South African MATERNAL, PERINATAL, and NEONATAL Heath-Rolicy

South African National Department of Health Published: 21 June 2021







CONTENT

FOREWARD	iii
ACKNOWLEDGEMENTS	iv
ABBREVIATIONS	v
DEFINITION OF TERMS	vii
VISION	1
MISSION	1
OBJECTIVES OF THIS POLICY	1
SCOPE AND AUDIENCE	
NATIONAL AND GLOBAL GUIDING FRAMEWORK	3
The Global Strategy for Women's, Children's and Adolescent's Health	3
The Sustainable Development Goals	3
Every Newborn Action Plan	3
The National Development Plan (NDP)	3
The National Health Insurance Fund	3
World Health Organisation: Health in all policies (HiAP) framework	
Saving Mothers, Saving Babies Reports	
The Global Strategy for Infant and Young Child Feeding	4
GUIDING LEGISLATION	4
CHAPTER 1: INTRODUCTION	7
CHAPTER 2: PROBLEM STATEMENT	9
CHAPTER 3: MATERNAL, PERINATAL, AND NEONATAL HEALTH STATUS IN SA	10
CHAPTER 4: POLICY COMPONENTS AND KEY AREAS	13
OBJECTIVE 1: Strengthen leadership's responsibilities and accountability structures for the provision of quality services and improve the uptake of comprehensive and integrated MPN care and treatment services across the continuum of health care	14
KEY AREA 1: LEADERSHIP ROLES, ACCOUNTABILITY STRUCTURES AND ADMINISTRATIVE RESPONSIBILITIES	
Policy Statement 1.1 Roles and Responsibilities NDOH	
Policy Statement 1.2 Roles and Responsibilities Provinces	
Policy Statement 1.3 Roles and Responsibilities districts and local authorities	
Policy Statement 1.4 Clinical Leadership and Governance	

i

OBJECTIVE	: Strengthen the health system delivery platforms by addressing the WHO recommendation on "building blocks" for quality MPNH services along the continuum of health care	17
KEY A	EA 2: STRENGTHENING HEALTH SYSTEMS AND SERVICE DELIVERY PLATFORM	17
Policy	atement 2.1 Quality of Care (QOC)	18
Policy	atement 2.2 Comprehensive, Integrated Person-centered Care	19
	atement 2.3 Skilled Workforce for Maternal and Newborn Health services	
Policy	atement 2.4 Dedicated and sustainable finances and optimisation of the available resources	20
Policy	atement 2.5 MN Health Facility Infrastructure to support and promote safe birthing facilities	21
Policy	atement 2.6.Essential MNH medicines, equipment, and commodity supply	22
humar	atement 2.7. Emergency preparedness, including the epidemic, pandemic, and arian situation	22
Policy level c	atement 2.8. Functional and effective referral pathways that facilitate access to the next expertise.	23
OBJECTIVE	: Promote access to respectful and non-judgmental MN services for women, newborns, and communities.	25
KEY A	EA 3:RESPECTFUL MATERNITY CARE	25
Policy	atement 3.1 Respectful maternity care (RMC)	25
Policy	atement 3.2 MNH services for vulnerable groups and people with special needs	26
OBJECTIVE	: Promote coordinated, meaningful, multisectoral community engagement to inform measures to improve care access to enhance positive pregnancy outcomes.	27
KEY A	EA 4: COMMUNITY MATERNAL HEALTH SERVICES	27
Policy	atement 4.1 Community Engagement and Participation	27
Policy	atement 4.2 Strengthen strategic partnerships	28
OBJECTIVE	: Develop a sustainable surveillance system for maternal and neonatal morbidity and mortality, including research developments in health system service delivery, quality improvement and innovative interventions.	
KEY A	EA 5: MONITORING AND EVALUATION AND SURVEILLANCE	29
Policy	atement 5.1 Strategy Outputs, Performance Measures and Activities	29
	atement 5.2 Maternal, Perinatal and Neonatal Death Response and Surveillance MPDRS)	30
	atement 5.3 Research, Innovation and Technology for MPNH service delivery and ment	30
ANNEXURE	ESSENTIAL LIFE-SAVING INTERVENTION PACKAGES	32
ANNEXURE	ASSOCIATED GUIDELINES	33
BIBLIOGRA	ΗΥ	34

FOREWORD



As a lower-middle-income country (LMIC), South Africa (SA) bears the burden of maternal and neonatal mortality similar to other sub-Saharan African countries. According to the Saving Mothers Report 2017/19, there has been a progressive and sustained reduction in institutional maternal mortality (iMMR) in the past three triennia (2010-2019), from 320 per 100,000 live births to 120 per 100,000 live births.

According to the Rapid Mortality Survey, the country's infant mortality rate has declined from 29 deaths per 1000 live births in 2014 to 25 deaths per 1,000 live births in 2018. The institutional neonatal death rate showed a slight decrease from 12,7 deaths per 1,000 live births in 2016 to the current level of 12 per 1,000 live births and has remained static at this level for the past three years (saDHIS).

Working towards the Sustainable Development Goal (SDG) of reducing maternal mortality to below 70 per 100 000 live births and neonatal mortality to 12 deaths per 1000 live births, South Africa aims to reduce institutional maternal mortality, neonatal mortality and stillbirths by 50% by 2030.

This Maternal, Perinatal and Neonatal Health Policy provides a framework for the delivery of quality, comprehensive, and integrated MNH services and will guide the development and review of guidelines and related MNH interventions, including strengthening of the service delivery platform, governance, leadership and accountability for the provision of quality MNH services, development of advocacy messages, and guiding civil society priorities and community initiatives. The policy will also guide the development and review of academic curricula and the setting of research priorities.

This policy recognises the National Health Insurance (NHI) as a cornerstone for realising access to Universal Health Care (UHC) for all. It also recognises the individual's autonomy, the need to enable informed choices and consent to services, and our obligation to advance a human rights approach.

Guided by this policy, it is our sincere hope that all Maternal and Neonatal Health (MNH) stakeholders, frontline workers, all levels of clinical managers, facility planners, human resource managers, financial and infrastructure managers will work together to ensure that all women, mothers/parents, their neonates and families can access quality, respectful MNH services across the childbearing lifecycle, from preconception in preparation for safe motherhood, during the antenatal period, for the foetus during the perinatal period, during safe childbirth, and through the neonatal and postnatal periods, including access to post-delivery contraception.

Dr Zweli Mkhize Minister of Health Date: 22 / 04 / 2021

iii

ACKNOWLEDGEMENTS

The Directorate for Women's, Maternal and Reproductive Health within the National Department of Health led the process of drafting this policy in close consultation with key stakeholders at a national and provincial level. Drafting was collaborative, and final input was sought through extensive consultation, including frontline healthcare workers, technical partners, academic partners, non-governmental organisations, private sector and civil society institutions.

The Department of Health urges all public and private institutions to make maximum use of this policy for proper guidance during maternal and neonatal health services implementation.

Evidence for this policy is derived from many practitioners and academics' intellectual input, literature reviews on available evidence, and contextual insights from several frontline practitioners and partners.

Contributions from several individuals have been tremendous:

- NDOH leads: Dr Nonhlanhla Makhanya, Dr Manala Makua, Ms Ellence Mokaba and Ms Joyce Mahuntsi
- Core writing team: Ms Jane Sebidi, Ms Mathilda Ntloana, Ms Vuyiswa Lebese, Ms Zandile Kubeka, Ms Ann Behr, Dr Sithembile Dlamini-Nqeketo, Dr Tsakane Hlongwane, Ms Precious Robinson, Dr Joan Dippenaar, Dr Daniel Nhemachena and Dr Nancy Kidula
- WHO at country, regional and headquarters levels
- Clinical experts: District Clinical Specialist Teams (DCSTs), midwives, specialists in obstetrics and gynaecology, other clinicians and individual private practitioners
- Technical and research experts: Medical Research Council (MRC), University of Limpopo Trust (ULT), Human Sciences Research Council (HSRC)
- United Nations (UN) agencies: WHO, UNICEF, UNAIDS,
- National Department of Health Directorates
- Development and implementing partners and civil society organisations (CSOs): South African Civil Society for Women's, Adolescent's and Children's Health (SACSoWACH), Clinton Health Access Initiative (CHAI), Right to Care, non-governmental organisations (NGOs)
- Traditional Health Worker representatives,
- Professional Associations, the Society of Midwives of South Africa (SOMSA), Maternal and Neonatal Health (MNH) Ministerial Committees
- Academic institutions
- Providers (public, private, and traditional), Emergency Medical Services (EMS), Pharmaceutical and other health groups,
- Provincial Maternal, Neonatal, Child, Women, Adolescent and Youth Health (MNCWAYH), Sexual and Reproductive (SRH) Managers, Departments of Social Development and Education



ABBREVIATIONS

ANC	Antenatal Care	KMC	Kangaroo Mother Care
ARV	Antiretrovirals	KPA	Key Performance Area
AU	African Union	LBW	Low Birth Weight
BANC	Basic Antenatal Care	LiST	Lives Saved Tool
CARMMA	Campaign for Accelerated	LMIC	Lower-middle-income country
	Reduction of Maternal Mortality in Africa	MDR	Maternal Death Reporting
CFR	Case fatality rate	MgSo4	Magnesium Sulphate
CHC	Community Health Centre	MMR	Maternal Mortality Ratio
CHW	Community Health Worker	MNCWH	Maternal, Neonatal, Child and Women's Health
CoMMiC	Committee on Mortality and Morbidity in Children	MNH	Maternal and Neonatal Health
CS	Caesarean Section	MOU	Midwife Obstetric Unit
CSO	Civil Society Organisations	MPDRS	Maternal Perinatal Death Review and Response system
DCST	District Clinical Specialist Team	MPNH	Maternal, Perinatal, and Neonatal
DHIS	District Health Information System		Health
DHS	District Health System	MRC	Medical Research Council
DOH	Department of Health	MRF	Management Review Forum
EDL	Essential drug list	MSSN	Management of Small and Sick Neonate
EOST	Emergency Obstetric Simulation Training	NaPeMMCo	National Perinatal Mortality and
EPI	Expanded Programme on Immunisation	NBU	Morbidity Committee
EMS			Natural Birthing Unit National Committee on Confidential
ENHR	Emergency Medical Services Essential National Health Research	NCCEMD	Enquiries into Maternal Deaths
ESMOE	Essential Steps in the Management	NDOH	National Department of Health
ESIVICE	of Obstetric Emergencies	NDP	National Development Plan
GBD	Global Burden of Disease	NGO	Non-governmental organisation
HBB	Helping Babies Breath	NHA	National Health Act
HR	Human Resource	NHI	National Health Insurance
HRH	Human Resource for Health	NPRI	Non-pregnancy related infection
ICM	International Confederation for	NTSG	National Tertiary Services Grant
	Midwives	ОН	Obstetric haemorrhage
ISHP	Integrated School Health Programme	OHSC	Office of Health Standards Compliance
IUSS	Infrastructure Unit Support System		

V

OMBUS	Onsite Midwife-led Birthing Units	SBA	Skilled birth attendant
PCR	Polymerase Chain Reaction (HIV	SDG	Sustainable Development Goal
PHC	test) Primary Health Care	SAHPRA	South African Health Products Regulatory Authority
PMTCT	Prevention of mother to child	SANC	South African Nursing Council
PPIP	transmission (of HIV) Perinatal Problem Identification	SOMSA	The Society of Midwives of South Africa
	Programme	SOP	Standard Operating Procedure
PPP	Public-Private Partnership	SRH	Sexual Reproductive Health
PRS	Pregnancy-related sepsis	Stats-SA	Statistics South Africa
QI	Quality Improvement	TBA	Traditional birth attendant
RMC	Respectful Maternity Care	WHO	World Health Organization
RMS	Rapid Mortality Surveillance	UK	United Kingdom
SA	South Africa	ULT	University of Limpopo Trust
SACSoWACH	H South African Civil Society for Women's Adolescent's and Children's Health	UNDP	United Nations Development Program
SADHS	South African Demographic and Health Survey		



DESCRIPTION

TERM

IERIWI	DESCRIPTION
Advanced Midwife	A licensed midwife in SA who has completed a prescribed post-basic education in midwifery and is licensed by the South African Nursing Council (SANC) for practice
Antenatal care	 Antenatal care attempts to ensure, by antenatal preparation, the best possible pregnancy outcome for women and their babies. This may be achieved by: screening for pregnancy problems assessment of pregnancy risk treatment of problems that may arise during the antenatal period giving medications that may improve pregnancy outcome provision of information to pregnant women physical and psychological preparation for childbirth and parenthood
Ansoff	The Ansoff Matrix is a strategic planning tool that helps one to devise strategies for future growth
BANC Plus	South Africa's updated basic antenatal care package aimed at improving antenatal care quality by providing evidence-based interventions across a minimum of eight antenatal care contact visits, with an increased number of contact visits during the third trimester. The package aims to improve pregnancy care, outcomes, and women's care experiences, yielding an improvement in screening and detection of pregnancy-related complications and, ultimately, improving antenatal care quality
Child	The age by which a child is defined differs according to the the context for which the child is seeking services. For example, definitions may vary for a case of sexual assault, or a girl seeking access to TOP, HIV testing, contraception or other services. The appropriate definition should be determined on a case-by-case basis depending on the individual's care needs
Community Health Worker	A community health worker (CHW) is a community member chosen by community members or an organisation and trained to provide basic health and maternal care services in their community households within the preventive, promotional and rehabilitative scope
Community engagement	The process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the wellbeing of those people
Community participation	The process that involves the community members in problem- solving or decision making, using their resources or inputs to identify their problems, opportunities, or alternatives to address issues that concerns their health

(vii)

TERM	DESCRIPTION
Comprehensive Integrated Care	Integrated health services delivery is defined as an approach to strengthening person-centred health systems that promotes the comprehensive delivery of quality services across the life-course, designed according to the individual's multidimensional needs and delivered by a coordinated multidisciplinary team of providers working across settings and levels of care
Foetus	An unborn offspring, from the embryo stage (the end of the eighth week after conception, when the major structures have formed) until birth
Health facility	Places that provide health care both in public and private settings. They include hospitals, clinics, outpatient care centres, and specialised care centres, such as birthing centres and psychiatric care centres, Onsite Midwife-led Birthing Units (OMBUS) or Midwife Obstetric Units (MOUs)
Infant	A young baby from birth to 12 months of age
Maternal Health	The health of women during pregnancy, childbirth and the postpartum period
Maternal Mortality	The death of a woman while pregnant or within 42 days of pregnancy termination, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. Institutional maternal mortality relates to maternal deaths that occur within a health institution
Midwife	After completing a basic prescribed programme in midwifery, a midwife is a person who is enrolled and licensed by the South African Council for Nursing (SANC) as an independent practitioner who is permitted to practice as a midwife in the jurisdiction of SA
Midwifery	Midwifery is "skilled, knowledgeable and compassionate care for childbearing women, newborn infants and families through the continuum of the pre-pregnancy period, pregnancy, birth, postpartum and the early weeks of life
Neonate/newborn	A human infant in the first 28 days after birth. The term applies to premature, full-term, and postmature infants
Neonatal Health	Health relating to or affecting a human infant or newborn baby in the first 28 days after birth. The term applies to premature, full-term, and postmature infants

TERM	DESCRIPTION
Neonatal Mortality	A neonatal death is defined as a death during the first 28 days of life (0-27 days). The NMR is often broken down into early (0-7days) and late (8-27 days) mortality rates. Institutional neonatal mortality relates to neonatal deaths that occur within a health institution
Package of care	A package of care (POC) is a combination of services specific to an individual patient
Perinatal period	Refers to the time, often defined as between the 28th week of pregnancy and the end of the first week of life or seven days after birth
Perinatal mortality	Perinatal mortality refers to the death of a foetus or neonate and is the basis to calculate the perinatal mortality rate. The World Health Organization defines perinatal mortality as the "number of stillbirths and neonatal deaths in the first week of life per 1,000 total births, the perinatal period commences at 28 completed weeks of gestation, and ends seven completed days after birth"
Person-Centred Care	Person-Centred Care (PCC) is care that is respectful of, and responsive to, individual patient health needs, values active collaboration, and employs shared clinical decision making (between patients and health care providers) to design and manage a customised and comprehensive care plan. Person-centred care empowers people to take charge of their own health rather than being passive recipients of services
Stillbirth	A baby that shows no signs of life at birth. A macerated stillbirth refers to a baby that died in utero at least 12 hours prior to birth. A fresh stillbirth refers to a baby that died in utero less than 12 hours prior to birth
Skilled birth attendant	The World Health Organisation (WHO) definition, adapted to the South African context, defines a skilled birth attendant (SBA) as a competent healthcare professional who provides care during childbirth. SBAs (i) provide and promote evidence-based, human-rights-based, quality, culturally 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 newborns with complications. As part of an integrated team of MNH professionals (including midwives, nurses, obstetricians, paediatricians and anaesthetists), SBAs perform all signal functions of emergency maternal and newborn care to optimise the health and wellbeing of women and newborns
Traditional birth attendant	A traditional birth attendant (TBA) is a person who assists a mother during childbirth and who initially acquired her skills by delivering babies herself or through apprenticeship to other traditional birth attendants

-(ix)

TERM	DESCRIPTION
Task shifting	Task shifting is the name given to a delegation process whereby tasks are moved, where appropriate, to less specialised health workers
Viable pregnancy	A viable pregnancy is one in which the baby can be born and have a reasonable chance of survival
Vulnerable groups	Vulnerable groups are defined as a part of the South African population that experience a higher risk of poverty and social exclusion than the general population. Included are persons with physical and mental disabilities, women, youth, children, older persons, those with limited resources, those living with chronic conditions, victims of gender- based violence, LGBTQI communities, children with special needs, (e.g. orphans, child-headed families), homeless persons, abandoned neonates, inmates, sex workers, displaced and migrant populations, drugs and alcohol addicts, domestic workers, ethnic minorities, and people living in far to reach areas (e.g. rural areas)
Woman of childbearing potential	A premenopausal female capable of becoming pregnant, inclusive of the age range from 15 – 49 years



VISION, MISSION AND OBJECTIVE

VISION

This policy's vision is to reduce maternal, perinatal and neonatal morbidity and mortality rates by 50% by 2030, in line with the Sustainable Development Goals.

