unicef
for every child

EVERY CHILD ALIVE

The urgent need to end newborn deaths

Acknowledgements

(listed alphabetically by surname)

EVERY CHILD ALIVE

The urgent need to end newborn deaths

Contents

Imagine for a moment that you are about to give birth. You are at home, accompanied only by a few members of your family. You are in pain, but you have no access to a doctor, nurse or midwife. You know there is a real risk that both you and the baby you have been waiting to meet may not survive the birth. Even if you and the baby survive, you know that the coming days and weeks will be filled with danger.

Imagine now that you are a midwife, preparing to deliver a premature baby. The health centre where you work has no running water, no electricity and few supplies. You are standing in the dark, your mobile phone clenched between your teeth, its dim glow the only light available to guide you. The mother before you is 16 years old. She is entering the active phase of labour. You are her only source of medical help and hope.

These scenarios illustrate the harsh reality faced by millions of mothers, babies and health workers around the world. It is a reality that we can and must change to keep **EVERY CHILD ALIVE**.

Executive summary

Every year, 2.6 million babies die before turning one month old.[1] One million of them take their first and last breaths on the day they are born. Another 2.6 million are stillborn.

Each of these deaths is a tragedy, especially because the vast majority are preventable. More than 80 per cent of newborn deaths are the result of premature birth, complications during labour and delivery and infections such as sepsis, meningitis and pneumonia. Similar causes, particularly complications during labour, account for a large share of stillbirths.

Millions of young lives could be saved every year if mothers and babies had access to affordable, quality health care, good nutrition and clean water. But far too often, even these basics are out of reach of the mothers and babies who need them most.

Deaths among children aged 1 month to 5 years old have fallen dramatically in recent decades. But progress in reducing the deaths of newborn babies – those aged less than 1 month – has been less impressive, with 7,000 newborns still dying every day. This is partly because newborn deaths are difficult to address with a single drug or intervention – they require a system-wide approach. It is also due to a lack of momentum and global commitment to newborn survival. We are failing the youngest, most vulnerable people on the planet – and with so many millions of lives at stake, time is of the essence.

As this report shows, the risk of dying as a newborn varies enormously depending on where a baby is born. Babies born in Japan stand the best chance of surviving, with just 1 in 1,000 dying during the first 28 days.[2] Children born in Pakistan face the worst odds: Of every 1,000 babies born, 46 die before the end of their first month – almost 1 in 20.

Newborn survival is closely linked to a country's income level. High-income countries have an average newborn mortality rate (the number of deaths per thousand live births) of just 3.[3] In comparison, low-income countries have a newborn mortality rate of 27. This gap is significant: If every country brought its newborn mortality rate down to the high-income average, or below, by 2030, 16 million newborn lives could be saved.

A country's income level explains only part of the story, however. In Kuwait and the United States of America, both high-income countries, the newborn mortality rate is 4. This is only slightly better than lower-middle-income countries such as Sri Lanka and Ukraine, where the newborn mortality rate is 5. Rwanda, a low-income country, has more than halved its newborn mortality rate in recent decades, reducing it from 41 in 1990 to 17 in 2016, which puts the country well ahead of upper-middle-income countries like the Dominican Republic, where the newborn mortality rate is 21. This illustrates that the existence of political will to invest in strong health systems that prioritize newborns and reach the poorest and most marginalized is critical and can make a major difference, even where resources are constrained.

Moreover, national mortality rates often mask variations within countries: Babies born to mothers with no education face almost twice the risk of dying during the newborn period as babies born to mothers with at least a secondary education. Babies born to the poorest families are more than 40 per cent more likely to die during the newborn period than those born to the least poor.[4]

If we consider the root causes, these babies are not dying from medical causes such as prematurity or pneumonia. They are dying because their families are too poor or marginalized to access the care they need. Of all the world's injustices, this may be the most fundamental.

