of poor professional systems design. S Afr Med J. 2012;102(10):784–6. doi:10.7196/samj.6130.

33. Filby A, McConville F, Portela A. What prevents quality midwifery care? A systematic mapping of barriers in low and middle income countries from the provider perspective. PLoS One. 2016;11(5):e0153391. doi:10.1371/journal.pone.0153391.

34. Global standards for midwifery regulation 2011. International Confederation of Midwives (ICM); 2011 (https://internationalmidwives.org/core-documents, accessed 13 April 2018).

35. Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action. Geneva: World Health Organization; 2007 (www.who.int/healthsystems/strategy/en/, accessed 13 April 2018).

36. Workload indicators of staffing need: user's manual. Geneva: World Health Organization; 2010 (www.who.int/hrh/resources/WISN_Eng_UsersManual.pdf, accessed 31 October 2017).

37. National health workforce accounts. In: WHO: Health workforce [website]. Geneva: World Health Organization; 2017 (http://who.int/hrh/statistics/hrh_accounts/en/, accessed 31 October 2017).

38. Global strategy on human resources for health: workforce 2030. Geneva: World Health Organization; 2016 (http://who.int/hrh/resources/pub_globstrathrh-2030/en/, accessed 31 October 2017).

39. National health workforce accounts: a handbook. Geneva: World Health Organization; 2017 (www.who.int/hrh/documents/brief_nhwa_handbook/en/, accessed 1 December 2017).

40. Tunçalp Ö, Were WM, MacLennan C, Oladapo OT, Gülmezoglu AM, Bahl R, et al. Quality of care for pregnant women and newborns – the WHO vision. BJOG. 2015;122(8):1045–9. doi:10.1111/1471-0528.13451.

41. SDG Indicators: Metadata repository. In: Sustainable Development Goals [website]. United Nations Department of Economic and Social Affairs; 2015 (https://unstats.un.org/sdgs/metadata/, accessed 2 November 2017).

42. Multiple Indicator Cluster Survey (MICS) [website]. New York (NY): United Nations Children's Fund; 2017 (http://mics.unicef.org/, accessed 31 October 2017).

43. The DHS Program: Demographic and Health Surveys [website]. Rockville (MD): ICF; 2017 (www.dhsprogram.com, accessed 13 April 2018).

44. Reproductive Health Survey (RHS). In: CDC – Global Reproductive Health – Tools & Publications [website]. Atlanta (GA): United States Centers for Disease Control and Prevention; 2016 (www.cdc.gov/reproductivehealth/global/tools/surveys.htm, accessed 31 October 2017).

45. ISCO: International Standard Classification of Occupations [website]. Geneva: International Labour Organization; 2010 (www.ilo.org/public/english/bureau/stat/isco/, accessed 30 October 2017).

46. Global strategic directions for strengthening nursing and midwifery 2016–2020. Geneva: World Health Organization; 2016 (www.who.int/hrh/nursing_midwifery/global-strategy-midwifery-2016-2020/en/, accessed 31 October 2017).

47. Quality of care monitoring framework and core indicators. In: Maternal, newborn, child and adolescent health [website]. Geneva: World Health Organization; 2018 (www.who.int/maternal_child_adolescent/epidemiology/quality-of-care-monitoring/en/, accessed 13 April 2018).

48. Working for health and growth: investing in the health workforce. Report of the High-Level Commission on Health Employment and Economic Growth. Geneva: World Health Organization; 2016 (www.who.int/hrh/com-heeg/reports/en/, accessed 31 October 2017).

49. Global standards for midwifery education 2010. International Confederation of Midwives (ICM); amended 2013 (https://internationalmidwives.org/core-documents, accessed 13 April 2018).

50. Kyei AA, Dennis-Antwi JA, Ibinga Koula R, Azfar P. ICM standard equipment list for competency-based basic skills training in midwifery schools: a reference guide for practical skills teaching. ICM/UNFPA Investing in Midwives Programme (IMP) – Investing in midwives and others with midwifery skills to accelerate progress towards MDG 5. International Confederation of Midwives (ICM); 2012 (https://internationalmidwives.org/core-documents, accessed 13 April 2018).