MISSION

To improve the delivery of a range of maternal, perinatal, and neonatal health MPNH services that are comprehensive, high-quality, integrated, accessible, acceptable, respectful, effective, and safe, and provided equitably to individuals, couples, and communities in South Africa.

OBJECTIVES OF THIS POLICY

This policy provides a broad framework for providing quality and comprehensive (MPNH) services and will inform the development and review of guidelines and standard operating procedures related to maternal, perinatal and neonatal services in South Africa. The key strategic MPNH policy objectives are:

	OBJECTIVE 1:	Strengthen leadership and accountability structures to provide quality, comprehensive, and integrated MPN care and treatment services across the healthcare continuum.
2	OBJECTIVE 2:	Strengthen the health system delivery platforms by addressing the World Health Organisation (WHO) "building blocks" for quality MPNH services along the continuum of healthcare
V	OBJECTIVE 3:	Promote access to respectful and non-judgmental MPNH services for pregnant individuals, women, newborns and communities.
V	OBJECTIVE 4:	Promote coordinated, meaningful, multisectoral community engagement to enhance positive pregnancy outcomes.
V	OBJECTIVE 5:	Develop a sustainable surveillance system for maternal, perinatal and neonatal morbidity and mortality, including research developments in health system service delivery, quality improvement and innovative interventions.

SCOPE & AUDIENCE

SCOPE AND AUDIENCE

The scope of this MPNH policy includes all activities and programme decisions concerned with improving individuals' healthcare during the childbearing lifecycle. The policy aims to inform academic curriculum development, research priorities, advocacy messages development, civil society mandates, community initiatives and service delivery. It provides a framework for all sectors and levels of business, social services and health care delivery models. The policy focusses on the reproductive lifecycle from pre-conception in preparation for safe motherhood, the antenatal period, the foetus, delivery, and through the neonatal and postnatal periods, including access to post-delivery contraception. The policy targets frontline workers, clinical managers, facility planners, human resource managers, financial managers and infrastructure managers at all levels of care.



NATIONAL AND GLOBAL GUIDING DOCUMENTS

South Africa is a party to several key and notable efforts towards the reduction of maternal and neonatal mortality, including:

The Global Strategy for Women's, Children's and Adolescent's Health

This strategy aims to accelerate momentum for individuals, women's, children's and adolescent's health with the overarching objectives to 'Survive, Thrive and Transform' as per the sustainable development agenda. The Global Strategy identifies nine areas for action related to reducing maternal, perinatal and neonatal morbidity and mortality.

The Sustainable Development Goals 2030

Investments in health are targeted towards the Sustainable Development Goal 3, specifically 3.1 and 3.2, stated as

- "Reduce the global maternal mortality ratio to less than 70 per 100 000 live births.
- End preventable deaths of newborns and children under five years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000"

Every Newborn Action Plan

An action plan to end preventable deaths (Resolution WHA67.10) and a road map of strategic actions to end preventable newborn mortality and stillbirths. Every Newborn Action Plan presents evidence-based solutions and sets out a clear path with specific milestones for what needs to be done differently to reduce mortality rates and improve maternal and newborn health by 2030.

The National Development Plan (NDP)

Aims to eliminate poverty and reduce inequality by 2030. The NDPs focus is to strengthen primary and district health systems as the backbone for achieving better health outcomes for maternal, perinatal and neonatal health. Amongst the various goals contained in the NDP 2030, the following apply to the PHC reengineering programme: (1) health systems reforms completed, (2) PHC teams deployed to provide care to families and communities, and (3) universal health coverage is achieved.

The National Health Insurance

The National Health Insurance (NHI) plan is South Africa's version of universal healthcare – where resources are pooled to provide health services for all. While ensuring universal health coverage for all South Africans is key to socioeconomic development, the largest group of beneficiaries include mothers/ parents and children, who are the bulk of any healthcare system users.

World Health Organisation: Health in all policies (HiAP) framework

The HiAP framework, to which South Africa is a signatory, seeks to highlight the connections and interactions between health and policies from other sectors. It recognises that the causes of health and wellbeing lie mainly outside the health sector and are socially and economically formed. Thus, all sectors should include health and wellbeing as a key component of policy development.

3

Saving Mothers, Saving Babies Reports

Since 1998, two Ministerial Committees, namely the National Committee on Confidential Enquiry into Maternal Deaths (NCCEMD) and the National Perinatal Morbidity and Mortality Committee (NaPeMMCo), have assessed the trends and causes of maternal, perinatal and neonatal deaths occurring in public and private sector health facilities. Based on these data, the committees recommend interventions to improve MNH services and reduce maternal and neonatal morbidity and mortality. These findings and recommendations are presented to the minister of health as the triennial Saving Mothers, Saving Babies Report.

Implementing the recommendations from the Saving Mothers, Saving Babies Reports would improve services; however, converting the recommendations into practice needs to be strengthened. The MPNH policy will provide the foundation for an enabling environment for operationalising the recommendations.

The Global Strategy for Infant and Young Child Feeding

The WHO and UNICEF jointly developed the Global Strategy for Infant and Young Child Feeding to revitalize world attention to the impact that feeding practices have on the nutritional status, growth and development, health, and thus the very survival of infants and young children. The strategy recognises that breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. The strategy also reaffirms that mothers and babies form an inseparable biological and social unit, and that the health and nutrition of one cannot be divorced from the health and nutrition of the other.

GUIDING LEGISLATION

The policy is aligned to the following legislation:

- i. **Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)** The Bill of Rights as enshrined in Chapter 2 of the Constitution of the Republic of South Africa, provides for the State/ Department of Health to take reasonable legislative and other measures to ensure access and delivery of healthcare services to all citizens. Section 27 makes provision for the right to have access to healthcare services, food and water and social security, whereas Section 24 enforces the right to an environment that is not harmful to the health or wellbeing of all South Africans.
- ii. **The Public Service Act, 1994 (Act 103 of 1994)** The Public Service Act serves to regulate terms and conditions of employment within the public service of South Africa. As per Section 12A, it makes provision for the "Appointment of persons on the grounds of policy considerations" such that "an executing authority may appoint one or more persons under a special contract, whether in a full-time or part-time capacity".
- iii. National Health Act, 2003 (Act 61 of 2003) Considering the principles as contained in the Constitution, the Act provides a framework for a structured, uniform health system to protect, promote, and maintain the population's health. Chapter 5 establishes the "District health system based on the principles of primary healthcare, promoting universal access to quality, equitable, responsive and efficient healthcare services that are accountable to the communities they serve." Section 2 (b) "sets out the rights and duties of healthcare providers, health workers, health establishments and users" and Section 52(c) allows the Minister of Health to make regulations to "create new categories of healthcare personnel to be educated or trained".
- iv. **Intergovernmental Relations Act, 2005 (Act 13 of 2005)** This Act serves to establish a framework for the national government, provincial governments and local governments to promote and facilitate intergovernmental relations; to provide for mechanisms and procedures to facilitate the settlement of intergovernmental disputes, and to provide for matters connected therewith.

- v. **Occupational Health and Safety Act, 1993 (Act 85 of 1993 as amended)** It aims to create and enforce a safe and healthy working environment for all employees and outlines the roles and responsibilities of both employers and employees in this regard as per Section 8 and Section 14 of the Act respectively.
- vi. **Non-profit Organisations (NPOs) Act, 1997 (Act 71 of 1997)** This Act creates an administrative and regulatory framework within which NPOs can conduct their affairs, maintain standards of governance and create a spirit of cooperation and shared responsibility within government, donors and amongst other interested persons in their dealings with non-profit organisations
- vii. **Hazardous Substances Act, 1973 (Act No. 15 of 1973)** Provides for the control of hazardous substances, particularly those emitting radiation.
- viii. Choice on Termination of Pregnancy Act, 196 (Act No. 92 of 1996) Provides a legal framework for the termination of pregnancies based on choice under certain circumstances.
- ix. **The Skills Development Act, 1998 (Act 97 of 1998)** This Act provides a framework to develop and improve the skills of the South African workforce. Learnerships, skills programmes, and occupational qualifications fall within this act's ambit, relevant to the CHWs career path design.
- x. **Promotion of Access to Information Act, 2000 (Act 2 of 2000)** This Act gives effect to Section 32 "Access to information" of the constitution and allows for access to or request for information and data from the State or any other body for protection of any right.
- xi. **The Children's Act, 2005 (Act 38 of 2005)** This Act consolidates the law on matters related to children and gives effect to certain rights of children as contained in the Constitution; to set out principles relating to the care and protection of children, which is relevant to community-level service provision to households, including children.
- xii. **Division of Revenue Act** A list of indicators, financial and programmatic (health programmes and others), which provinces are expected to submit quarterly to the national Department of Health,20 days after the end of each financial quarter. Indicator categories include antiretroviral therapy, post-exposure prophylaxis for sexual assault, prevention of mother-to-child transmission of HIV, programme management strengthening, regional training centres and HIV counselling and testing, some of which would fall within the scope of work of WBPHCOTs.
- xiii. **National Health Insurance (NHI) Bill** The National Health Insurance (NHIF) plan is South Africa's version of universal healthcare – where resources are pooled to provide health services for everyone. The comprehensive set of personal health services along the continuum of care will include community outreach, care provided at the PHC level based on the ideal clinic model, health promotion and prevention. According to the NHI Bill, maternal, perinatal and neonatal services shall be provided according to the NHI Bill service packages for pregnant individuals, women and neonates, taking into account the prohibitions and inclusions described in the Act's relevant clause (Chapter 8 of the bill).
- xiv. **The National Health Laboratories Service (NHLS) Act (37 of 2000)** Provides for a statutory body that offers laboratory services to the public health sector. The NHLS serves a critical function in providing laboratory and pathology services to support clinical diagnoses.
- xv. **Nursing Act (33 of 2005)** Provides for the regulation of the nursing profession. The Act defines all cadres within the nursing discipline and their scope of practice.
- xvi. National Environmental Health Policy of 2013 As per Section 24 of the Constitution, through this policy, the government aims to create awareness and prevent and reduce health risks associated with environmental hazards by the promotion of inter-sectoral collaboration and community participation (Section 4.3.7), thereby influencing health outcomes to ensure "A long and healthy life for all South Africans". Section 4.3.5 states that "Environmental health and safety (EHS) must be based on the decentralised model of the district health system for the promotion of equity, efficiency and effectiveness."

5

- xvii. **Mental Health Care Act 2002 (Act No. 17 of 2002)** Provides a legal framework for mental health in the Republic and the admission and discharge of mental health patients in mental health institutions, emphasising human rights for mentally ill patients.
- xviii. **Medicines and Related Substances Act of 1965** Provides for the registration of medicines and other medicinal products to ensure their safety, quality and efficacy, and provides for transparency in medicines' pricing.
- xix. **Pharmacy Act, 1974 (Act No. 53 of 1974)** Provides for the regulation of the pharmacy profession, including community service by pharmacists. The Act supports the evolution of other health care worker's role in prescribing and dispensing medication.
- xx. **Health Professions Act, 1974 (Act No. 56 of 1974)** Provides for the regulation of health professions, particularly medical practitioners, dentists, psychologists, and other related health professions, including community service by these professionals.
- xxi. Allied Health Professions Act, 1982 (Act No. 63 of 1982) Provides for the regulation of health practitioners such as chiropractors, homeopaths, etc., and establishes a council to regulate these professions.
- xxii. **SA Medical Research Council Act, 1991 (Act No. 58 of 1991)** Provides for the establishment of the South African Medical Research Council and its role concerning health research.
- xxiii. Academic Health Centres Act, 86 of 1993 Provides for the establishment, management, and operation of academic health centres.
- xxiv. **Sterilisation Act, 1998 (Act No. 44 of 1998)** Provides a legal framework for sterilisations, including for persons with mental health challenges.
- xxv. **Medical Schemes Act, 1998 (Act No.131 of 1998)** Provides for the regulation of the medical schemes industry to ensure accordance with national health objectives
- xxvi. **Council for Medical Schemes Levy Act, 2000 (Act 58 of 2000)** Provides a legal framework for the Council to charge medical schemes certain fees.
- xxvii. **Tobacco Products Control Amendment Act, 1999 (Act No 12 of 1999)** Provides for the control of tobacco products, the prohibition of smoking in public places and advertisements of tobacco products, and the sponsoring of events by the tobacco industry.
- xxviii. **Traditional Health Practitioners Act, 2007 (Act No. 22 of 2007)** Provides for the establishment of the Interim Traditional Health Practitioners Council and registration, training, and practices of traditional health practitioners in the Republic.
- xxix. **Public Finance Management Act, 1999 (Act No. 1 of 1999)** Provides for the administration of state funds by functionaries, their responsibilities and incidental matters.
- xxx. **Promotion of Access to Information Act, 2000 (Act No.2 of 2000)** Amplifies the constitutional provision pertaining to accessing information under various bodies' control.

CHAPTER 1

INTRODUCTION

Maternal, perinatal and neonatal mortality and morbidity are global priorities and the WHO has provided leadership to focus interventions on reducing preventable maternal, perinatal and neonatal mortality. Globally, maternal, perinatal and neonatal health indicators navigate each country's efforts to successfully reduce maternal, perinatal and neonatal mortality and achieve the Sustainable Development Goals (SDGs).

The Africa Union launched the Campaign for Accelerated Reduction of Maternal Mortality in Africa (CARMMA) in 2009, to which South Africa responded in 2012. The CARMMA campaign coincided with the re-engineering of primary health care (PHC), including the introduction of the District Clinical Specialist Teams (DCSTs) and PHC ward-based outreach teams in SA in 2012, and yielded noticeable improvements in maternal, perinatal and neonatal health care (MPNH) services.

The above laid the foundation for mortality surveillance that improved the accuracy of findings and allowed for focused interventions based on avoidable factors such as hypertension, haemorrhage, and non-pregnancy related infections (NPRI). Together with targeted skills development packages such as Essential Steps in the Management of Obstetric Emergencies (ESMOE), Helping Babies Breathe (HBB), and Management of Sick and Small Neonates (MSSN) that improved access to skilled birth attendants and improved clinical governance mechanisms through the DCSTs and perinatal review meetings, a decline in maternal mortality was observed from 320 per 100 000 live births in 2012 to 120 per 100 000 live births in 2019/2020, and neonatal mortality from 14/1000 live births in 2014 to 12/1000 in 2019/2020.