The good news is that progress is possible, even where resources are scarce. Successes in countries like Rwanda offer hope and lessons for other countries committed to keeping every child alive. Specifically, they show that two steps are critical:

1 Increasing access to affordable health care

2 Improving the quality of that care

Low levels of access to maternal and newborn health services provided by skilled health providers correlate strongly with high newborn mortality rates. In Somalia, a country with one of the world's highest newborn mortality rates (39), there is only one doctor, nurse or midwife for every 10,000 people. In the Central African Republic, where the newborn mortality rate is 42, there are only three. In comparison, Norway, which has a newborn mortality rate of 2, has 218 skilled health workers per 10,000 people. Brazil, an upper-middle-income country with a newborn mortality rate of 8, has 93.

Improving access to maternal and newborn health services is therefore a necessary first step in bringing down rates of newborn mortality. And yet, if the quality of services is inadequate, the mere presence of a health facility or health worker is not enough to make the difference between life and death.

Saving lives is never simple, and no single government or institution, acting alone, will meet the challenge of ending preventable newborn deaths. Indeed, providing affordable, quality health care for every mother and baby, starting with the most vulnerable, will require:

• **Place:** Guaranteeing clean, functional health facilities equipped with water, soap and electricity within the reach of every mother and baby

• **People:** Recruiting, training, retaining and managing sufficient numbers of doctors, nurses and midwives with the competencies and skills needed to save newborn lives

• **Products:** Making the top 10 life-saving drugs and articles of equipment available for every mother and baby (*see Figure 6*)

• **Power:** Empowering adolescent girls, mothers and families to demand and receive quality care

Quality of care

Quality of care is defined as the extent to which health-care services improve desired health outcomes. To achieve quality care and improve outcomes, doctors, nurses and midwives must have the training, resources and incentives to provide timely, effective and respectful treatment for every mother and every child.

To drive progress on quality of care, reduce preventable maternal and newborn illness and death, and improve every mother's experience of care, WHO and UNICEF in 2017 launched the Quality of Care Network, dedicated to improving the quality of care for maternal, newborn and child health.

Universal Health Coverage

Universal health coverage is defined as a situation in which all people have access to health services that not only treat illness, but also promote good health and prevent people from getting sick in the first place. Universal health coverage is also about ensuring that services are of high quality and that people do not suffer financial hardship when paying for them.

UNICEF's global Every Child ALIVE campaign is an urgent appeal to governments, businesses, health-care providers, communities and individuals to fulfil the promise of universal health coverage[5] (UHC) and keep every child alive. The campaign, which aims to build consensus for the principle that every mother and every baby deserves affordable, quality care, supports UNICEF and partners as we work together to realize the promise of Place, People, Products and Power in 10 focus countries: Bangladesh, Ethiopia, Guinea-Bissau, India, Indonesia, Malawi, Mali, Nigeria, Pakistan and the United Republic of Tanzania. Together, these countries account for more than half of the world's newborn deaths.

You can learn more about the campaign and how you can help by visiting www.unicef.org/every-child-alive. Every effort to save newborn lives, no matter how big or small, can keep newborns alive. No child should lose their chance to survive and thrive so early in life. And no parent should have to watch a child suffer or die – especially when the solutions needed to keep them alive and healthy exist.

The challenge of keeping Every Child Alive

Newborn deaths now account for a greater, and growing, share of all deaths among children younger than 5.

Around the world, an estimated 7,000 newborn babies die every day. More than 80 per cent of those deaths are the result of causes that could have been prevented with basic solutions such as affordable, quality health care delivered by well-trained doctors, nurses and midwives, antenatal and postnatal nutrition for mother and baby, and clean water. While newborn mortality rates have fallen in recent decades, they still lag behind the impressive gains made for children 1 month to 5 years old. Between 1990 and 2016, the mortality rate in this age group dropped by 62 per cent – almost two thirds. In contrast, the newborn mortality rate declined by only 49 per cent. As a result, newborn deaths now account for a greater, and growing, share of all deaths among children younger than 5.