51. ICM Regulation Toolkit. International Confederation of Midwives (ICM); 2016. doi:10.13140/RG.2.1.2054.4886 (www.researchgate.net/publication/303519543_International_Confederation_of_Midwives_Regulation_Toolkit, accessed 31 October 2017).

Annex 1. Glossary

Continuum of care

The "continuum of care" for maternal, newborn and child health is defined as:

> [A]ccess to care provided by families and communities, by outpatient and outreach services, and by clinical services throughout the lifecycle, including adolescence, pregnancy, childbirth, the postnatal period, and childhood. Saving lives depends on high coverage and quality of integrated service-delivery packages throughout the continuum, with functional linkages between levels of care in the health system and between service-delivery packages, so that the care provided at each time and place contributes to the effectiveness of all the linked packages *(1)*.

International Standard Classification of Occupations (ISCO)

The International Standard Classification of Occupations (ISCO), for which the International Labour Organization (ILO) is responsible, is one of the main international classifications.

> ISCO is a tool for organizing jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. Its main aims are to provide:
>
> - a basis for the international reporting, comparison and exchange of statistical and administrative data about occupations;
> - a model for the development of national and regional classifications of occupations; and
> - a system that can be used directly in countries that have not developed their own national classifications *(2)*.

Level of care – BEmONC and CEmONC

Basic emergency obstetric and newborn care (BEmONC) is defined as seven essential medical interventions, or "signal functions", that treat the major causes of maternal and newborn morbidity and mortality:

(1) antibiotics to prevent puerperal infection;

(2) anticonvulsants for treatment of eclampsia and pre-eclampsia;

(3) uterotonic drugs (e.g. oxytoxics) administered for postpartum haemorrhage;

(4) manual removal of the placenta;

(5) assisted or instrumental vaginal delivery;

(6) removal of retained products of conception; and

(7) neonatal resuscitation *(3)*.

Comprehensive emergency obstetric and newborn care (CEmONC) also includes blood transfusions, surgery (e.g. caesarean section), neonatal intubation and advanced resuscitation (intubation and respirator available). These advanced care components require access to advanced supplies and trained personnel, which may be burdensome for resource-poor health systems. Nonetheless, WHO urges developing countries to integrate universal access to high-quality, life-saving emergency procedures into health-care facilities *(4)*. For further information, see Campbell et al., 2016 *(4)*.

Professional/personnel/provider

In the literature about health care, the terms "provider", "personnel" and "professional" are often used interchangeably. However, making distinctions between these terms is recommended, to improve clarity.

According to the WHO document, *Classifying health workers: mapping occupations to the international standard classification*:

> [H]ealth professionals study, advise on or provide preventive, curative, rehabilitative and promotional health services based on an extensive body of theoretical and factual knowledge in diagnosis and treatment of disease and other health problems. They may conduct research on human disorders and illnesses and ways of treating them, and supervise other workers. The knowledge and skills required are usually obtained as the result of study at a higher educational institution in a health-related field for a period of 3–6 years leading to the award of a first degree or higher qualification *(5)*.

In contrast, **health personnel** can include a range of positions from health professionals to health management and support personnel.

> Health management and support personnel include a wide range of other types of health systems personnel, such as health service managers, health economists, health policy lawyers, biomedical engineers, medical physicists, clinical psychologists, social workers, medical secretaries, ambulance drivers, building maintenance staff, and other general management, professional, technical, administrative and support staff *(5)*.

The word "**provider**" can be applied to all cadres of health personnel, but can also apply to cadres who provide other services *(5)*.