Maternal and neonatal health care services in South Africa has had several related successes. Access to termination of pregnancy services for the age group 10 -19 years improved from 12 896 in 2017/18 to 16301 in 2019/20. In the age group 20-years and older, the district health information system (DHIS) reflected an improvement from 90 755 in 2017/18 to 107 001 in 2019/20. Antenatal care (ANC) 1st visit coverage improved from 74.9% in 2015/16 to 83.2% in 2019/20 (DHIS). Maternal HIV testing and access to ART has significantly reduced deaths from non-pregnancy related infections and new HIV infections in children, with the PMTCT programme reporting a reduction in infant PCR positivity at ten weeks of age from 4.3% in 2015/16 to 0.68% in 2019/20 (DHIS).

It is widely understood that maternal, perinatal and neonatal health care outcomes rely on the entire health system to be well-coordinated, functional, sustainable, and contextual. This requires an optimised health workforce (ratio and skill mix) to deliver evidence-based interventions within adequately resourced facilities, using appropriate medicines, vaccines, and equipment, supported by sustainable finances, and monitored by mechanisms that promote responsiveness and efficiency within the system. This MPNH policy aims to place a renewed focus on leadership and governance, a universal service delivery approach, a rational and dedicated MN health workforce, and appropriate ancillary health programmes integration. It furthermore calls for norms and standards for the availability of infrastructure and equipment, the availability of essential medical products and vaccines, functional and effective referral pathways and the optimisation of available financial resources.

Person-centred care (PCC) is considered a key dimension of quality in SA and is fundamental to this policy. PCC is care that is respectful of, and responsive to, individual patient health needs, values active collaboration, and employs shared clinical decision making. This policy aligns with the international approaches of respectful maternity care to improve a mother's care experience and reduce incidences of abuse of women in reproductive health settings. This policy also considers the mother/parent and baby as a connected unit, not to be separated. Therefore, it calls for services to be provided in an integrated manner for the mother/parent-baby pair, also recognising that nutrition and mental health are an integral part of MN services. The policy further recognises the individual's autonomy, the need to enable informed choices and the need to obtain consent to services.

Quality MPNH services cannot be achieved without the recognition, respect, protection, and fulfilment of sexual and reproductive rights. This policy has considered the disparities in South Africans' economic conditions, other social determinants of health and socio-cultural norms that affect MPN services and seeks ways of tackling this multifaceted nature of service delivery for MPN health.

Achieving positive maternal, perinatal and neonatal health outcomes necessitates community engagement, participation and collaboration that informs the demand for care and access to care for pregnant women, families and communities. Successful MPNH care will be attained by promoting multisectoral engagement/ collaboration and shared accountability for sustainable and rights-based MPN service delivery.



CHAPTER 2

PROBLEM STATEMENT

Currently, the programme is guided by the Maternity Care Guidelines (2016), which address the clinical components of service delivery and does not address the five systems-related pillars of i) human resources, ii) financing, iii) equipment and commodities, iv) leadership and governance, and v) respectful care. In the absence of MNCH policy, there is no strategic document to guide maternal and neonatal health services.

While significant strides have been made to improve maternal and neonatal services and outcomes, the absence of a health-systems strengthening strategy for MPNH is evident by several remaining obstacles. The existing norms and standards in the public sector need to accommodate the specific requirements for maternity and newborn facilities related to staff ratio, skills mix, infrastructure requirements and other resources. Further challenges pertain to referral to the next level of expertise and integrated clinical guidelines promoting non-separation of the mother/parent-baby pair. Service delivery levels can benefit from robust and relatable clinical leadership and governance structures to ensure that comprehensive, evidence-based, integrated, person-centred, quality care is provided throughout the care continuum. Therefore, the development of this overarching policy on maternal, perinatal and neonatal services is imperative to guide health system strengthening, guideline development, and implementation of quality MPNH services.

Challenges that inform the policy are elaborated on in the accompanying document entitled <u>'Health system</u> challenges informing the lessons learned for the Maternal, Perinatal, and Neonatal Health Policy.'

MATERNAL, PERINATAL, AND NEONATAL HEALTH STATUS IN SA

Despite South Africa's progress in reducing maternal mortality facilitated through the confidential enquiry into maternal deaths since 1998, much remains to be done to achieve the SDG goal of 70/100,000 by 2030. Figure 1(a) below illustrates the country's performance on iMMR according to the Saving Mothers Report, and figures 1(b) and 1(c) illustrate the leading clinical causes of maternal mortality being hypertensive disease of pregnancy, haemorrhage and non-pregnancy related infections including HIV. The report identified that a significant systemic driver contributing to mortality in South Africa is the length of time it takes to arrive at a facility where a birth attendant has the right skill to deal with an emergency. This illustrates the need to optimise referral pathways within the catchment area between levels of care.

Figure 2 illustrates the main causes of neonatal death being prematurity (49,2%), followed by intrapartum events leading to asphyxia (28%), infections and congenital abnormalities.

Figure 3 below illustrates that little progress has been made in reducing stillbirths in the last two decades.





Figure 1(c): Causes of maternal deaths over time (Saving Mothers Report, 2017)



SA MPNH Policy

11



Figure 3: Trends in Stillbirths rates (Saving Mothers, Saving Babies Report, 2017-19)					
35					
30					
25	<				
20					
15					
5					
0					
	2002-2004	2005-2007	2008-2010	2011-2013	2014-2016
South Africa	18,7	17,0	18,2	17,2	15,9
	4,0	5,5	5,3	6,2	5,7
District Hospitals	18,2	16,3	17,3	16,4	14,8
Regional Hospitals	20,2	19,0	20,5	21,5	18,9
Tertiary Hospitals	27,5	24,5	29,0	27,9	27,3
Central Hospitals	27,0	28,8	28,4	25,1	29,2

12

CHAPTER 4

POLICY COMPONENTS AND KEY AREAS

The MPNH Policy focuses on 5 Key Areas and 19 Policy Statements that correlate to international practice and cluster key issues for ease of understanding and implementation. Each policy statement further clarifies the rationale, notes, additional evidence and what the statement is aiming to achieve.



13

OBJECTIVE 1

☑ OBJECTIVE 1: Strengthen leadership's responsibilities and accountability structures for the provision of quality MPNH services and improve the uptake of comprehensive and integrated care and treatment services across the continuum of health care

KEY AREA 1: LEADERSHIP ROLES, ACCOUNTABILITY STRUCTURES AND ADMINISTRATIVE RESPONSIBILITIES

Policy Statement 1.1 Roles and Responsibilities: NDOH

The NDOH shall be responsible for developing an overarching national evidence-based Maternal, Perinatal and Neonatal Health Policy through a consultative process involving provincial departments of health and other stakeholders, Ministerial Advisory Committees, professional bodies, academia, the private sector and civil society. Accountability includes monitoring, evaluation, reporting, and feedback related to the policy.

Objective

To provide overarching leadership in policy development, guidelines, standard operating procedures, core essential care packages and tools through a consultative process with key stakeholders to enable effective local ownership and administrative leadership for Implementation of quality healthcare services.

Rationale

The National Health Act, 61 of 2003 and other scholarly work have framed a progressive policymaking process, inclusive of consultations between interest groups operating both inside and outside government, as non-negotiable. The gap between promulgated policies and their implementation has been alluded to in South Africa. While health policy formulation is the National Department of Health's responsibility, it requires consultative leadership for accountable allocation of responsibility, inclusivity, and transparency in delivering MPN healthcare services.

Policy Statement 1.2 Roles and Responsibilities: Provinces

The nine (9) Provincial Departments of Health are responsible for implementing this MPNH policy within provincial, district and facilities through allocation and management of provincial resources for the MPNH programmes.

Objective

To facilitate accountability for evidence-based priority setting and policy implementation at the provincial level to achieve the policy's goals and standards.

Rationale

Provincial leadership must operationalise and implement the policy's principles and objectives. Provinces have a fiduciary and constitutional mandate to prioritise, allocate and mobilise provincial resources and are accountable for policy implementation as set out in the National Health Act.



Notes

• The policy takes cognisance of the varying socioeconomic and geopolitical circumstances that define MPNH priorities in provinces. Therefore, provinces need to consider the regional context to determine the means of execution that will enable implementation in the most efficient manner.

Policy Statement 1.3 Roles and Responsibilities: Districts and Local Authorities

At the district and institutional level, facilities will develop protocols in response to and based on this National MPNH Policy, considering the specific circumstances of the facilities and district.

Objective

To promote health and enhance effective linkage to care through active community engagement and involvement to promote social accountability for health and reduce avoidable MPNH morbidity and mortality.

Rationale

A district health system (DHS) links community spaces and stakeholders to the health system and acts as a liaison to understand community practices and processes that interface with the health care system. It, therefore, remains the custodian of engaging communities in health care. To execute this mandate effectively, districts ought to create and strengthen community structures that enable understanding of cultural practices and the role of traditional birth attendants, faith-based organisations, traditional leaders and healers as stakeholders in maternal and neonatal health service delivery, as defined in the National Health Act. It is at this level that self-care interventions are enforced.

Notes

- Facilities will development protocols to implement the policy, approved guidelines, standards and tools.
- The existing structures that need to be strengthened include the hospital boards, clinic committees and ward-based outreach teams whose terms of reference are stipulated in the district health system regulations.
- Improved surveillance mechanisms are needed to understand community-level maternal and neonatal deaths and stillbirths, community definitions and understanding of viability, tissue disposal, and traditional medicines use, which have a direct bearing on maternal and fetal/neonatal health outcomes.

Policy Statement 1.4 Clinical Leadership and Governance

All Departments of Health (DOH) levels of care (National, Provincial and Districts) must have functional clinical leadership and governance structures to oversee, monitor and evaluate the maternal and neonatal quality of care for all health establishments.

Objective

To institute a culture of strategic, clinical governance and operational oversight in issues related to the quality of care and patient safety.

Rationale

Under the policy planning framework, the National Health Act legislates that district heath planning should include clinical leadership and governance structures. To reduce inappropriate variations in care standards, each level of a health care system must include components of clinical leadership and governance that safeguard acceptable standards of care.

- Clear terms of reference are needed for all existing clinical governance structures, including the appointed ministerial committees and facility-level clinical review meetings, which are the local morbidity and mortality audit custodians.
- Clinical governance includes ensuring that supervisory functions are maintained at every level of care.
- Governance structures with a clear mandate for decisive corrective action in response to mortality
 or near-miss events should be constituted at each level of care to enable the execution of clinical
 governance.



OBJECTIVE 2

☑ OBJECTIVE 2: Strengthen the health system delivery platforms by addressing the WHO recommendation on "building blocks" for quality MPNH services along the continuum of health care

KEY AREA 2: STRENGTHENING HEALTH SYSTEMS AND SERVICE DELIVERY PLATFORM

Achieving the desired health outcomes relies on a supportive and enabling environment to provide services. The entire health system should be well-coordinated, functional, efficient and cost-effective. This requires an optimised health workforce (ratio and skill mix) to deliver evidence-based interventions within adequately resourced facilities, using appropriate medicines, vaccines, and equipment, supported by sustainable finances, and monitored by mechanisms that promote responsiveness and efficiency within the system. A well-functioning health system requires efficient planning. Properly planned and managed health establishments ensure equitable and coordinated access to a comprehensive and integrated care package across a catchment area. The package must include 24-hour access to emergency care, and services should be planned per the life-course of a woman and her baby and throughout the childbearing period. The package must further establish a clearly defined pathway to services that meet the health needs of individuals and families.

Policy Statement 2.1 Quality of Care (QOC)

According to the global and national maternal and neonatal standards and national quality improvement strategy, all health facilities shall institutionalise quality management processes (quality of care assessment, quality improvement, quality assurance and quality controls) to enhance positive maternal and neonatal health outcomes.

Objective

To institutionalise quality of care in MPNH care provision and nurture a culture of continuous quality improvement.

Rationale

As defined by the WHO, quality care for MPNH services is safe, effective, timely, efficient, equitable, and patient-centred. Six 'process' domains to achieve high-quality services for birth events are 1) evidencebased care for routine and emergency care, (2) actionable information systems and (3) functional referral systems. In addition, (4) effective communication, (5) respect and dignity, and (6) emotional support are important processes for the user's experience of care.

The Saving Mothers and Babies reports have identified modifiable factors and made recommendations for improvement related to patient factors, staff factors and health system factors. To ensure that care is delivered consistently and efficiently within stipulated standards and protocols, every worker and every facility delivering MPNH care should seek to improve their processes and service quality continuously.

- All frontline healthcare workers delivering MPNH care shall participate in quality improvement processes and be trained on such in their continuous development program.
- All facilities should conduct mandatory clinical audits to assess and improve the quality of care. Quality improvement (QI) plans should be developed based on the audits, and DCSTs and clinical managers should monitor the implementation of the QI plans. Interfacility clinical audits should

be implemented. Evidence of ongoing in-service training on problematic areas and ESMOE-drills should be available in each facility.

• All service providers in the health care system shall provide every individual, woman and newborn with quality maternal, perinatal and neonatal health services that are safe, efficient, effective, timely, patient-centred, and equitable, throughout the continuum of their care, according to the national standards and their mandates.

Policy Statement 2.2 Comprehensive, Integrated Person-centered Care

Guided by the latest national guidelines and standards for the appropriate point/level of care, all service providers in the health care system shall provide every individual, woman and newborn with comprehensive, evidence-based, integrated, person-centred, quality care throughout the care continuum.

Objective

To provide comprehensive, evidence-based, integrated, person-centred care at the appropriate point/level of care to reduce maternal, perinatal and neonatal morbidity and mortality.

Rationale

Certain areas in South Africa still experience inequitable access to adequate care and fragmented MPNH services across care levels. A package of key evidence-based interventions recommended by the ministerial committees and other global and local guiding documents can reduce maternal, perinatal and neonatal mortality and morbidity.

- Comprehensive, evidence-based packages of care include, amongst others, family planning, essential medicines, maternal nutrition, infant feeding, mental health, genetics services, and care and treatment for communicable and non-communicable diseases.
- The mother/parent and baby should be considered a connected unit (dyad), not to be separated. Therefore, services should be provided in an integrated manner for the mother/parent-baby pair.
- Person-Centred Care (PCC) is care that is respectful of, and responsive to, individual patient health needs, values active collaboration, and employs shared clinical decision making (between patients and health care providers) to design and manage a customised and comprehensive care plan. Person-centred care empowers people to take charge of their own health rather than being passive recipients of services.
- Quality care is care that is safe, efficient, effective, timely, equitable, and patient-centred.
- Inequity is evident within the significant differences between rural and urban provinces and the public and private sectors

Policy Statement 2.3 Skilled Workforce for Maternal and Newborn Health services

All health care workers providing MPN services must be trained, competent, certified and registered with a regulated professional health body, exercising their full set of skills at the appropriate level of care as defined in the relevant scopes of practice of professional councils and regulatory bodies.

Objective

To ensure quality, safe and effective MPNH service delivery through trained, skilled, competent and motivated practitioners.

Rationale

An emerging narrative in the human capital arrangements in South Africa is the insufficient stewardship of human resource planning and suboptimal allocation of both skills and competencies to address historical inequities between urban and rural areas. This skewed distribution of resources has resulted in variations of MPNH morbidities and mortalities across the country. Investments in skills, equipment/supplies, regulation, and supervision across all levels of care would achieve the desired MPNH outcomes. For regulatory oversight, all cadres of professionals need regulating, and credible, and transparent certification processes supported by clinical governance and oversight.

There is a need to develop competency through structured and mandatory mentorship, support and continued professional development for health practitioners at all levels, designed to align with task shifting approaches. Regulatory bodies responsible for the competence of practitioners are to be active in this regard. For example, while the midwife is the preferred cadre of skilled birth attendant, defining their domains and scope of practice for those who meet the international definition of midwife is required. This principle should be applied to all cadres delivering MPNH services.

For the attainment of the SDGs in South Africa, human resource plans that capture the aspirations and demands of the Fourth Industrial Revolution are urgently needed. There is a need to introduce new technologies to achieve better MPNH outcomes and tackle staff shortages. Birth defects have a significant contribution to neonatal morbidity and mortality rates, and it is necessary to train health workers on the identification and care of neonates with birth defects.

- Avoidable mortality events and near misses mainly emanate from a lack of necessary skills, including surgical skills, anaesthetic skills, competence in HIV and TB care, and management of labour and obstetric emergencies. According to the Savings Mothers 2017/19 triennial report, the top four causes of maternal mortality are non-pregnancy related infections (NPRI), hypertensive disorders of pregnancy (HDP), obstetric haemorrhage (OH), medical and surgical disorders (see figure 1b and 1c).
- It is the responsibility of all MPNH health care workers, including sessional doctors and nurses, to gain and maintain the knowledge and skills required to prevent maternal and neonatal morbidity and mortality.
- Specific skills to manage complications that drive mortality and morbidity are outlined within evidence-based protocols and clinical guidelines such as i) the management of preterm and very small and sick neonates, 2) preterm labour, 3) Helping Babies Breath, 4) intrapartum care, 5) preeclampsia management and 6) postpartum haemorrhage management.