Figure 1
Mortality rates and deaths, 1990–2016

a) Mortality rates

b) Number of deaths
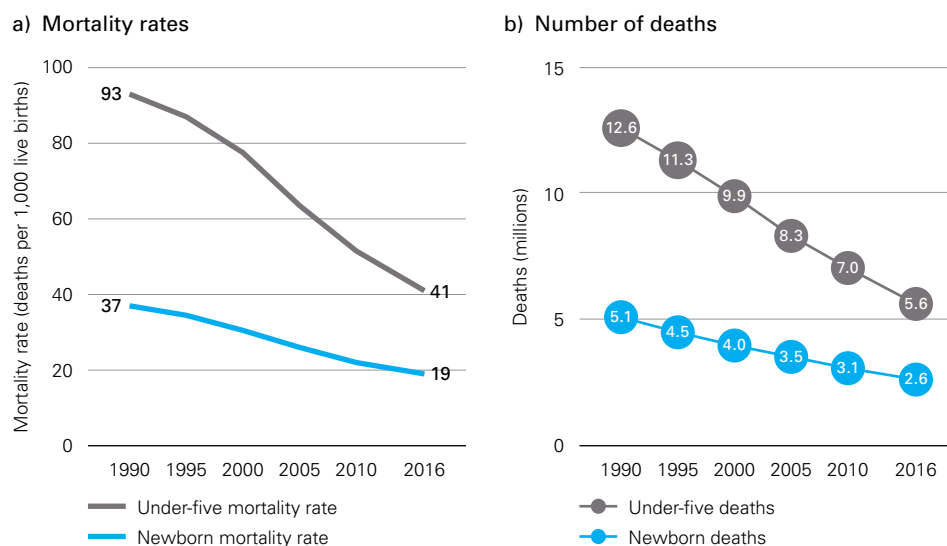
Note: The estimates generated by the United Nations Inter-agency Group for Child Mortality Estimation are made following annual consultations with Member States, and may differ from their official statistics because the IGME estimates are standardized, based on all sources of data from the country available in July 2017, and extrapolated forward to the year 2016.

Source: United Nations Inter-agency Group for Child Mortality Estimation, 2017.

Two main factors help explain this alarming pattern. First, the primary causes of newborn deaths include prematurity, complications around the time of birth, and infections such as sepsis, meningitis and pneumonia. These causes are mostly preventable, but often cannot be treated by a single drug or intervention. They require a system-wide approach.

Second, and just as important, there has been a lack of global focus on the challenge of ending newborn mortality.