In this background document, the term "professional" is used and preferred when referring to health-care providers or health personnel who are educated, trained and regulated to national and international standards. It is clarified that in order to qualify as "skilled health personnel providing care during childbirth" (for the purposes of measuring SDG indicator 3.1.2), the provider of this care must be a maternal and newborn health (MNH) professional, with competencies in intrapartum care. This person is also commonly referred to as a "skilled birth attendant" (SBA), but for the purposes of indicator 3.1.2, only those SBAs who meet the revised (2018) definition will count when it comes to measuring coverage of childbirth care by "skilled health personnel".

Respectful care and preservation of dignity

Within the scope of MNH, care provided must always be respectful and every effort must be made to preserve the dignity of women and newborns. According to three of the 31 quality statements published in WHO's *Standards for improving quality of maternal and newborn care in health facilities*, regarding Standard 5 (Women and newborns receive care with respect and preservation of their dignity), care provided by the competent MNH professional must ensure that:

5.1. All women and newborns have privacy around the time of labour and childbirth, and their confidentiality is respected.

5.2. No woman or newborn is subjected to mistreatment, such as physical, sexual or verbal abuse, discrimination, neglect, detainment, extortion or denial of services.

5.3. All women have informed choices in the services they receive, and the reasons for interventions or outcomes are clearly explained *(6)*.

While the concepts of "respectful care" and "preservation of dignity" are often referred to as separate terms in this background document, health care that achieves "preservation of dignity" will always be respectful.

Task shifting

Task shifting is a concept that gained importance particularly in the context of the HIV/AIDS pandemic and the chronic shortage of trained health workers globally. In some contexts, task shifting may also be referred to as "task sharing".

> Task shifting is … a process whereby specific tasks are moved, where appropriate, to health workers with shorter training and fewer qualifications. By reorganizing the workforce in this way, task shifting can make more efficient use of existing human resources and ease bottlenecks in service delivery. Where further additional human resources are needed, task shifting may also involve the delegation of some clearly delineated tasks to newly created cadres of health workers who receive specific, competency-based training *(7)*.

The goal of task shifting here is essentially to increase access to MNH services by optimizing the roles of health workers *(8)*. Within the context of this background document, it must be emphasized that competencies are held by MNH professionals and any role optimization to provide MNH services should be guided by an adequate level of training and regulation, and should be reflected in national and international standards.

Glossary references

1. Kerber KJ, de Graft-Johnson JE, Bhutta ZA, Okong P, Starrs A, Lawn JE. Continuum of care for maternal, newborn, and child health: from slogan to service delivery. Lancet. 2007;370(9595):1358–69. doi:10.1016/S0140-6736(07)61578-5.
2. ISCO: International Standard Classification of Occupations. Geneva: International Labour Organization; 2010 (www.ilo.org/public/english/bureau/stat/isco/, accessed 30 October 2017).
3. World Health Organization (WHO), United Nations Population Fund (UNFPA), United Nations Children's Fund (UNICEF) and Mailman School of Public Health. Averting Maternal Death and Disability. Monitoring emergency obstetric care: a handbook. Geneva: WHO; 2009 (www.who.int/reproductivehealth/publications/monitoring/9789241547734/en/, accessed 29 November 2017).
4. Campbell OM, Calvert C, Testa A, Strehlow M, Benova L, Keyes E, et al. The scale, scope, coverage, and capability of childbirth care. Lancet. 2016;388(10056):2193–208. doi:10.1016/S0140-6736(16)31528-8.
5. Classifying health workers: mapping occupations to the international standard classification. Geneva: World Health Organization; 2010 (www.who.int/hrh/statistics/Health_workers_classification.pdf, accessed 30 October 2017).
6. Standards for improving quality of maternal and newborn care in health facilities. Geneva: World Health Organization; 2016 (www.who.int/maternal_child_adolescent/documents/improving-maternal-newborn-care-quality/en/, accessed 30 October 2017).
7. World Health Organization (WHO), U.S. President's Emergency Plan for AIDS Relief (PEPFAR), Joint United Nations Programme on HIV and AIDS (UNAIDS). Task shifting: rational redistribution of tasks among health workforce teams: global recommendations and guidelines. Geneva: WHO; 2008 (http://apps.who.int/iris/bitstream/10665/43821/1/9789241596312_eng.pdf, accessed 30 October 2017).
8. WHO recommendations: optimizing health worker roles to improve access to key maternal and newborn health interventions through task shifting. Geneva: World Health Organization; 2012 (http://apps.who.int/iris/bitstream/10665/77764/1/9789241504843_eng.pdf, accessed 16 January 2018).