- Guided by an understanding of the skills gaps, training programs in medical schools and nursing colleges, both pre-service and in-service, need to align with the skills required to deliver MPNH programs. Standardisation of competencies and training should include genetics, maternal and neonatal nutrition, fertility, perinatal mental health, and considerations for persons with disabilities. On completion of each training program, mandatory oversight on skills and certification is key.
- Competencies need to be included for Medical Geneticists and Nurse Genetic Specialists for improved management and care.
- In-service training is not a substitute for basic training and may not lead to competency. Training and competencies should include community-based competencies for community health workers.
- Clearly stated, minimum staffing norms and standards are necessary and should address numbers, lists of competencies, and training requirements per care level.
- Staff retention strategies and a safe work environment and are needed to contribute to HCW productivity and quality of care.

Policy Statement 2.4 Dedicated and sustainable finances and optimisation of the available resources

Maternal and neonatal services shall be provided according to the NHI Bill service packages for women and neonates, taking into account the prohibitions and inclusions described in the Act's relevant clause (Chapter 8 of the bill). All aspects of care must be costed for through appropriate funding and budgeting with consideration of Chapter 8 of the NHI.

Objective

To strengthen optimal access to universal quality maternal, perinatal, and neonatal healthcare through the provision of adequate resources.

Rationale

Universal health coverage aims to increase access to services and reduce vulnerability from out of pocket payment for health services and is crucial in driving better maternal, perinatal and neonatal health outcomes. Yet, finances remain a critical barrier for improved coverage and quality of care in maternal, perinatal and newborn health. Skilled health workers, functional equipment, adequate medicines and supplies are required to provide maternal health services efficiently and effectively. All these components have attributable costs, irrespective of the facility ownership (public or private) and whether the maternal, perinatal and neonatal services are being provided free at the point of service.

There is no dedicated grant for MPNH Services; finances depend on the equitable share and National Tertiary Services Grants (NTSGs). Maternal and neonatal services shall be provided according to the NHI Bill service packages for women and neonates, taking into account the prohibitions and inclusions described in the Act's relevant clause (Chapter 8 of the bill).

Notes

• The NHI will offer a prescribed minimum benefit package that will consider the minimum clinical service package for maternal and child health and the 'best buys' that can provide this package most cost-effectively along the MPNH care continuum. The minimum clinical benefit package contents are described in many of the guidelines and appendixes in this policy document. The NHI would further ensure that no citizen or resident in South Africa incurs out of pocket payments in seeking basic MPNH services, thus advancing equality and equity.

Policy Statement 2.5 MPN Health Facility Infrastructure to support and promote safe birthing facilities

Health facilities shall meet the minimum standards for safe maternal and neonatal health services to conduct normal or assisted deliveries and caesarean sections in line with the designated level of function.

Objective:

To create and maintain an enabling physical environment for safe antenatal, birthing, postnatal and neonatal care in the context of person-centred care.

Rationale

Infrastructure for MPNH should be adequate, well maintained, and in line with the stipulated standards for service delivery associated with person-centred care. Yet, South Africa's infrastructure audits have revealed a close correlation between poor infrastructure and poor health outcomes. The audits highlighted challenges which include inadequate or unhygienic, overcrowded infrastructure, contributing to the current status of mortality and morbidity. Implementing the "Respectful maternity care" approach should be considered in the infrastructure outlay for MPNH services.

- The MNH Directorate shall advise and inform the infrastructure unit on the specifications for all health facilities providing MPNH services according to the latest norms, standards and guidelines document. These standards are based on the National Health Act (NHA), which defines infrastructure that should be available at each level of service per facility, based on the Provincial Strategic Transformation Plan and the government policy document: Government Notice R. 185, 2 March 2012, National Health Act 61/2003: Regulations Related to Categories of Provincial Hospitals: No. 35101
- To maintain standards and achieve intended health outcomes, all infrastructure development and improvement for MPNH services must seek advice from other stakeholders such as clinical experts.
- Architectural specifications should consider the structural requirements needed for providing integrated care for the mother-baby pair.
- Compliance with the norms and standards for MPN infrastructure, including private, independent or midwives' units, will be enhanced by linking relevant departments, officials and systems required to accredit these MNH facilities and units.
- Where there are disparities in the spatial distribution of facilities or skilled birth attendants relative to where women reside, guidelines should be developed to use MOUs, OMBUs and natural birthing units. Furthermore, maternity waiting homes should be institutionalised to reduce delays in accessing the next level of expertise. Existing communication platforms should be used and improved to inform communities about the availability of these homes and improve postpartum care when mothers are discharged via these homes.
- Maternal, perinatal and neonatal friendly mobile units should be utilised as part of the service delivery platform if access to fixed facilities is constrained.

Policy statement 2.6. Essential MPNH medicines, equipment, and commodity supply

All provincial and district managers, heads of tertiary and quaternary health service establishments shall be responsible for the availability and functionality of high quality, appropriate, affordable, essential medicines, equipment, and commodities to meet the demand for quality maternal and neonatal services.

Objectives

To ensure optimal supply, logistics and management of systems for medicines, commodities, and equipment for an uninterrupted, efficient, and cost-effective, value-laden service delivery model for MPNH.

Rationale

Certain areas may benefit from improvements in the design, coordination and efficiency of supply chain management. Suboptimal supply chains are a significant barrier to providing quality care and contribute to high attrition rates when staff work in environments with suboptimal supplies. The availability of sufficient equipment that is fit for purpose is curtailed by financial constraints, ordering of equipment with inappropriate specifications due to a lack of expert oversight, and inappropriate award processes.

Maintenance and repairs of equipment suffer from skills deficits, as well as challenges in obtaining needed parts. Frequent equipment breakdowns may be affected by a lack of staff competence or a lack of the needed robust specifications.

Notes:

Essential medicines, equipment, consumables and commodities should be supplied according to the level of care and as per the minimum standards.

Policy Statement 2.7. Emergency preparedness, including the epidemic, pandemic, and humanitarian situation

The Provincial and District managers shall ensure that all pregnant women and neonates have access to 24-hour emergency obstetric and neonatal care services, integrated maternal, perinatal and neonatal health services and a well-coordinated and reliable referral system to the next level of expertise within the catchment area. These services need to be available at all times, including during epidemic, pandemic and humanitarian situations.

Objectives

Strengthen the MPN services' capacity for emergency preparedness at all levels, including human resources, medical supplies, equipment, risk communication and emergency management (refer to *Framework and Guidelines for Maternal and Neonatal Care during a Crisis: COVID-19 response*).

Rationale

Although pregnancy and birth are natural processes, they are nonetheless unpredictable. Clinicians accept that it is not possible to predict with certainty when complications may arise. Therefore, facilities must be prepared to manage unexpected emergencies, and systems should be in place to refer to the next level of expertise when needed.



There is evidence for the effectiveness of critical care packages, such as antenatal care (ANC), skilled birth attendance, Emergency Obstetric Care (EmOC) (including injectable antibiotics, injectable oxytocic, injectable anticonvulsants, manual removal of placenta, removal of retained products, assisted vaginal delivery, basic neonatal resuscitation, caesarean section and blood transfusion), postnatal care and family planning in reducing maternal morbidity and mortality.

Notes

- Mandatory essential skills training on emergencies in obstetrics should be provided for professional maternal, neonatal health care workers
- It is expected that health care providers, both midwives and doctors, update their skills and competencies in managing complications.
- The disaster environment increases pregnancy-related morbidities and mortalities. This calls for emergency preparedness that should include maintaining antenatal care, increased MPNH communication, and preparing emergency delivery kits for expecting mothers.
- NDOH, in collaboration with other relevant departments, shall, during disasters, emerging pandemics and epidemics, declare maternal and neonatal services as essential services for continuity of care for this vulnerable and high- risk category of the population.

Policy Statement 2.8. Functional and effective referral pathways that facilitate access to the next level of expertise.

District and facility management teams must establish functional and effective referral pathways that respond to pregnant individual, women and neonates' immediate needs. Referral routes should be tailored according to the catchment area considering the availability of the next level of expertise and irrespective of health district demarcations.

Objectives

To respond timeously and appropriately to the pregnant individual, women and neonates' immediate needs to improve outcomes.

Rationale

The Triennial Saving Mothers Report (2017-2019) identified that a significant systemic driver contributing to mortality in South Africa is the length of time it takes for emergency service personnel to arrive at a facility where a skilled birth attendant can deal with an emergency. The need for an efficient patient transport network that avoids delays and optimises referral from one level of care to another has been cited as an essential requirement for better MPNH outcomes.

The referral system itself is hampered by i) limited staff with inadequate obstetric and neonatal life support skills and scope of practice, ii) unreliable or non-functional vehicles, iii) vehicles that are used for the transport of clients other than obstetric and neonatal emergencies, and iv) referral criteria that are not based on the urgency of the medical problem (such as the urgent need for caesarian section), but rather on referral routes.

Norms and standards for a competent and "obstetric and neonatal friendly" EMS service is a priority. Dedicated obstetric ambulances have been shown to increase access to the next level of expertise, although the procurement, contents therein, and scheduling of the vehicles needs to be adapted to each context.

Notes

 The Declaration of Alma Ata (Sept 1978) recommends healthcare accessibility within a 5km radius. The Constitution of SA stipulates the right to health as fundamental to all individuals' physical and mental wellbeing and as a necessary condition to exercising other human rights, including pursuing an adequate standard of living. The right to health care services is provided for in three sections of the South African Constitution: 1) access to health care services including reproductive health and emergency services; 2) basic health care for children; 3) medical services for detained persons and prisoners. Universal access is provided for in section 27(1)(a), which states that "Everyone has the right to have access to health care services, including reproductive health care..."


OBJECTIVE 3

☑ OBJECTIVE 3: Promote access to respectful and non-judgmental MPN services for women, newborns, and communities.

KEY AREA 3: RESPECTFUL MATERNITY CARE

Policy Statement 3.1 Respectful maternity care (RMC)

All health care providers rendering maternal, perinatal and neonatal services shall provide care to all individuals, women and their partners in a manner that maintains dignity, privacy, confidentiality and is free from harm and mistreatment.

Objective

To improve relations and perceptions of care, which encompasses respect for basic human rights, autonomy, dignity, feelings, choices, and preferences, including companionship during maternity care.

Rationale

Findings in the literature revealed the majority of experiences using MomConnect have been positive at the individual end-user level, with many women attaching a high value to the content of the messages and the medium in which they were delivered. Respondents were enthusiastic about the messages, stating that the information was of great use and made them feel empowered in their role as a mother/parent, with some saving the messages to use as a resource or to share with others. Data showed that eight times more compliments than complaints were received.

Reports from patients on their experiences in health facilities point to a deficit in respectful care, trampling on their right to dignity, privacy and confidentiality.

Although outcomes may not be objectively measured, respectful care as a quality component has been globally benchmarked as a key performance measure for an MPNCH program. Synthesis of evidence recommends that better MPNH outcomes are anchored in maintaining standards for respectful maternity care.

- The patient's charter in South Africa adopts respectful care principles with these rights at the centre of care delivery.
- Evidence-based interventions within respectful care frameworks have become part of change management initiatives for quality improvement.
- All healthcare providers should be skilled and competent in delivering respectful maternity care, especially care around labour and delivery and the immediate postnatal period.
- Respectful care helps reduce unnecessary invasive obstetric interventions and improves the childbirth experience for the mother.
- The service package must enable informed choices and a consent attainment procedure free from any form of cohesion.

Policy Statement 3.2 MPNH services for vulnerable groups and people with special needs

The Health Department at all levels, in collaboration with other government departments and relevant stakeholders, shall develop strategies to respond to the needs of individuals/women of childbearing potential who have heightened vulnerability, special needs and require dedicated attention to optimal supportive care.

Objectives

To provide optimal care for individuals, women and families with special needs and reduce the risk of unconsented care and interventions that may result in dissatisfaction, substandard care, or harm.

Rationale

Women, especially those with special needs, are at high risk of neglect, abuse, rape and other forms of gender-based violence, and substandard care, which calls for redress in service provision. Not accessing health care further exacerbates vulnerabilities and the risk for mortalities.

Health care workers should acknowledge the inequitable barriers to health access experienced by vulnerable groups (see definitions) and the negative implications for health outcomes.

- All healthcare workers need to be trained to identify obvious and subtle forms of vulnerability and plan to assist these groups.
- However, for the forms of vulnerability out of their scope, healthcare workers and the department must work collaboratively with relevant stakeholders to address challenges.



OBJECTIVE 4

☑ OBJECTIVE 4: Promote coordinated, meaningful, multisectoral community engagement to inform measures to improve care and access to enhance positive pregnancy outcomes.

KEY AREA 4: COMMUNITY MATERNAL HEALTH SERVICES

The district health services shall initiate engagement with the community and develop partnerships which will be established with the relevant local community-based clinic and hospital boards, community organisations and non-government organisations (NGOs) at the local, district and provincial levels to leverage support to improve the wellbeing of the community in maternal, perinatal and newborn health care.

Policy Statement 4.1 Community Engagement and Participation

District health services shall engage individuals, families, and communities in their health issues to improve access, utilisation and quality of maternal and newborn health services so that health services are more responsive to the population's needs.

Objective

To strengthen decision-making within families and households in the community to enhance care and improve access and create demand for quality services.

Rationale

The WHO prioritises communities by promoting the mobilisation of key opinion leaders at the community level, disseminating advocacy messages in the community, and involving communities to contribute to the process of planning, financing and implementing community-based interventions to increase access to and coverage of health services.

Community engagement increases knowledge and willingness by patients and families to take control of their health and improve outcomes. Health outcomes, both positive and negative, are influenced by decisions made within the household, the families' ability to reach care when needed and the quality of the services received when they arrive at health facilities.

Notes

- Community surveillance systems need not exist in isolation and will yield real-time reporting of maternal deaths if it forms part of a data governance strategy that compliments maternal, perinatal and neonatal morbidity and mortality surveillance and response systems
- Mechanisms to notify the nearest health facility of the occurrence of complications and specific health conditions should be established, trends identified, and feedback provided.
- Various community surveillance models should be explored, including how they link with other district health surveillance systems and how leveraging technology can enhance real-time reporting.
- There's a need to strengthen community-level reporting of maternal, perinatal and neonatal deaths through meaningful engagement on active surveillance in maternal, perinatal and neonatal deaths and close the gaps in the information flow systems.
- Analyse areas requiring improvement, working with the community to formulate measures to alleviate impediments and promote the health of individuals and groups.

27)

Policy Statement 4.2 Strengthen strategic partnerships

Strengthen strategic partnerships with key stakeholders at the national, provincial, district, facility and community levels, including private-public partnerships, to enhance and improve the MPNH policy implementation.

Objective

To utilise the multiple stakeholder platforms to enable collaborative dialogue and efforts to address service challenges for maternal and neonatal health.

Rationale

Leadership and governance structures should strengthen collaboration and partnerships with stakeholders and the community to plan, implement, and evaluate a sustainable, cost-effective MPNH service that considers the needs of individuals and communities.

- Key stakeholder groups and organisations include educator unions, academic and research institutions, parenting bodies, faith-based, traditional, and cultural organisations.
- All stakeholder partnerships will have a clear mandate, with the stakeholder roles and responsibilities stated in the terms of reference. Partners should create a workplan and report activities and progress on supporting the implementation of the policy.
- Promote the use of existing health programs such as mHealth initiatives to engage communities
 effectively. Such programs enhance community empowerment, and ultimately improved health
 status and reduce health inequalities.
- Incorporate user perspectives such as complaints and compliments from mHealth initiatives and other platforms to enhance the use of services, access, care delivery and governance.



OBJECTIVE 5

☑ OBJECTIVE 5: Develop a sustainable surveillance system for maternal, perinatal, and neonatal morbidity and mortality, including research developments in health system service delivery, quality improvement and innovative interventions.

KEY AREA 5: MONITORING AND EVALUATION AND SURVEILLANCE

Policy Statement 5.1 Strategy Outputs, Performance Measures and Activities

The strategic goals, objectives and outcomes of the National, Provincial, District departments of health and their facilities shall be transparently monitored and evaluated in line with the government's Monitoring and Evaluation (M&E) Framework.