Diarrhoea **1%**
Tetanus **1%**
Pneumonia **6%**
Other **7%**

Preterm birth
complications **35%**

Congenital
abnormalities **11%**

Sepsis or menigitis **15%**

Intrapartum-related
events **24%**

Figure 2
Causes of newborn
deaths, 2016

Note: Estimates are rounded and therefore may not add up to 100 per cent. Preterm birth complications refer
to complications occurring before the time of birth; intrapartum-related events are complications
occurring during the birth process.
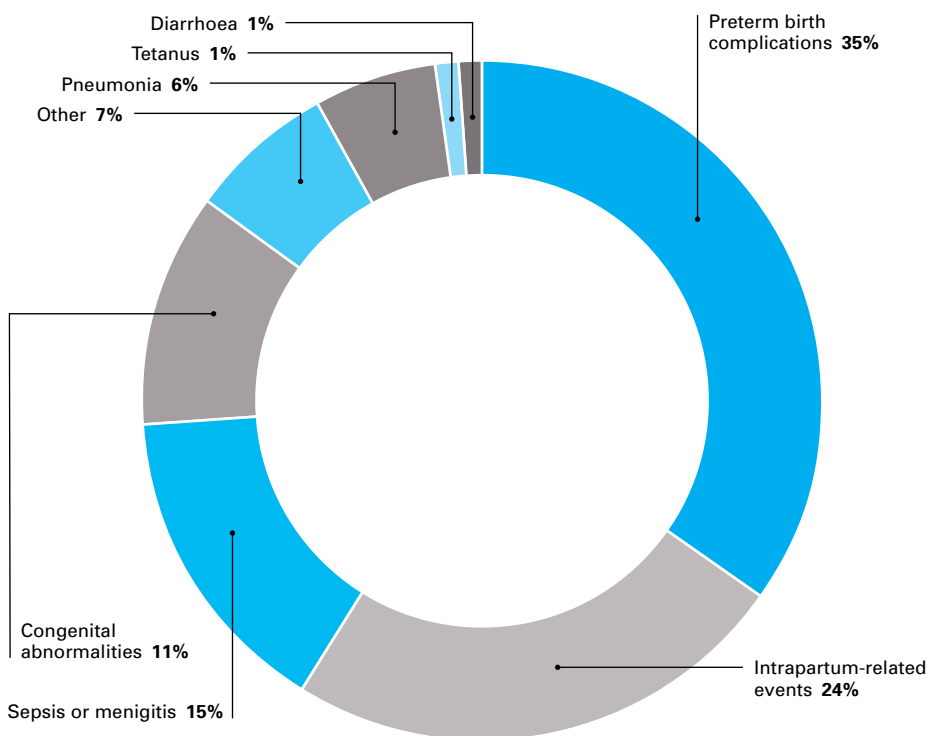
Source: WHO and Maternal and Child Epidemiology Estimation Group (MCEE). 2018. Estimates for child causes
of death 2000-2016

Stillbirth: A tragedy shrouded in silence

Just as the number of newborns who die during the first month is far too high,
so is the number of babies who are stillborn – born without signs of life. Every
year, an estimated 2.6 million babies are stillborn, the vast majority in low- and
middle-income countries. Half of the babies who are stillborn are alive at the
start of labour.[6]

These deaths typically are not counted by public health systems or
policymakers. In most cases, stillborn babies do not receive an official birth or
death certificate. Although they leave no official record, each loss leaves an
indelible imprint on the hearts of parents and families.

And while global targets for newborn and child survival exist in the Sustainable
Development Goals (SDGs), there is no target specific to stillbirth. Stillborn
babies and their parents deserve better. Recognizing this as a situation in need
of correction, UNICEF calls on world leaders to take steps to make sure that
every stillbirth is counted, and to set out and commit to ambitious targets on
reducing stillbirth.

Many of the interventions and approaches that prevent newborn deaths can
prevent stillbirths as well. The Every Newborn Action Plan, a comprehensive
initiative launched in 2014 to prevent newborn mortality and stillbirth,
estimated that the lives of 3 million mothers, newborns and stillborn babies
could be saved each year by improving care around the time of birth and
providing special care for small and sick newborns.[7]

Special attention for small and sick newborns

Every year, an estimated
15 million babies are born
preterm, in advance of
37 weeks of gestation.

Preterm births expose mothers
and babies to a host of
potentially fatal complications,
including low birthweight.
And preterm babies who
survive the newborn phase
often endure life-long
complications, including
stunted growth and
learning disabilities.

Data from around the world
show a strong correlation
between the quality of
postnatal care and the survival
of high-risk newborns.
A frequently mentioned
example of an intervention that
improves survival is Kangaroo
Mother Care, or early and
regular skin-to-skin contact
between mother and baby.

Training health workers and
implementing evidence-based
approaches like Kangaroo
Mother Care at scale will
greatly reduce the risks to
preterm babies and help keep
Every Child Alive.

ETHIOPIA

Hawa Mustafa, 29, holds her 6-month old daughter, Muna Ibrahim, at a UNICEF-supported health centre in the remote Benishangul-Gumuz region of Ethiopia. Hawa's first child was delivered at home and died almost immediately after being born. Her four other children, including Muna, were delivered at the health centre. While still above the national average, Benishangul-Gumuz's newborn mortality rate fell by nearly 50 per cent between 2000 and 2016, from 65 deaths for every 1,000 live births to 35 deaths for every 1,000 live births. The improvement is due in part to the increasing number of women delivering their babies at centres like this one.