Annex 2. Online stakeholder consultation process

A technical expert consultation was convened in New York, United States of America, in June 2016 and one of the outcomes of this consultation was the formation of the Task Force, comprising representatives of the World Health Organization (WHO), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the International Confederation of Midwives (ICM), the International Council of Nurses (ICN), the International Federation of Gynecology and Obstetrics (FIGO) and the International Pediatric Association (IPA).

The Task Force met in Geneva, Switzerland, January 2017, to discuss and draft a revised definition of skilled birth attendant (SBA)/skilled health personnel providing care during childbirth along with background documentation for wide circulation among country stakeholders and global development partners, as well as WHO Member States.

An official letter from WHO to all Member States was sent out on 17 February 2017 informing Member States about the forthcoming online consultation process about the revised definition and background document. Information and notifications about the online consultation were also dispatched through partners via their networks, including through the Partnership for Maternal, Newborn & Child Health (PMNCH), the Maternal Health Task Force, the Mother and Newborn Information for Tracking Outcomes and Results (MoNITOR) technical advisory group, UNICEF and UNPFA country offices, and professional organizations (ICM, ICN, FIGO and IPA).

The online consultation was open from March to June 2017 via a WHO webpage.

Through a systematic process during the next Task Force meeting, held in Geneva in September 2017, all the comments and feedback received were evaluated and decisions about how to address each comment were made by consensus.

As a result of the online consultation, the WHO Secretariat at the Department of Reproductive Health and Research received feedback/comments from 61 stakeholders, including 45 groups, 15 individuals and 1 whose status could not be determined. The final background document and the 2018 joint statement and definition reflect all these significant and valid comments.

Table 1 provides details on the constituencies/stakeholders providing feedback, and Table 2 summarizes the amount of feedback received on each topic (each section of the document).

Table 1. Constituencies providing feedback during the online consultation

Constituencies	No. of responses
WHO Member States	26
Academic, research and training institutes	12
United Nations agencies (WHO, UNFPA and UNICEF)	10
Professional organizations	6
Nongovernmental organizations	5
Individuals	1
Unknown	1
Private sector	0
Donors and foundations	0

Table 2. Summary of the amount of feedback received for each topic

Topics	No. of comments
Competencies 1–8 (competency 4 got 14 comments)	89
Not categorized (mostly copy-editing suggestions)	52
Definition	37
Competencies general	37
General comments	28
Measurement	28
Background (Introduction)	26
Enabling environment	18
Education	10
Regulation	10
Quality of maternal and newborn health care	10
Glossary	6
Human resources and table	4
Operationalization	4
Title	3

Annex 3. Differences between the 2018 and 2004 definitions

The 2018 joint statement[1] and this background document present a revised definition for "skilled health personnel" who are competent to provide care during labour and childbirth. "Skilled health personnel" was previously defined in *Making pregnancy safer: the critical role of the skilled attendant: a joint statement by WHO, ICM and FIGO*, 2004 (2004 joint statement). The table below provides information to explain the difference between the two definitions.