Objective

To determine the effectiveness of implementing the MPNH strategic goals and objectives and provide a framework for transparency, responsibility, accountability and decision making for health data stewardship for MPNH in South Africa.

Rationale

All Department of Health levels must report on the implementation of the policy in their annual reports against the performance measures identified in the linked M&E framework.

Such reporting must be based on a monitoring and evaluation (M&E) framework linked to guidelines and the District Health Planning Framework to measure inputs, processes/activities, outputs, outcomes, and impact. Reviewing progress and performance should inform recurrent planning, resource allocation and strategy refinement and ensure the reporting of these at all levels of governance.

Data governance for MPNH delivery in South Africa is fragmented, with multiple data sources for maternal and neonatal mortality, at times with divergent views. This lack of stewardship creates challenges in implementing a robust MPNH monitoring framework with consequent poor decision-making and weak policy implementation. Varied interpretation of data on MPNH is of particular concern because of the perceived underestimation of maternal deaths.

Notes

- Adequate resources will be allocated nationally and provincially to support the monitoring, evaluation and reporting of the policy and strategy implementation.
- Every facility shall provide timeous data to responsible authorities as set in the M&E strategy, and consequently, all health authorities should provide feedback on data flows and decision-making.
- A data stewardship framework for MPNH allows for integrating all MPNH information, a critical path to establishing the much needed seamless, sustainable, and secure information exchanges at all levels of health systems.
- Data stewardship also fosters a culture of accountability, responsibility and consistency of reporting while repositioning MPNH services to benefit from the fourth industrial revolution initiatives.

Policy Statement 5.2 Maternal, Perinatal and Neonatal Death Response and Surveillance system (MPDRS)

Develop a surveillance system that will complement the maternal, perinatal, and neonatal morbidity and mortality surveillance and response system (MPDSR) aligned to the NAPHISA Bill.

Objective

To improve timely reporting of maternal, perinatal and neonatal morbidity and mortality at public and private clinical health settings and from the community level through a robust data collection system.

Rationale

Having a collective picture of morbidity and mortality in a facility helps institute clinical behaviour that allows learning and correcting unfavourable events. Evidence has shown that where people are aware of how their facilities perform, they can improve faster, especially when health outcomes are compared among peers or similar facilities.

Maternal and neonatal deaths in South Africa are notifiable. In this regard, all players in the MPNH service continuum have a duty to notify deaths, including community health workers who should record deaths that occur in the community, including verbal autopsy. Community systems can be a backbone of active surveillance in maternal and neonatal deaths and are often missing in the information flow systems.

Notes

- All MPNH service providers are responsible for ensuring that all births and deaths in the MPNH continuum are notified.
- Engagements with communities facilitated through the district health system should help understand and define fetal viability to ensure that all neonatal deaths are recorded.
- It is the responsibility of all healthcare facilities to establish mechanisms for data utilisation to improve services in their locality, including technology usage to advance endeavours, such as establishing early warning systems and rolling out electronic health records and working with district planning teams.
- A functional clinical or community surveillance system should yield real-time reporting of maternal, perinatal, and neonatal deaths.

Policy Statement 5.3 Research, Innovation and Technology for MPNH service delivery and improvement

The NDOH shall support research to gather evidence on maternal and neonatal services advancements and promote technology (existing and new) to keep pace with global and regional developments in maternal, perinatal and neonatal health service.

Objective

To identify, integrate and support the most recent evidence-based innovations, technology, systems, and equipment into daily work to ensure the effective and efficient delivery of services for improved quality and better MPNH outcomes.

Rationale

MPNH research can improve maternal and neonatal health outcomes by identifying gaps in MPNH services and informing new interventions based on the research findings. Research arising from a properly managed data governance program would also enable systems improvement to reduce preventable maternal and neonatal deaths.

Multisectoral collaborations enable cooperation and facilitate a deliberate agenda setting for research priorities in MPNH. Furthermore, to scale up and integrate evidence-based innovations into the mainstream of service provision, multisectoral platforms are key, requiring institutionalisation and effective support and action from the relevant health managers.

A gap found in countries globally is implementation research in testing innovative service models that work for women in different contexts (remote, urban, rural) and deliver positive health outcomes. Technology can speedily lead South Africa into the fourth industrial revolution and improve Maternal and Neonatal Healthcare services quality.

- In promoting the linkage between health research and health care, provincial and district departments of health should follow the Essential National Health Research (ENHR) approach to enhance the organisation and management of health-related research. This approach provides guidance on priorities, utilisation of the full range of methodologies for tackling health problems, and harmony between research and health needs, informing planning, delivery, management and policy.
- All health facilities should be sensitised on the role they should play in promoting, participating in and contributing to health research as stipulated in the national Health research policy.
- Human Resources skills development should ensure front line HCWs are capacitated on research skills, including identifying and troubleshooting challenges and documenting best practices that yielded good results. Research questions from front liners will change their practices.
- Linkages between the monitoring and evaluation system and the research agenda should be part of the health research strategy, as included in the health research policy.
- Research, teaching, training and agenda-setting, adoption of innovations and scale-up to improve maternal and neonatal health outcomes should be facilitated through multisectoral collaborations.

ESSENTIAL LIFE-SAVING INTERVENTION PACKAGES

- 1. Scaling up of maternal nutrition and nutrition counselling and exclusive breastfeeding readiness.
- 2. Early detection and management of communicable and non-communicable diseases in maternal and neonatal services, including teratogenic exposures (smoking & alcohol).
- 3. Screening and management of cervical and breast cancer.
- 4. Gender-based violence prevention and response, prevention of injuries and harmful obstetric practices.
- 5. Sexual and reproductive health information and services, including contraceptives.
- 6. Preconception care, risk detection, screening and education and counselling, including fertility services.
- 7. Safe abortion and post-abortion care.
- 8. Prevention and management of HIV, TB, and syphilis in the mother. Prevention of mother-to-child transmission of HIV, TB, and syphilis and other transmittable infections to the foetus and neonate.
- 9. Antenatal care (Basic Antenatal care plus) including accurate determination of gestational age.
- 10. Safe childbirth and updated intrapartum care, including the revised partogram, which includes 5cm dilatation as the beginning of the active phase of labour.
- 11. Management of maternal and newborn complications (preterm premature rupture of membranes, macrosomia, etc.)
- 12. Postnatal care for mother and baby, including immunisation.
- 13. Extra care for small and sick babies
- 14. Newborn screening, early identification, and management of congenital disorders.
- 15. Maternal and mental psychosocial support, including detection and management of maternal mental health disorders
- 16. Prevention and management of neonatal sepsis

ANNEXURE 2

ASSOCIATED GUIDELINES

- 1. Infant and Young Child Feeding Policy (revised version 2021)
- 2. Regulations Relating to Human Milk Banks (2015)
- 3. National Guidelines for the Establishment and Operation of Human Milk Banks in South Africa (2020)
- 4. Regulations relating to foods for infants and young children (R991) 2012
- 5. Latest Integrated management of acute malnutrition guidelines
- 6. Latest Integrated management of childhood illnesses (IMCI 2019)
- 7. National/local Enteral and parenteral feeding guidelines
- 8. Strategy for the Prevention and Control of Obesity in South Africa (2015 2020)
- 9. Road to Health Booklet
- 10. National Clinical Guideline for Implementation of the Choice on Termination of Pregnancy Act (2019)
- 11. National Clinical Guidelines of Post-exposure prophylaxis (PEP) in occupational and Nonoccupational exposures South African National Department of Health (2019)
- 12. National Contraception Clinical Guidelines (2019)
- 13. National Integrated Sexual and Reproductive Health and Rights Policy
- 14. National Clinical Guidelines for Safe Contraception and Infertility
- 15. Guideline for the Prevention of Mother to Child Transmission of HIV and other Transmittable Infections South African National Department of Health 2019

BIBLIOGRAPHY

Abu-Saad K, Fraser D. Maternal Nutrition and Birth Outcomes. Epidemiologic Reviews [Internet]. Oxford University Press (OUP); 2010 Mar 17;32(1):5–25. Available from: http://dx.doi.org/10.1093/epirev/mxq001

Adeniyi OV, Ajayi AI, Issah M, Owolabi EO, Goon DT, Avramovic G, et al. Beyond health care providers' recommendations: understanding influences on infant feeding choices of women with HIV in the Eastern Cape, South Africa. International Breastfeeding Journal [Internet]. Springer Science and Business Media LLC; 2019 Jan 31;14(1). Available from: http://dx.doi.org/10.1186/s13006-019-0201-5

African Union. Draft Policy Brief for the International Conference on Maternal, Newborn and Child Health (MNCH) in Africa. Johannesburg, South Africa, 1 – 3 August, 2013. [Internet]. Available from: https://www.who.int/pmnch/media/events/2013/au_policy_brief_nutrition.pdf

Allanson ER, Muller M, Pattinson RC. Causes of perinatal mortality and associated maternal complications in a South African province: challenges in predicting poor outcomes. BMC Pregnancy and Childbirth [Internet]. Springer Science and Business Media LLC; 2015 Feb 15;15(1). Available from: http://dx.doi.org/10.1186/s12884-015-0472-9

Allanson ER, Pattinson RC. Quality-of-care audits and perinatal mortality in South Africa. Bulletin of the World Health Organization [Internet]. WHO Press; 2015 Mar 31;93(6):424–8. Available from: http://dx.doi.org/10.2471/blt.14.144683

Allie S. Is there a place for Kiellands forceps in modern obstetric practice? Obstetrics and Gynaecology Forum. 2017;27(4):29-34.

Althabe F, Moore JL, Gibbons L, Berrueta M, Goudar SS, Chomba E, et al. Adverse maternal and perinatal outcomes in adolescent pregnancies: The Global Network's Maternal Newborn Health Registry study. Reproductive Health [Internet]. Springer Science and Business Media LLC; 2015 Jun 8;12(S2). Available from: http://dx.doi.org/10.1186/1742-4755-12-s2-s8

ARLUCK JC, MAYHEW AC. Preconception Care for the General Ob/Gyn. Clinical Obstetrics & Gynecology [Internet]. Ovid Technologies (Wolters Kluwer Health); 2018 Mar;61(1):62–71. Available from: http://dx.doi.org/10.1097/grf.00000000000338

Ayebare E, Mwebaza E, Mwizerwa J, Namutebi E, Kinengyere AA, Smyth R. Interventions for male involvement in pregnancy and labour: A systematic review. African Journal of Midwifery and Women's Health [Internet]. Mark Allen Group; 2015 Jan 2;9(1):23–8. Available from: http:// dx.doi.org/10.12968/ajmw.2015.9.1.23

Bailey P, van Roosmalen J, Mola G, Evans C, de Bernis L, Dao B. Assisted vaginal delivery in low and middle income countries: an overview. BJOG: An International Journal of Obstetrics & Gynaecology [Internet]. Wiley; 2017 Jan 31;124(9):1335–44. Available from: http://dx.doi. org/10.1111/1471-0528.14477

Banke-Thomas A, Abejirinde I-OO, Banke-Thomas O, Maikano A, Ameh CA. Cost of maternal health services in low and middle-income countries: protocol for a systematic review. BMJ Open [Internet]. BMJ; 2019 Aug;9(8):e027822. Available from: http://dx.doi.org/10.1136/ bmjopen-2018-027822

Barron P, Pillay Y, Fernandes A, Sebidi J, Allen R. The MomConnect mHealth initiative in South Africa: Early impact on the supply side of MCH services. Journal of Public Health Policy [Internet]. Springer Science and Business Media LLC; 2016 Nov;37(S2):201–12. Available from: http:// dx.doi.org/10.1057/s41271-016-0015-2

Basu JK, Jeketera CM, Basu D. Obesity and its outcomes among pregnant South African women. International Journal of Gynecology & Obstetrics [Internet]. Wiley; 2010 Apr 24;110(2):101–4. Available from: http://dx.doi.org/10.1016/j.ijgo.2010.02.020

Berglund A, Lindmark G. Preconception health and care (PHC)—a strategy for improved maternal and child health. Upsala Journal of Medical Sciences [Internet]. Uppsala Medical Society; 2016 Jun 20;121(4):216–21. Available from: http://dx.doi.org/10.1080/03009734.2016.1191564

Bhardwaj S, Pattinson R, Kauchali S, Dlamini N, Marshall C, Van der Merwe M, et al. Implementation of strategies to improve programme effectiveness lead to an improvement in maternal and child health outcomes in South Africa. South African Medical Journal [Internet]. South African Medical Association NPC; 2018 Mar 2;108(3a):44. Available from: http://dx.doi.org/10.7196/samj.2017.v108i3b.12812

Biccard BM, Alphonsus CS, Bishop DG, Cronje L, Kluyts H-L, Kusel B, et al. National priorities for perioperative research in South Africa. South African Medical Journal [Internet]. South African Medical Association NPC; 2016 Mar 31;106(5):485. Available from: http://dx.doi.org/10.7196/ samj.2016.v106i5.10269

Bick DE, Sandall J, Furuta M, Wee MYK, Isaacs R, Smith GB, et al. A national cross sectional survey of heads of midwifery services of uptake, benefits and barriers to use of obstetric early warning systems (EWS) by midwives. Midwifery [Internet]. Elsevier BV; 2014 Nov;30(11):1140–6. Available from: http://dx.doi.org/10.1016/j.midw.2014.03.016

Black RE, Victora CG, Walker SP, Bhutta ZA, Christian P, de Onis M, et al. Maternal and child undernutrition and overweight in low-income and middle-income countries. The Lancet [Internet]. Elsevier BV; 2013 Aug;382(9890):427–51. Available from: http://dx.doi.org/10.1016/s0140-6736(13)60937-x

Black V, Black AD, Rees HV, Guidozzi F, Scorgie F, Chersich MF. Increased Access to Antiretroviral Therapy Is Associated with Reduced Maternal Mortality in Johannesburg, South Africa: An Audit from 2003-2012. Rosenfeld CS, editor. PLOS ONE [Internet]. Public Library of Science (PLoS); 2016 Dec 29;11(12):e0168199. Available from: http://dx.doi.org/10.1371/journal.pone.0168199

Brink LT, Gebhardt GS, Mason D, Groenewald CA, Odendaal HJ. The association between preterm labour, perinatal mortality and infant death (during the first year) in Bishop Lavis, Cape Town, South Africa. South African Medical Journal [Internet]. South African Medical Association NPC; 2019 Jan 31;109(2):102. Available from: http://dx.doi.org/10.7196/samj.2019.v109i2.13438

Brown MA, Magee LA, Kenny LC, Karumanchi SA, McCarthy FP, Saito S, et al. Hypertensive Disorders of Pregnancy. Hypertension [Internet]. Ovid Technologies (Wolters Kluwer Health); 2018 Jul;72(1):24–43. Available from: http://dx.doi.org/10.1161/hypertensionaha.117.10803

Brunson J. Maternal, Newborn, and Child Health After the 2015 Nepal Earthquakes: An Investigation of the Long-term Gendered Impacts of Disasters. Maternal and Child Health Journal [Internet]. Springer Science and Business Media LLC; 2017 Jul 28;21(12):2267–73. Available from: http://dx.doi.org/10.1007/s10995-017-2350-8

Budree S, Goddard E, Brittain K, Cader S, Myer L, Zar HJ. Infant feeding practices in a South African birth cohort-A longitudinal study. Maternal & Child Nutrition [Internet]. Wiley; 2016 Oct 2;13(3):e12371. Available from: http://dx.doi.org/10.1111/mcn.12371

Campbell OM, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. The Lancet [Internet]. Elsevier BV; 2006 Oct;368(9543):1284–99. Available from: http://dx.doi.org/10.1016/s0140-6736(06)69381-1

Cena H, Corvino D, Lops A, Mauri PA, Parazzini F. Nutrition in pregnancy: three crucial periods for mothers and newborns. [Internet]. Italian Journal of Gynaecology and Obstetrics. 2018 Jun;30(2):27-37. Available from: https://doi.org/10.14660/2385-0868-87

Chang Y-S, Coxon K, Portela AG, Furuta M, Bick D. Interventions to support effective communication between maternity care staff and women in labour: A mixed-methods systematic review. Midwifery [Internet]. Elsevier BV; 2018 Apr;59:4–16. Available from: http://dx.doi. org/10.1016/j.midw.2017.12.014

Chopra M, Daviaud E, Pattinson R, Fonn S, Lawn JE. Saving the lives of South Africa's mothers, babies, and children: can the health system deliver? The Lancet Global Health [Internet]. Elsevier BV; 2009 Sep;374(9692):835-46. Available from: https://doi.org/10.1016/s0140-6736(09)61123-5

Chou D, Daelmans B, Jolivet RR, Kinney M, Say L. Ending preventable maternal and newborn mortality and stillbirths. BMJ [Internet]. BMJ; 2015 Sep 14;h4255. Available from: http://dx.doi.org/10.1136/bmj.h4255

Cleary S, Birch S, Chimbindi N, Silal S, McIntyre D. Investigating the affordability of key health services in South Africa. Social Science & Medicine [Internet]. Elsevier BV; 2013 Mar;80:37–46. Available from: http://dx.doi.org/10.1016/j.socscimed.2012.11.035

Coetzee EJ. The spectre of litigation-a dark cloud on the obstetric horizon. Obstetrics and Gynaecology Forum; 2010 Oct 1;20(4):109-111. Available from: https://journals.co.za/doi/abs/10.10520/EJC73375

Committee for confidential enquiry into maternal deaths. Saving mothers report. NDOH; 2017.