Hawa's story, as told to UNICEF staff: *Ten years ago, I was pregnant with my first child. I laboured through intense pain for two days and delivered a baby boy, Mahmoud. He died right away. The heartbreak was unbearable. For six months, I couldn't leave the house. My husband and family had to fetch the firewood and water. I know that if I'd delivered Mahmoud at the health centre, they would have been able to save him. I have four children now, all delivered here, and seeing them alive fills me with joy. It doesn't matter if they're screaming or fussing – I'm grateful that they're alive. One day, maybe one of them will become a doctor.*

Where babies are dying

Rates of newborn mortality vary among and within countries. In many countries, there is little risk that a mother or baby will die during childbirth or soon after. In others, the days before, during and after the birth are fraught with danger.

The riskiest places to be born

Pakistan is the riskiest place to be born as measured by its newborn mortality rate. For every 1,000 babies born in Pakistan in 2016, 46 died before the end of their first month – a staggering 1 in 22. Of the 10 countries with the highest newborn mortality rates, eight are in sub-Saharan Africa and two are in South Asia.

Figure 3a
Countries with the highest newborn mortality rates in 2016, and the number of skilled health professionals per 10,000 population

Countries with highest newborn mortality rates in 2016	Newborn mortality rate (deaths per 1,000 live births)	Skilled health professionals per 10,000 population
Pakistan	45.6 [33.9, 61.5]	14 (2014)
Central African Republic	42.3 [25.7, 68.6]	3 (2009)
Afghanistan	40.0 [31.6, 48.9]	7 (2014)
Somalia	38.8 [19.0, 80.0]	1 (2014)
Lesotho	38.5 [25.5, 55.6]	6 (2003)
Guinea-Bissau	38.2 [25.8, 55.2]	7 (2009)
South Sudan	37.9 [20.5, 67.3]	no data
Côte d'Ivoire	36.6 [26.3, 50.3]	6 (2008)
Mali	35.7 [20.1, 60.7]	5 (2010)
Chad	35.1 [27.4, 44.3]	4 (2013)

Note: Newborn mortality rates are estimates with uncertainty ranges. Numbers in brackets present the lower and upper uncertainty bounds of 90 per cent uncertainty intervals of the newborn mortality rate. Rankings are based on median estimates of newborn mortality rates (deaths per 1,000 live births), which do not account for uncertainties. As such, ranking positions are subject to change. Table excludes countries with fewer than 1,000 live births in 2016 or less than 90,000 total population. The estimates generated by the United Nations Inter-agency Group for Child Mortality Estimation are made following annual consultations with Member States, and may differ from their official statistics because the IGME estimates are standardized, based on all sources of data from the country available in July 2017, and extrapolated forward to the year 2016.

Source: United Nations Inter-agency Group for Child Mortality Estimation, 2017, WHO Global Health Workforce Statistics 2016 Update http://www.who.int/hrh/statistics/hwfstats/en/, accessed 30 January 2018.

Countries with lowest newborn mortality rates in 2016	Newborn mortality rate (deaths per 1,000 live births)	Skilled health professionals per 10,000 population
Japan	0.9 [0.8, 1.0]	131 (2012)
Iceland	1.0 [0.7, 1.4]	201 (2015)
Singapore	1.1 [1.0, 1.3]	76 (2013)
Finland	1.2 [0.9, 1.4]	175 (2012)
Estonia	1.3 [1.1, 1.6]	93 (2014)
Slovenia	1.3 [1.1, 1.6]	114 (2014)
Cyprus	1.4 [1.1, 1.9]	64 (2014)
Belarus	1.5 [1.2, 1.8]	150 (2014)
Republic of Korea	1.5 [1.4, 1.7]	79 (2014)
Norway	1.5 [1.3, 1.8]	218 (2014)
Luxembourg	1.5 [1.1, 2.0]	152 (2015)