Item	2004 Joint statement	2018 Joint statement
International organizations that are signatories to the statement	WHO, FIGO and ICM	WHO, UNFPA, UNICEF, ICM, ICN, FIGO and IPA
International goals supported	MDG 5: Improve maternal health Target 5.A: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio Indicator 5.2: Proportion of births attended by skilled health personnel	SDG 3: Ensure healthy lives and promote well-being for all at all ages Target 3.1: By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births Indicator 3.1.2: Proportion of births attended by skilled health personnel
Purpose of the statement	Policy document	To revise the definition of skilled health personnel/skilled birth attendant (SBA) and inform improved global measurement of SDG indicator 3.1.2
MNH professionals	Doctors, nurses and midwives	A team of MNH professionals, including, in alphabetical order, anaesthetists, doctors (such as obstetricians and paediatricians), midwives and nurses
Care providers during labour and childbirth (SBAs)	Care providers as individuals	Care providers as MNH professionals who possess the competencies required to provide intrapartum care, and who work as part of a team of MNH professionals who together possess competencies across eight categories

1 The joint statement is available at: www.who.int/reproductivehealth/defining-competent-mnh-professionals

Item	2004 Joint statement	2018 Joint statement
SBA skill requirements	All SBAs must have the core midwifery skills	They are competent to: (i) provide and promote evidence-based, human-rights-based, quality, socioculturally sensitive and dignified care to women and newborns; (ii) facilitate physiological processes during labour and delivery to ensure a clean and positive childbirth experience; and (iii) identify and manage or refer women and/or newborns with complications. In addition, as part of an integrated team of MNH professionals, they perform all signal functions of emergency maternal and newborn care.
Additional elements included	None	Enabling environment, standards of practice (education, training and regulation), quality of MNH care

Annex 4. List of health-related occupations according to International Standard Classification of Occupations (ISCO-08)

Group code			Occupational title
Submajor group	Minor group	Unit group	
22			Health professional
	221		Medical doctor
		2211	Generalist medical practitioner
		2212	Specialist medical practitioner
	222		Nursing and midwifery professional
		2221	Nursing professional
		2222	Midwifery professional
	223		Traditional and complementary medicine professional
		2230	Traditional and complementary medicine professional
	224		Paramedical practitioner
		2240	Paramedical practitioner
	226		Other health professional
		2261	Dentist
		2262	Pharmacist
		2263	Environmental or occupational health and hygiene professional
		2264	Physiotherapist
		2265	Dietician or nutritionist
		2266	Audiologist or speech therapist
		2267	Optometrist or ophthalmic optician
		2269	Health professional not elsewhere classified
32			Health associate professional
	321		Medical or pharmaceutical technician
		3211	Medical imaging or therapeutic equipment technician
		3212	Medical or pathology laboratory technician
		3213	Pharmaceutical technician or assistant
		3214	Medical and dental prosthetic or related technician
	322		Nursing and midwifery associate professional
		3221	Nursing associate professional

Group code			Occupational title
Submajor group	Minor group	Unit group	
		3222	Midwifery associate professional
	323		Traditional or complementary medicine associate professional
		3230	Traditional or complementary medicine associate professional
	325		Other health associate professional
		3251	Dental assistant or therapist
		3252	Medical records or health information technician
		3253	Community health worker
		3254	Dispensing optician
		3255	Physiotherapy technician or assistant
		3256	Medical assistant
		3257	Environmental or occupational health inspector or associate
		3258	Ambulance worker
		3259	Health associate professional not elsewhere classified
53			Personal care worker
	532		Personal care worker in health services
		5321	Health care assistant
		5322	Home-based personal care worker
		5329	Personal care worker in health services not elsewhere classified
			Additional health-related unit group
		1342	Health service manager
		1343	Aged care service manager
		2634	Psychologist
		2635	Social work and counselling professional
		3344	Medical secretary

Source: International Standard Classification of Occupations: ISCO-08. Volume 1: Structure, group definitions and correspondence tables. Geneva: International Labour Organization; 2012 (www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_172572/lang--en/index.htm, accessed 29 November 2017).

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World Health Organization
FIGO International Federation of Gynecology and Obstetrics
International Confederation of Midwives Strengthening Midwifery Globally
IPA International Pediatric Association Every Child · Every Age · Everywhere
UNFPA
unicef for every child