Conde-Agudelo A, Díaz-Rossello JL. Kangaroo mother care to reduce morbidity and mortality in low birthweight infants. Cochrane Database of Systematic Reviews [Internet]. Wiley; 2016 Aug 23; Available from: http://dx.doi.org/10.1002/14651858.cd002771.pub4

Contandriopoulos D, Brousselle A, Breton M, Larouche C, Champagne G, Rivard M. Policy-making: Polarization and interest groups influence. European Journal of Public Health [Internet]. Oxford University Press (OUP); 2017 Oct 20;27(suppl_3). Available from: http:// dx.doi.org/10.1093/eurpub/ckx187.166

Cyril S, Smith BJ, Possamai-Inesedy A, Renzaho AM. Exploring the role of community engagement in improving the health of disadvantaged populations: a systematic review. Glob Health Action 2015, 8: 29842. Available from: http://dx.doi.org/10.3402/gha.v8.29842

Damian DJ, Njau B, Lisasi E, Msuya SE, Boulle A. Trends in maternal and neonatal mortality in South Africa: a systematic review. Systematic Reviews [Internet]. Springer Science and Business Media LLC; 2019 Mar 27;8(1). Available from: http://dx.doi.org/10.1186/s13643-019-0991-y

Daniels K, Lewin S. Translating research into maternal health care policy: a qualitative case study of the use of evidence in policies for the treatment of eclampsia and pre-eclampsia in South Africa. Health Research Policy and Systems [Internet]. Springer Science and Business Media LLC; 2008 Dec;6(1). Available from: http://dx.doi.org/10.1186/1478-4505-6-12

Darmstadt GL, Bhutta ZA, Cousens S, Adam T, Walker N, de Bernis L. Evidence-based, cost-effective interventions: how many newborn babies can we save? The Lancet [Internet]. Elsevier BV; 2005 Mar;365(9463):977–88. Available from: http://dx.doi.org/10.1016/s0140-6736(05)71088-6

Darmstadt GL. Ensuring healthy pregnancies, births, and babies. Seminars in Perinatology [Internet]. Elsevier BV; 2015 Aug;39(5):321–5. Available from: http://dx.doi.org/10.1053/j.semperi.2015.06.001

Day C, Gray A, Ndlovu N. Health and Health Indicators 2018. In: Rispel LC, Padarath A, editors. South African Health Review 2018. [Internet]. Durban: Health Systems Trust; 2018. Available from: https://www.hst.org.za/publications/Pages/SAHR2018.aspx

Day C, Gray A. Health and Related Indicators. In: Padarath A, King J, Mackie E, Casciola J, editors. South African Health Review 2016 [Internet]. Durban: Health Systems Trust; 2016. Available from: https://www.hst.org.za/publications/Pages/South-African-Health Review-2016.aspx

Day Stirk F, Fauveau V. The state of the world's midwifery: Making the invisible visible. [Internet]. International Journal of Gynecology & Obstetrics; 2012 Oct;119:S39-S41. Available from: https://doi.org/10.1016/j.ijgo.2012.04.003

Doherty T, Chopra M, Nkonki L, Jackson D, Persson L-A. A Longitudinal Qualitative Study of Infant-Feeding Decision Making and Practices among HIV-Positive Women in South Africa. The Journal of Nutrition [Internet]. Oxford University Press (OUP); 2006 Sep 1;136(9):2421–6. Available from: http://dx.doi.org/10.1093/jn/136.9.2421

Dorrington RE, Bradshaw D, Laubscher R, Nannan N (2020). Rapid mortality surveillance report 2018. ISBN: 978-1-928340-44-7. [Internet]. Cape Town: South African Medical Research Council. 2020 Jan. Available from: https://www.samrc.ac.za/reports/rapid-mortality-surveillance-report-2018

Dorrington RE, Bradshaw D, Laubscher R. Rapid mortality surveillance report 2012. Report No.: ISBN: 978-1-920618-19-3. [Internet]. Cape Town: SouthAfrican Medical Research Council; 2014 Feb. Available from: http://196.21.144.194/bod/RapidMortalitySurveillanceReport2012. pdf

Dorrington RE, Bradshaw D. Maternal mortality in South Africa: lessons from a case study in the use of deaths reported by households in censuses and surveys. Journal of Population Research [Internet]. Springer Science and Business Media LLC; 2011 Feb 27;28(1):49–73. Available from: http://dx.doi.org/10.1007/s12546-011-9050-9

Downe S, Lawrie TA, Finlayson K, Oladapo OT. Effectiveness of respectful care policies for women using routine intrapartum services: a systematic review. Reproductive Health [Internet]. Springer Science and Business Media LLC; 2018 Feb 6;15(1). Available from: http:// dx.doi.org/10.1186/s12978-018-0466-y

Dramowski A, Cotton MF, Whitelaw A. A framework for preventing healthcare-associated infection in neonates and children in South Africa. South African Medical Journal [Internet]. South African Medical Association NPC; 2017 Feb 27;107(3):192. Available from: http:// dx.doi.org/10.7196/samj.2017.v107i3.12035

Dunkle KL. Prevalence and Patterns of Gender-based Violence and Revictimization among Women Attending Antenatal Clinics in Soweto, South Africa. American Journal of Epidemiology [Internet]. Oxford University Press (OUP); 2004 Aug 1;160(3):230–9. Available from: http://dx.doi.org/10.1093/aje/kwh194

Elmusharaf K, Byrne E, AbuAgla A, AbdelRahim A, Manandhar M, Sondorp E, et al. Patterns and determinants of pathways to reach comprehensive emergency obstetric and neonatal care (CEmONC) in South Sudan: qualitative diagrammatic pathway analysis. BMC Pregnancy and Childbirth [Internet]. Springer Science and Business Media LLC; 2017 Aug 29;17(1). Available from: http://dx.doi. org/10.1186/s12884-017-1463-9

Engmann C, Garces A, Jehan I, Ditekemena J, Phin M, Thorsten V, et al. Birth attendants as perinatal verbal autopsy respondents in low- and middle-income countries: a viable alternative? Bulletin of the World Health Organization [Internet]. WHO Press; 2012 Mar 1;90(3):200–8. Available from: http://dx.doi.org/10.2471/blt.11.092452

Every death counts: use of mortality audit data for decision making to save the lives of mothers, babies, and children in South Africa. The Lancet [Internet]. Elsevier BV; 2008 Apr;371(9620):1294–304. Available from: http://dx.doi.org/10.1016/s0140-6736(08)60564-4

Fawcus S. A focus on referral problems in women who died from obstetric haemorrhage in South Africa (2014-2016). Obstetrics and Gynaecology Forum. 2018;28(3):23-27.

Fawcus S. Rapid appraisal of the Impact Covid-19 in 2020 on Maternal and Reproductive Health Utilization and outcomes. South Africa, National Department of Health; 2020

Feucht U, Marshall C, Kauchali S, Barron P, Slavin L, Bhardwaj S, et al. Innovations in the clinical care of mothers and children in South Africa: The contribution of district clinical specialist teams. South African Medical Journal [Internet]. South African Medical Association NPC; 2018 Mar 2;108(3a):38. Available from: http://dx.doi.org/10.7196/samj.2017.v108i3b.12808

Filippi V, Chou D, Barreix M, Say L. A new conceptual framework for maternal morbidity. International Journal of Gynecology & Obstetrics [Internet]. Wiley; 2018 May;141:4–9. Available from: http://dx.doi.org/10.1002/ijgo.12463

Flaskerud JH, Winslow BJ. Conceptualizing Vulnerable Populations Health-Related Research. Nursing Research [Internet]. Ovid Technologies (Wolters Kluwer Health); 1998 Mar;47(2):69–78. Available from: http://dx.doi.org/10.1097/00006199-199803000-00005

Flint CS, Neonatal and paediatric parenteral nutrition prescription practices in South Africa: a cross-sectional survey. [master's thesis on the Internet]. Stellenbosch: Stellenbosch University; 2018 Mar. Available from: https://scholar.sun.ac.za/handle/10019.1/103892

Garenne M, Kahn K, Collinson M, Gómez-Olivé X, Tollman S. Protective Effect of Pregnancy in Rural South Africa: Questioning the Concept of "Indirect Cause" of Maternal Death. Young RC, editor. PLoS ONE [Internet]. Public Library of Science (PLoS); 2013 May 13;8(5):e64414. Available from: http://dx.doi.org/10.1371/journal.pone.0064414

Garenne M, McCaa R, Nacro K. Maternal mortality in South Africa in 2001: From demographic census to epidemiological investigation. Population Health Metrics [Internet]. Springer Science and Business Media LLC; 2008 Aug 21;6(1). Available from: http://dx.doi. org/10.1186/1478-7954-6-4

Gebhardt GS, Fawcus S, Moodley J, Farina Z. Maternal death and caesarean section in South Africa: Results from the 2011 - 2013 Saving Mothers Report of the National Committee for Confidential Enquiries into Maternal Deaths. South African Medical Journal [Internet]. South African MedicalAssociation NPC; 2015 Mar 10;105(4):287. Available from: http://dx.doi.org/10.7196/samj.9351

Gilmore B, McAuliffe E. Effectiveness of community health workers delivering preventive interventions for maternal and child health in low- and middle-income countries: a systematic review. BMC Public Health [Internet]. Springer Science and Business Media LLC; 2013 Sep 13;13(1). Available from: http://dx.doi.org/10.1186/1471-2458-13-847

Goetzl LM, Wilkins-Haug L, Barss VA. Folic acid supplementation in pregnancy. UpToDate. [Internet]. Waltham, MA: UpToDate Inc;2019. Available from: https://www.uptodate.com/contents/folic-acid-supplementation-in-pregnancy#:~:text=Periconceptional%20folic%20 acid%20supplementation%20decreases,or%20capable%20of%20becoming%20pregnant.

Goodman A. In the Aftermath of Disasters: The Impact on Women's Health. Critical Care Obstetrics and Gynecology [Internet]. Scitechnol Biosoft Pvt. Ltd.; 2016;02(06). Available from: http://dx.doi.org/10.21767/2471-9803.100037

Gray A, Vawda Y. Health Legislation and Policy. In: Rispel LC, Padarath A, editors. South African Health Review 2018. [Internet]. Durban: Health Systems Trust; 2018. Available from: https://www.hst.org.za/publications/Pages/SAHR2018.aspx

Hanson M, Barker M, Dodd JM, Kumanyika S, Norris S, Steegers E, et al. Interventions to prevent maternal obesity before conception, during pregnancy, and post partum. The Lancet Diabetes & Endocrinology [Internet]. Elsevier BV; 2017 Jan;5(1):65–76. Available from: http://dx.doi.org/10.1016/s2213-8587(16)30108-5

Heise L, Ellsberg M, Gottmoeller M. A global overview of gender-based violence. International Journal of Gynecology & Obstetrics [Internet]. Wiley; 2002 Apr 25;78:S5–S14. Available from: http://dx.doi.org/10.1016/s0020-7292(02)00038-3

Hodes R. The Culture of Illegal Abortion in South Africa. Journal of Southern African Studies [Internet]. Informa UK Limited; 2016 Jan 2;42(1):79–93. Available from: http://dx.doi.org/10.1080/03057070.2016.1133086

Hofman K, Mthiyane T, and C. L, Investment case for scaling up maternal, neonatal and child health and family planning interventions to save lives of mothers and children in South Africa. . Unpublished. Priceless SA, unpublished.

Hofmeyr GJ, Lawrie TA, Atallah ÁN, Torloni MR. Calcium supplementation during pregnancy for preventing hypertensive disorders and related problems. Cochrane Database of Systematic Reviews [Internet]. Wiley; 2018 Oct 1; Available from: http://dx.doi. org/10.1002/14651858.cd001059.pub5

Honikman S, Fawcus S, Meintjes I. Abuse in South African maternity settings is a disgrace: Potential solutions to the problem. South African Medical Journal [Internet]. South African Medical Association NPC; 2015 Mar 10;105(4):284. Available from: http://dx.doi. org/10.7196/samj.9582

Horwood C, Butler L, Barker P, Phakathi S, Haskins L, Grant M, et al. A continuous quality improvement intervention to improve the effectiveness of community health workers providing care to mothers and children: a cluster randomised controlled trial in South Africa. Human Resources for Health [Internet]. Springer Science and Business Media LLC; 2017 Jun 13;15(1). Available from: http://dx.doi. org/10.1186/s12960-017-0210-7

Hsia RY, Mbembati NA, Macfarlane S, Kruk ME. Access to emergency and surgical care in sub-Saharan Africa: the infrastructure gap. Health Policy and Planning [Internet]. Oxford University Press (OUP); 2011 Mar 26;27(3):234–44. Available from: http://dx.doi.org/10.1093/ heapol/czr023

Hunter B, Segrott J. Renegotiating inter-professional boundaries in maternity care: implementing a clinical pathway for normal labour. Sociology of Health & Illness [Internet]. Wiley; 2014 Mar 19;36(5):719–37. Available from: http://dx.doi.org/10.1111/1467-9566.12096

Hunter JR, Chandran TM, Asmall S, Tucker J, Ravhengani NM, Mokgalagadi Y. The Ideal Clinic in South Africa: progress and challenges in implementation. In: Padarath A, Barron P, editors. South African Health Review 2017. [Internet]. Durban: Health Systems Trust; 2017. Available from: https://www.hst.org.za/publications/Pages/HST-South-African-Health-Review-2017.aspx

Jacobs C, Michelo C, Chola M, Oliphant N, Halwiindi H, Maswenyeho S, et al. Evaluation of a community-based intervention to improve maternal and neonatal health service coverage in the most rural and remote districts of Zambia. Larson BA, editor. PLOS ONE [Internet]. Public Library of Science (PLoS); 2018 Jan 16;13(1):e0190145. Available from: http://dx.doi.org/10.1371/journal.pone.0190145

Jamison DT, Summers LH, Alleyne G, Arrow KJ, Berkley S, Binagwaho A, et al. Global health 2035: a world converging within a generation. The Lancet [Internet]. Elsevier BV; 2013 Dec;382(9908):1898–955. Available from: http://dx.doi.org/10.1016/s0140-6736(13)62105-4

Jonas K, Crutzen R, van den Borne B, Sewpaul R, Reddy P. Teenage pregnancy rates and associations with other health risk behaviours: a three-wave cross-sectional study among South African school-going adolescents. Reproductive Health [Internet]. Springer Science and Business Media LLC; 2016 May 4;13(1). Available from: http://dx.doi.org/10.1186/s12978-016-0170-8

Kennedy HP, Yoshida S, Costello A, Declercq E, Dias MA, Duff E, et al. Asking different questions: research priorities to improve the quality of care for every woman, every child. The Lancet Global Health [Internet]. Elsevier BV; 2016 Nov;4(11):e777-e779. Available from: http:// dx.doi.org/10.1016/s2214-109x(16)30183-8

Kihlbom U. Ethical issues in preconception genetic carrier screening. Upsala Journal of Medical Sciences [Internet]. Uppsala Medical Society; 2016 Jul 8;121(4):295–8. Available from: http://dx.doi.org/10.1080/03009734.2016.1189470

Koblinsky M, Moyer CA, Calvert C, Campbell J, Campbell OMR, Feigl AB, et al. Quality maternity care for every woman, everywhere: a call to action. The Lancet [Internet]. Elsevier BV; 2016 Nov;388(10057):2307–20. Available from: http://dx.doi.org/10.1016/s0140-6736(16)31333-2