Figure 3b
Countries with the lowest newborn mortality rates in 2016, and the number of skilled health professionals per 10,000 population

Note: Newborn mortality rates are estimates with uncertainty ranges. Numbers in brackets present the lower and upper uncertainty bounds of 90 per cent uncertainty intervals of the newborn mortality rate. Rankings are based on median estimates of newborn mortality rates (deaths per 1,000 live births), which do not account for uncertainties. As such, ranking positions are subject to change. Table excludes countries with fewer than 1,000 live births in 2016 or less than 90,000 total population. Table includes 11 countries as Belarus, Republic of Korea, Norway and Luxembourg have the same newborn mortality rate (1.5). The estimates generated by the United Nations Inter-agency Group for Child Mortality Estimation are made following annual consultations with Member States, and may differ from their official statistics because the IGME estimates are standardized, based on all sources of data from the country available in July 2017, and extrapolated forward to the year 2016.

Source: United Nations Inter-agency Group for Child Mortality Estimation, 2017, WHO Global Health Workforce Statistics 2016 Update http://www.who.int/hrh/statistics/hwfstats/en/, accessed 30 January 2018.

Eight of the countries with the highest newborn mortality rates are considered fragile states.[8] In these countries, crises including conflict, natural disasters, instability and poor governance have often impaired health systems and hampered the ability of policymakers to formulate and implement policies that promote newborn survival.

However, there is a difference between newborn mortality rates and the number of newborns who die each year. In countries with large numbers of newborns, the mortality *rates* may be lower than in countries with fewer newborns, but the actual *number* of deaths is higher. In these countries, scaled up action to prevent newborn deaths, focusing particularly on the poorest and most marginalized, will be critical for success in global efforts to end preventable newborn mortality.

Figure 4
The 10 countries with the highest number of newborn deaths in 2016, and newborn mortality rates

Countries with the largest number of newborn deaths in 2016	Number of newborn deaths (in thousands)	Share of all global newborn deaths (%)	Newborn mortality rate (deaths per 1,000 live births)
India	640	24	25.4 [22.6, 28.4]
Pakistan	248	10	45.6 [33.9, 61.5]
Nigeria	247	9	34.1 [24.7, 46.3]
Democratic Republic of the Congo	96	4	28.8 [19.5, 41.5]
Ethiopia	90	3	27.6 [21.7, 35.2]
China	86	3	5.1 [4.3, 6.0]
Indonesia	68	3	13.7 [10.7, 17.5]
Bangladesh	62	2	20.1 [17.7, 22.5]
United Republic of Tanzania	46	2	21.7 [17.2, 27.6]
Afghanistan	46	2	40.0 [31.6, 48.9]

Note: Numbers in brackets present the lower and upper uncertainty bounds of 90 per cent uncertainty intervals of the newborn mortality rate. Excludes countries with fewer than 1,000 live births in 2016 or less than 90,000 total population. The estimates generated by the United Nations Inter-agency Group for Child Mortality Estimation are made following annual consultations with Member States, and may differ from their official statistics because the IGME estimates are standardized, based on all sources of data from the country available in July 2017, and extrapolated forward to the year 2016.

Source: United Nations Inter-agency Group for Child Mortality Estimation, 2017.

The safest places to be born

At the other end of the spectrum, Japan, Iceland and Singapore are the three safest countries in which to be born, as measured by their newborn mortality rates. In these countries, only 1 in 1,000 babies dies during the first 28 days. A baby born in Pakistan is almost 50 times more likely to die during his or her first month than a baby born in one of these three countries.