Kominiarek MA, Rajan P. Nutrition Recommendations in Pregnancy and Lactation. Medical Clinics of North America [Internet]. Elsevier BV; 2016 Nov;100(6):1199–215. Available from: http://dx.doi.org/10.1016/j.mcna.2016.06.004

Kraiselburd S, Yadav P. Supply Chains and Global Health: An Imperative for Bringing Operations Management Scholarship into Action. Production and Operations Management [Internet]. Wiley; 2012 Feb 21;22(2):377–81. Available from: http://dx.doi.org/10.1111/j.1937-5956.2011.01315.x

Kruk ME, Galea S, Prescott M, Freedman LP. Health care financing and utilization of maternal health services in developing countries. Health Policy and Planning [Internet]. Oxford University Press (OUP); 2007 Jul 27;22(5):303–10. Available from: http://dx.doi.org/10.1093/ heapol/czm027

Kruk ME, Leslie HH, Verguet S, Mbaruku GM, Adanu RMK, Langer A. Quality of basic maternal care functions in health facilities of five African countries: an analysis of national health system surveys. The Lancet Global Health [Internet]. Elsevier BV; 2016 Nov;4(11):e845–e855. Available from: http://dx.doi.org/10.1016/s2214-109x(16)30180-2

KUKLINA EV, GOODMAN DA. Severe Maternal or Near Miss Morbidity: Implications for Public Health Surveillance and Clinical Audit. Clinical Obstetrics & Gynecology [Internet]. Ovid Technologies (Wolters Kluwer Health); 2018 Jun;61(2):307–18. Available from: http:// dx.doi.org/10.1097/grf.000000000000375

Laliberté C, Dunn S, Pound C, Sourial N, Yasseen AS, Millar D, et al. A Randomized Controlled Trial of Innovative Postpartum Care Model for Mother-Baby Dyads. Krukowski R, editor. PLOS ONE [Internet]. Public Library of Science (PLoS); 2016 Feb 12;11(2):e0148520. Available from: http://dx.doi.org/10.1371/journal.pone.0148520

Lasater ME, Beebe M, Gresh A, Blomberg K, Warren N. Addressing the Unmet Need for Maternal Mental Health Services in Low- and Middle-Income Countries: Integrating Mental Health Into Maternal Health Care. Journal of Midwifery & Women's Health [Internet]. Wiley; 2017 Nov;62(6):657–60. Available from: http://dx.doi.org/10.1111/jmwh.12679

Lassi ZS, Middleton P, Bhutta ZA, Crowther C. Health care seeking for maternal and newborn illnesses in low- and middle-income countries: a systematic review of observational and qualitative studies. F1000Research [Internet]. F1000 Research Ltd; 2019 Feb 19;8:200. Available from: http://dx.doi.org/10.12688/f1000research.17828.1

Lavender T, Cuthbert A, Smyth RM. Effect of partograph use on outcomes for women in spontaneous labour at term and their babies. Cochrane Database of Systematic Reviews [Internet]. Wiley; 2018 Aug 6; Available from: http://dx.doi.org/10.1002/14651858.cd005461. pub5

Lavin T, Pattinson R. Does antenatal care timing influence stillbirth risk in the third trimester? A secondary analysis of perinatal death audit data in South Africa. BJOG: An International Journal of Obstetrics & Gynaecology [Internet]. Wiley; 2017 Jun 26;125(2):140–7. Available from: http://dx.doi.org/10.1111/1471-0528.14645

Lawn JE, Blencowe H, Kinney MV, Bianchi F, Graham WJ. Evidence to inform the future for maternal and newborn health. Best Practice & Research Clinical Obstetrics & Gynaecology [Internet]. Elsevier BV; 2016 Oct;36:169-83. Available from: http://dx.doi.org/10.1016/j. bpobgyn.2016.07.004

Lawn JE, Blencowe H, Pattinson R, Cousens S, Kumar R, Ibiebele I, et al. Stillbirths: Where? When? Why? How to make the data count? The Lancet [Internet]. Elsevier BV; 2011 Apr;377(9775):1448–63. Available from: http://dx.doi.org/10.1016/s0140-6736(10)62187-3

Leddy MA, Power ML, Schulkin J. The impact of maternal obesity on maternal and fetal health. Reviews in Obstetrics and Gynecology. [Internet]. NCBI; 2008;1(4):170-178. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2621047/

Lee AC, Lawn JE, Cousens S, Kumar V, Osrin D, Bhutta ZA, et al. Linking families and facilities for care at birth: What works to avert intrapartum-related deaths? International Journal of Gynecology & Obstetrics [Internet]. Wiley; 2009 Oct;107(Supplement):S65–S88. Available from: http://dx.doi.org/10.1016/j.ijgo.2009.07.012

Lee SH, Nurmatov UB, Nwaru BI, Mukherjee M, Grant L, Pagliari C. Effectiveness of mHealth interventions for maternal, newborn and child health in low- and middle-income countries: Systematic review and meta-analysis. Journal of Global Health [Internet]. International Global Health Society; 2015 Nov 8;6(1). Available from: http://dx.doi.org/10.7189/jogh.06.010401

Li XF, Fortney JA, Kotelchuck M, Glover LH. The postpartum period: the key to maternal mortality. International Journal of Gynecology & Obstetrics [Internet]. Wiley; 1996 Jul;54(1):1–10. Available from: http://dx.doi.org/10.1016/0020-7292(96)02667-7

Lince-Deroche N, Harries J, Constant D, Morroni C, Pleaner M, Fetters T, et al. Doing more for less: identifying opportunities to expand public sector access to safe abortion in South Africa through budget impact analysis. Contraception [Internet]. Elsevier BV; 2018 Feb;97(2):167–76. Available from: http://dx.doi.org/10.1016/j.contraception.2017.07.165

London L, Schneider H. Globalisation and health inequalities: Can a human rights paradigm create space for civil society action? Social Science & Medicine [Internet]. Elsevier BV; 2012 Jan;74(1):6–13. Available from: http://dx.doi.org/10.1016/j.socscimed.2011.03.022

Makandwa T, Vearey J. Giving Birth in a Foreign Land: Exploring the Maternal Healthcare Experiences of Zimbabwean Migrant Women Living in Johannesburg, South Africa. Urban Forum [Internet]. Springer Science and Business Media LLC; 2017 Mar;28(1):75–90. Available from: http://dx.doi.org/10.1007/s12132-017-9304-5

Malterud K, Bjelland AK, Elvbakken KT. Systematic reviews for policy-making – critical reflections are needed. Health Research Policy and Systems [Internet]. Springer Science and Business Media LLC; 2018 Nov 20;16(1). Available from: http://dx.doi.org/10.1186/s12961-018-0387-9

Manzi A, Nyirazinyoye L, Ntaganira J, Magge H, Bigirimana E, Mukanzabikeshimana L, et al. Beyond coverage: improving the quality of antenatal care delivery through integrated mentorship and quality improvement at health centers in rural Rwanda. BMC Health Services Research [Internet]. Springer Science and Business Media LLC; 2018 Feb 23;18(1). Available from: http://dx.doi.org/10.1186/s12913-018-2939-7

Massyn N, Peer N, English R, Padarath A, Barron P, Day C, editors. District Health Barometer 2015/16. ISBN: 978-1-919839-86-8. [Internet]. Durban: Health Systems Trust; 2016. Available from: https://www.hst.org.za/publications/Pages/HSTDistrictHealthBarometer. aspx

Maswime TS, Buchmann E. Near-miss maternal morbidity from severe haemorrhage at caesarean section: A process and structure audit of system deficiencies in South Africa. South African Medical Journal [Internet]. South African Medical Association NPC; 2017 Oct 31;107(11):1005. Available from: http://dx.doi.org/10.7196/samj.2017.v107i11.12340

Matsubara S, Matsubara D. Re: Respectful care during childbirth in health facilities globally: a qualitative evidence synthesis. BJOG: An International Journal of Obstetrics & Gynaecology [Internet]. Wiley; 2018 Mar 14;125(8):1038–1038. Available from: http://dx.doi. org/10.1111/1471-0528.15163

May PA, Gossage JP, Marais A-S, Adnams CM, Hoyme HE, Jones KL, et al. The epidemiology of fetal alcohol syndrome and partial FAS in a South African community. Drug and Alcohol Dependence [Internet]. Elsevier BV; 2007 May;88(2-3):259–71. Available from: http:// dx.doi.org/10.1016/j.drugalcdep.2006.11.007

May PA, Hamrick KJ, Corbin KD, Hasken JM, Marais A-S, Brooke LE, et al. Dietary intake, nutrition, and fetal alcohol spectrum disorders in the Western Cape Province of South Africa. Reproductive Toxicology [Internet]. Elsevier BV; 2014 Jul;46:31–9. Available from: http:// dx.doi.org/10.1016/j.reprotox.2014.02.002

Mehl GL, Tamrat T, Bhardwaj S, Blaschke S, Labrique A. Digital health vision: could MomConnect provide a pragmatic starting point for achieving universal health coverage in South Africa and elsewhere? BMJ Global Health [Internet]. BMJ; 2018 Apr;3(Suppl 2):e000626. Available from: http://dx.doi.org/10.1136/bmjgh-2017-000626

Miller E, Decker MR, McCauley HL, Tancredi DJ, Levenson RR, Waldman J, et al. Pregnancy coercion, intimate partner violence and unintended pregnancy. Contraception [Internet]. Elsevier BV; 2010 Apr;81(4):316–22. Available from: http://dx.doi.org/10.1016/j. contraception.2009.12.004

Mmusi-Phetoe RM. Magnitude of maternal mortality in South Africa: views from South African experts. Africa Journal of Nursing and Midwifery [Internet]. UNISA Press; 2016 Nov 1;18(2):132–45. Available from: http://dx.doi.org/10.25159/2520-5293/884

Mombo-Ngoma G, Mackanga JR, González R, Ouedraogo S, Kakolwa MA, Manego RZ, et al. Young adolescent girls are at high risk for adverse pregnancy outcomes in sub-Saharan Africa: an observational multicountry study. BMJ Open [Internet]. BMJ; 2016 Jun;6(6):e011783. Available from: http://dx.doi.org/10.1136/bmjopen-2016-011783

Moodley J, Fawcus F, Pattinson R. Improvements in maternal mortality in South Africa. South African Medical Journal. 2018 Mar;108(3a):4-8. Available from: http://www.samj.org.za/index.php/samj/article/view/12244/8428

Moodley J, Makhanya V, Govender L. Eclampsia: Still a major problem in rural KwaZulu-Natal Province, South Africa. South African Journal of Obstetrics and Gynaecology [Internet]. South African Medical Association NPC; 2016 Sep 8;22(1):13. Available from: http:// dx.doi.org/10.7196/sajog.1034

Moodley J, Pattinson R, Fawcus S, Schoon M, Moran N, Shweni P, et al. The confidential enquiry into maternal deaths in South Africa: a case study. BJOG: An International Journal of Obstetrics & Gynaecology [Internet]. Wiley; 2014 Sep;121:53–60. Available from: http:// dx.doi.org/10.1111/1471-0528.12869

Moodley J, Pattinson R. Maternal deaths in South Africa. Obstetrics and Gynaecology Forum. [Internet]. African Journals Online (AJOL); 2003;12(2). Available from: https://www.ajol.info/index.php/ogf/article/view/96270

Mphatswe W, Maise H, Sebitloane M. Prevalence of repeat pregnancies and associated factors among teenagers in KwaZulu-Natal, South Africa. International Journal of Gynecology & Obstetrics [Internet]. Wiley; 2016 Feb 5;133(2):152–5. Available from: http://dx.doi. org/10.1016/j.ijgo.2015.09.028

Myer L, Harrison A. Why Do Women Seek Antenatal Care Late? Perspectives From Rural South Africa. Journal of Midwifery & Women's Health [Internet]. Wiley; 2003 Jul 8;48(4):268–72. Available from: http://dx.doi.org/10.1016/s1526-9523(02)00421-x

Nabukalu D, Ntaro M, Seviiri M, Reyes R, Wiens M, Sundararajan R, et al. Community health workers trained to conduct verbal autopsies provide better mortality measures than existing surveillance: Results from a cross-sectional study in rural western Uganda. Schneider H, editor. PLOS ONE [Internet]. Public Library of Science (PLoS); 2019 Feb 13;14(2):e0211482. Available from: http://dx.doi.org/10.1371/ journal.pone.0211482

National Health Insurance Bill 2019 (Republic of South Africa). Available from: https://www.gov.za/sites/default/files/gcis_document/201908/ national-health-insurance-bill-b-11-2019.pdf

National Planning Commission. The National Development Plan 2030. Report No.: ISBN: 978-0-621-41180-5. [Internet]. South African Government. 2012 Aug 15. Available from: https://www.gov.za/issues/national-development-plan-2030

Nonvignon J, Novignon J. Trend and determinants of contraceptive use among women of reproductive age in Ghana. African Population Studies [Internet]. Stellenbosch University; 2014 Aug 6;28(0):956. Available from: http://dx.doi.org/10.11564/28-0-549

Nsibande D, Doherty T, Ijumba P, Tomlinson M, Jackson D, Sanders D, et al. Assessment of the uptake of neonatal and young infant referrals by community health workers to public health facilities in an urban informal settlement, KwaZulu-Natal, South Africa. BMC Health Services Research [Internet]. Springer Science and Business Media LLC; 2013 Feb 6;13(1). Available from: http://dx.doi.org/10.1186/1472-6963-13-47

Okafor UB, Nikodem VC, Singata-Madliki M. Exploring women's experience of uterine fundal pressure during second stage of labour at Midwives-led Obstetric Unit (MOU) in East London, South Africa. African Journal for Physical Activity and Health Sciences (AJPHES), 2018 Oct;24(4):72-92.

Oosthuizen S, Bergh A-M, Pattinson RC. Systems thinking: A turning point for improving respectful obstetric care in South African health districts. South African Medical Journal [Internet]. South African Medical Association NPC; 2018 Oct 26;108(11):910. Available from: http:// dx.doi.org/10.7196/samj.2018.v108i11.13312

Oosthuizen SJ, Bergh A-M, Grimbeek J, Pattinson RC. Midwife-led obstetric units working "CLEVER": Improving perinatal outcome indicators in a South African health district. South African Medical Journal [Internet]. South African Medical Association NPC; 2019 Jan 31;109(2):95. Available from: http://dx.doi.org/10.7196/samj.2019.v109i2.13429

Oosthuizen SJ, Bergh A-M, Pattinson RC, Grimbeek J. It does matter where you come from: mothers' experiences of childbirth in midwife obstetric units, Tshwane, South Africa. Reproductive Health [Internet]. Springer Science and Business Media LLC; 2017 Nov 16;14(1). Available from: http://dx.doi.org/10.1186/s12978-017-0411-5

Pallitto C, García-Moreno C, Stöeckl H, Hatcher A, MacPhail C, Mokoatle K, et al. Testing a counselling intervention in antenatal care for women experiencing partner violence: a study protocol for a randomized controlled trial in Johannesburg, South Africa. BMC Health Services Research [Internet]. Springer Science and Business Media LLC; 2016 Nov 5;16(1). Available from: http://dx.doi.org/10.1186/ s12913-016-1872-x

Papp SA, Gogoi A, Campbell C. Improving maternal health through social accountability: A case study from Orissa, India. Global Public Health [Internet]. Informa UK Limited; 2013 Apr;8(4):449–64. Available from: http://dx.doi.org/10.1080/17441692.2012.748085

Paternina-Caicedo A, Miranda J, Bourjeily G, Levinson A, Dueñas C, Bello-Muñoz C, et al. Performance of the Obstetric Early Warning Score in critically ill patients for the prediction of maternal death. American Journal of Obstetrics and Gynecology [Internet]. Elsevier BV; 2017 Jan;216(1):58.e1–58.e8. Available from: http://dx.doi.org/10.1016/j.ajog.2016.09.103

Pattinson R, Hall M. Near misses: a useful adjunct to maternal death enquiries. British Medical Bulletin [Internet]. Oxford University Press (OUP); 2003 Dec 1;67(1):231–43. Available from: http://dx.doi.org/10.1093/bmb/ldg007

Pattinson RC, Makin JD, Pillay Y, Van der Broek N, Moodley J. Basic and comprehensive emergency obstetric and neonatal care in 12 South African health districts. South African Medical Journal [Internet]. South African Medical Association NPC; 2015 Mar 1;105(4):256. Available from: http://dx.doi.org/10.7196/samj.9181

Pepper MS, Slabbert, MN. Is South Africa on the verge of a medical malpractice litigation storm? [Internet]. South African Journal of Bioethics and Law; 2011;4(1):29-35. Available from: https://www.ajol.info/index.php/sajbl/article/view/69974

SA MPNH Policy

Pillay-van Wyk V, Msemburi W, Laubscher R, Dorrington RE, Groenewald P, Glass T, et al. Mortality trends and differentials in South Africa from 1997 to 2012: second National Burden of Disease Study. The Lancet Global Health [Internet]. Elsevier BV; 2016 Sep;4(9):e642–e653. Available from: http://dx.doi.org/10.1016/s2214-109x(16)30113-9

Quick J, Jay J, Langer A. Improving Women's Health through Universal Health Coverage. [Internet]. PLoS Med; 2014 Jan 6;11(1):e1001580. Available from: https://doi.org/10.1371/journal.pmed.1001580

Raban MS, Joolay Y, Horn AR, Harrison MC. Enteral feeding practices in preterm infants in South Africa. South African Journal of Child Health [Internet]. South African Medical Association NPC; 2013 Feb 14;7(1). Available from: http://dx.doi.org/10.7196/sajch.503

Redpath A, Bailey J. Management of the sick neonate in the field. UK-Vet Equine [Internet]. Mark Allen Group; 2019 Jul 2;3(4):122–30. Available from: http://dx.doi.org/10.12968/ukve.2019.3.4.122

Reis V, Deller B, Carr C, Smith J. Respectful Maternity Care: Country Experiences; Survey Report. [Internet]. Washington, DC: United States Agency for International Development Maternal and Child Health Integrated Program; 2012 Nov. Available from: https://toolkits. knowledgesuccess.org/sites/default/files/rmc_survey_report_0_0.pdf

Rhoda N, Velaphi S, Gebhardt GS, Kauchali S, Barron P. Reducing neonatal deaths in South Africa: Progress and challenges. South African Medical Journal [Internet]. South African Medical Association NPC; 2018 Mar 2;108(3a):9. Available from: http://dx.doi.org/10.7196/samj.2017.v108i3b.12804

Ringholm L, Damm P, Mathiesen ER. Improving pregnancy outcomes in women with diabetes mellitus: modern management. Nature Reviews Endocrinology [Internet]. Springer Science and Business Media LLC; 2019 Apr 4;15(7):406–16. Available from: http://dx.doi. org/10.1038/s41574-019-0197-3

Rispel LC, Blaauw D, Ditlopo P, White J. Human resources for health and universal health coverage: progress, complexities and contestations. In: Rispel LC, Padarath A, editors. South African Health Review 2018. [Internet]. Durban: Health Systems Trust; 2018. Available from: https://www.hst.org.za/publications/Pages/SAHR2018.aspx

Romaniuk P, Poznańska A, Brukało K, Holecki T. Health System Outcomes in BRICS Countries and Their Association With the Economic Context. Frontiers in Public Health [Internet]. Frontiers Media SA; 2020 Mar 31;8. Available from: http://dx.doi.org/10.3389/ fpubh.2020.00080

Rudan I, Kapiriri L, Tomlinson M, Balliet M, Cohen B, Chopra M. Evidence-Based Priority Setting for Health Care and Research: Tools to Support Policy in Maternal, Neonatal, and Child Health in Africa. PLoS Medicine [Internet]. Public Library of Science (PLoS); 2010 Jul 13;7(7):e1000308. Available from: http://dx.doi.org/10.1371/journal.pmed.1000308

Sadati AK, B Lankarani MH, Bagheri Lankarani K. Risk Society, Global Vulnerability and Fragile Resilience; Sociological View on the Coronavirus Outbreak. Shiraz E-Medical Journal [Internet]. Kowsar Medical Institute; 2020 Mar 7;In Press(In Press). Available from: http:// dx.doi.org/10.5812/semj.102263

SADC. Food and Nutrition Security Strategy 2015-2025. [Internet]. Southern African Development Community (SADC). 2014. Available from: https://www.nepad.org/publication/sadc-food-and-nutrition-security-strategy-2015-2025

Say L, Souza JP, Pattinson RC. Maternal near miss – towards a standard tool for monitoring quality of maternal health care. Best Practice & Research Clinical Obstetrics & Gynaecology [Internet]. Elsevier BV; 2009 Jun;23(3):287–96. Available from: http://dx.doi.org/10.1016/j. bpobgyn.2009.01.007

Sayed A-R, Bourne D, Pattinson R, Nixon J, Henderson B. Decline in the prevalence of neural tube defects following folic acid fortification and its cost-benefit in South Africa. Birth Defects Research Part A: Clinical and Molecular Teratology [Internet]. Wiley; 2008 Apr;82(4):211–6. Available from: http://dx.doi.org/10.1002/bdra.20442

Schneider M, Eide AH, Amin M, MacLachlan M, Mannan H. Inclusion of vulnerable groups in health policies: Regional policies on health priorities in Africa. African Journal of Disability [Internet]. AOSIS; 2013 Jan 22;2(1). Available from: http://dx.doi.org/10.4102/ajod.v2i1.40

Seebregts C, Barron P, Tanna G, Benjamin P, Fogwill T. MomConnect: an exemplar implementation of the health normative standards framework in South Africa. In: Padarath A, King J, Mackie E, Casciola J, editors. South African Health Review 2016 [Internet]. Durban: Health Systems Trust; 2016. Available from: https://www.hst.org.za/publications/Pages/South-African-Health-Review-2016.aspx

Shakibazadeh E, Namadian M, Bohren M, Vogel J, Rashidian A, Nogueira Pileggi V, et al. Respectful care during childbirth in health facilities globally: a qualitative evidence synthesis. BJOG: An International Journal of Obstetrics & Gynaecology [Internet]. Wiley; 2017 Dec 8;125(8):932–42. Available from: http://dx.doi.org/10.1111/1471-0528.15015

Silal SP, Penn-Kekana L, Harris B, Birch S, McIntyre D. Exploring inequalities in access to and use of maternal health services in South Africa. BMC Health Services Research [Internet]. Springer Science and Business Media LLC; 2012 May 21;12(1). Available from: http:// dx.doi.org/10.1186/1472-6963-12-120

Smola A, Lawson K. Kangaroo Mother Care and Traditional Care. [research paper on the Internet]. Williams Honors College, Honors Research Projects; 2019. Available from: https://ideaexchange.uakron.edu/honors_research_projects/932

Soma-Pillay P, Pattinson RC, Langa-Mlambo L, Nkosi BSS, MacDonald AP. Maternal near miss and maternal death in the Pretoria Academic Complex, South Africa: A population-based study. South African Medical Journal [Internet]. South African Medical Association NPC; 2015 Sep 21;105(7):578. Available from: http://dx.doi.org/10.7196/samjnew.8038

Soma-Pillay P, Pattinson RC. Barriers to obstetric care among maternal near misses. South African Medical Journal [Internet]. South African MedicalAssociation NPC; 2016 Nov 2;106(11):1110. Available from: http://dx.doi.org/10.7196/samj.2016.v106i11.10726

Spiby H, Green JM, Darwin Z, Willmot H, Knox D, McLeish J, et al. Multisite implementation of trained volunteer doula support for disadvantaged childbearing women: a mixed-methods evaluation. Health Services and Delivery Research [Internet]. National Institute for Health Research; 2015 Mar;3(8):1–332. Available from: http://dx.doi.org/10.3310/hsdr03080

Stange KC. The Problem of Fragmentation and the Need for Integrative Solutions. The Annals of Family Medicine [Internet]. Annals of Family Medicine; 2009 Mar 1;7(2):100–3. Available from: http://dx.doi.org/10.1370/afm.971

Suandi D, Williams P, Bhattacharya S. Does involving male partners in antenatal care improve healthcare utilisation? Systematic review and meta-analysis of the published literature from low- and middle-income countries. International Health [Internet]. Oxford University Press (OUP); 2019 Oct 15;12(5):484–98. Available from: http://dx.doi.org/10.1093/inthealth/ihz073

Swanson JO, Nathan RO, Swanson DL, Perez KM, Bresnahan BW, Mirza W, et al. Use of ultrasound and mHealth to improve perinatal outcomes in low and middle income countries. Seminars in Perinatology [Internet]. Elsevier BV; 2019 Aug;43(5):267–72. Available from: http://dx.doi.org/10.1053/j.semperi.2019.03.016

Ten Hoope-Bender P, Martin Hilber A, Nove A, Bandali S, Nam S, Armstrong C, et al. Using advocacy and data to strengthen political accountability in maternal and newborn health in Africa. International Journal of Gynecology & Obstetrics [Internet]. Wiley; 2016 Oct 15;135(3):358–64. Available from: http://dx.doi.org/10.1016/j.ijgo.2016.10.003

Thomas LS, Jina R, Tint KS, Fonn S. Making Systems Work: The Hard Part of Improving Maternal Health Services in South Africa. Reproductive Health Matters [Internet]. Informa UK Limited; 2007 Jan;15(30):38–49. Available from: http://dx.doi.org/10.1016/s0968-8080(07)30314-5

Thwala SBP, Blaauw D, Ssengooba F. Measuring the preparedness of health facilities to deliver emergency obstetric care in a South African district. Ciccozzi M, editor. PLOS ONE [Internet]. Public Library of Science (PLoS); 2018 Mar 29;13(3):e0194576. Available from: http://dx.doi.org/10.1371/journal.pone.0194576

Tomlinson M, O'Connor MJ, le Roux IM, Stewart J, Mbewu N, Harwood J, et al. Multiple Risk Factors During Pregnancy in South Africa: The Need for a Horizontal Approach to Perinatal Care. Prevention Science [Internet]. Springer Science and Business Media LLC; 2013 Mar 9;15(3):277–82. Available from: http://dx.doi.org/10.1007/s11121-013-0376-8

Tsawe M, Susuman AS. Determinants of access to and use of maternal health care services in the Eastern Cape, South Africa: a quantitative and qualitative investigation. BMC Research Notes [Internet]. Springer Science and Business Media LLC; 2014 Oct 15;7(1). Available from: http://dx.doi.org/10.1186/1756-0500-7-723

Tshotetsi L, Dzikiti L, Hajison P, Feresu S. Maternal factors contributing to low birth weight deliveries in Tshwane District, South Africa. Ballot DE, editor. PLOS ONE [Internet]. Public Library of Science (PLoS); 2019 Mar 1;14(3):e0213058. Available from: http://dx.doi. org/10.1371/journal.pone.0213058

Tunçalp Ö, Hindin M, Souza J, Chou D, Say L. The prevalence of maternal near miss: a systematic review. BJOG: An International Journal of Obstetrics & Gynaecology [Internet]. Wiley; 2012 Apr 10;119(6):653–61. Available from: http://dx.doi.org/10.1111/j.1471-0528.2012.03294.x

Turner RE, Honikman S. Maternal mental health and the first 1 000 days. South African Medical Journal [Internet]. South African Medical Association NPC; 2016 Dec 1;106(12):1164. Available from: http://dx.doi.org/10.7196/samj.2016.v106.i12.12129

UNDP. The Sustainable Development Goals (SDGs). [Internet]. United Nations Development Programme (UNDP); 2015. Available from: https://www.undp.org/content/undp/en/home/sustainable-development-goals.html

Uneke CJ, Sombie I, Keita N, Lokossou V, Johnson E, Ongolo-Zogo P, et al. Promoting evidence informed policy making in Nigeria: a review of the maternal, newborn and child health policy development process. Health Promotion Perspectives [Internet]. Maad Rayan Publishing Company; 2017 Sep 26;7(4):181–9. Available from: http://dx.doi.org/10.15171/hpp.2017.33

Vinayak S, Sande J, Nisenbaum H, Nolsøe CP. Training Midwives to Perform Basic Obstetric Point-of-Care Ultrasound in Rural Areas Using a Tablet Platform and Mobile Phone Transmission Technology—A WFUMB COE Project. Ultrasound in Medicine & Biology [Internet]. Elsevier BV; 2017 Oct;43(10):2125–32. Available from: http://dx.doi.org/10.1016/j.ultrasmedbio.2017.05.024

Wabiri N, Chersich M, Shisana O, Blaauw D, Rees H, Dwane N. Growing inequities in maternal health in South Africa: a comparison of serial national household surveys. BMC Pregnancy and Childbirth [Internet]. Springer Science and Business Media LLC; 2016 Sep 1;16(1). Available from: http://dx.doi.org/10.1186/s12884-016-1048-z

Wabiri N, Chersich M, Zuma K, Blaauw D, Goudge J, Dwane N. Equity in Maternal Health in South Africa: Analysis of Health Service Access and Health Status in a National Household Survey. Thorne C, editor. PLoS ONE [Internet]. Public Library of Science (PLoS); 2013 Sep 6;8(9):e73864. Available from: http://dx.doi.org/10.1371/journal.pone.0073864

Weiss SM, Karl P, Olga V-L, Shikwane ME, Ryan C, Jones DL. Improving PMTCT Uptake in Rural South Africa. Journal of the International Association of Providers of AIDS Care (JIAPAC) [Internet]. SAGE Publications; 2013 Jun 18;13(3):269–76. Available from: http://dx.doi. org/10.1177/2325957413488203

West NS, Schwartz SR, Yende N, Schwartz SJ, Parmley L, Gadarowski MB, et al. Infant feeding by South African mothers living with HIV: implications for future training of health care workers and the need for consistent counseling. International Breastfeeding Journal [Internet]. Springer Science and Business Media LLC; 2019 Feb 14;14(1). Available from: http://dx.doi.org/10.1186/s13006-019-0205-1

Whitworth J, Sewankambo NK, Snewin VA. Improving Implementation: Building Research Capacity in Maternal, Neonatal, and Child Health in Africa. PLoS Medicine [Internet]. Public Library of Science (PLoS); 2010 Jul 6;7(7):e1000299. Available from: http://dx.doi. org/10.1371/journal.pmed.1000299

WHO, United Nations Children's Fund, World Bank Group. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. [Internet]. Geneva: World Health Organization (WHO); 2018. Available from: https://apps.who.int/iris/bitstream/handle/10665/272603/9789241514064-eng.pdf

WHO. Implementation guidance: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services – the revised Baby-friendly Hospital Initiative (BFHI). [Internet]. Geneva: World Health Organization (WHO); 2018. Available from: https:// www.who.int/nutrition/publications/infantfeeding/bfhi-implementation-2018.pdf

WHO. Improving the health care of pregnant refugee and migrant women and newborn children. [Internet]. Copenhagen: WHO Regional Office for Europe; 2018 (Technical guidance on refugee and migrant health). Available from: https://www.euro.who.int/en/publications/ abstracts/improving-the-health-care-of-pregnant-refugee-and-migrant-women-and-newborn-children-2018

WHO. The Global Strategy for Women's, Children's and Adolescents' Health (2016-2030). [Internet]. Geneva: World Health Organization (WHO). Available from: https://www.who.int/life-course/partners/global-strategy/en/

WHO. The Global Strategy on Infant and Young Child Feeding. [Internet]. Geneva: World Health Organization (WHO). Available from: http://whqlibdoc.who.int/publications/2003/9241562218.pdf

WHO. WHO recommendations for prevention and treatment of maternal peripartum infections. [Internet]. World Health Organization (WHO); 2015. Available from: https://apps.who.int/iris/handle/10665/186171

WHO. WHO recommendations on health promotion interventions for maternal and newborn health 2015. [Internet]. World Health Organization (WHO); 2015. Available from: https://apps.who.int/iris/handle/10665/172427

Wium L, Vannevel V, Bothma S. Obstetric medical care and training in South Africa. Obstetric Medicine [Internet]. SAGE Publications; 2018 Jul 20;12(1):27–30. Available from: http://dx.doi.org/10.1177/1753495x18783610

Wu G, Imhoff-Kunsch B, Girard AW. Biological Mechanisms for Nutritional Regulation of Maternal Health and Fetal Development. Paediatric and Perinatal Epidemiology [Internet]. Wiley; 2012 Jun 28;26:4–26. Available from: http://dx.doi.org/10.1111/j.1365-3016.2012.01291.x

Yadav P. Health Product Supply Chains in Developing Countries: Diagnosis of the Root Causes of Underperformance and an Agenda for Reform. Health Systems & Reform [Internet]. Informa UK Limited; 2015 Feb 17;1(2):142–54. Available from: http://dx.doi.org/10.4161/23 288604.2014.968005









Department: Health REPUBLIC OF SOUTH AFRICA

 Dr AB Xuma Building 1112 Voortrekker Rd Pretoria Townlands 351-JR Pretoria 0187