Countries such as Japan, Iceland and Singapore have strong, well-resourced health systems, ample numbers of highly skilled health workers, a well-developed infrastructure, readily available clean water and high standards of sanitation and hygiene in health facilities. Public health education, combined with very high standards of medical care, guarantee universal access to quality health care at all ages, and general standards of nutrition, education and environmental safety are also high. These factors likely all contribute to very low newborn mortality rates.

On average, high-income countries have a newborn mortality rate of 3, compared with 27 for low-income countries. This gap is significant: If every country brought its newborn mortality rate down to the high-income average, or below, by 2030, 16 million newborn lives could be saved.

A country's income level does not explain the whole story, however. Trinidad and Tobago, a high-income country, has a newborn mortality rate of 13, comparable to mortality rates in some lower-middle- and low-income countries. Kuwait and the United States, high-income countries, report a newborn mortality rate of 4, only slightly better than the rates in lower-middle-income countries like Ukraine and Sri Lanka, which have mortality rates of 5. Equatorial Guinea, an upper-middle-income country, has a newborn mortality rate of 32, placing it among the 20 countries with the highest newborn mortality rates.

While high levels of income mean that financial resources exist to invest in strong health systems, there is also a need for strong political will to direct those investments. Such political will is not always present. Equally, when resources are scarce, strong political commitment can ensure that the limited resources that do exist are invested judiciously to build strong health systems that prioritize newborns and reach the poorest and most marginalized.

Just as newborn mortality rates vary by country, so does progress in reducing these rates. Some low- and lower-middle-income countries have achieved impressive reductions in mortality rates despite limited resources. The achievement of Rwanda, a low-income country, in reducing its newborn mortality rate from 41 in 1990 to 17 in 2016 was made possible by a committed government that took an active role in implementing a national insurance scheme that reached the poorest, most vulnerable mothers. Rwanda also instituted a comprehensive certification system for health facilities tailored to the needs of local communities and accountable to local authorities.[9, 10, 11]

The risk to newborns varies among and within countries

National averages mask variations within countries. Babies born to the poorest families are more than 1.4 times more likely to die during the newborn period than those born to the richest.[12] Babies born to mothers with no education face almost twice the risk of dying as newborns as babies born to mothers with at least a secondary education.

In other words, babies are dying not just from medical causes such as prematurity and pneumonia. They are dying because of who their parents are and where they are born – because their families are too poor or marginalized to access the care they need.
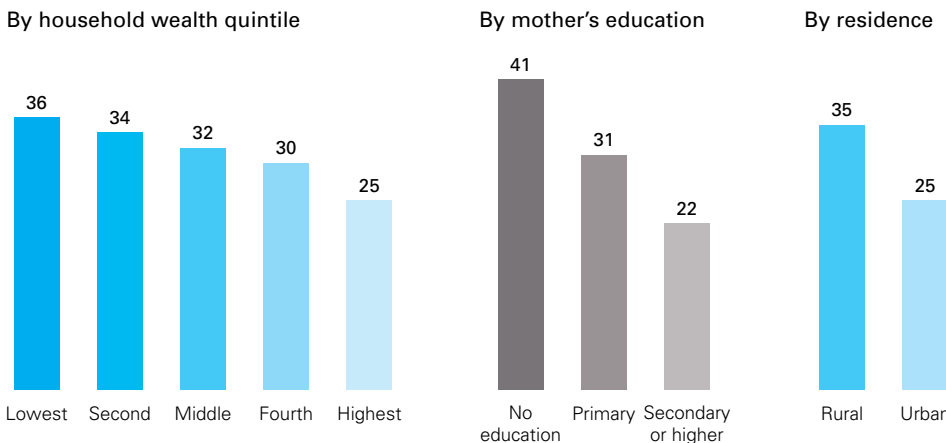
Figure 5
Newborn mortality rate by household wealth quintile, mother's education and residence

Note: Analysis based on data from MICS or DHS surveys conducted since 2005. In countries which have conducted multiple surveys during this period, data from the most recent survey are used. Wealth quintile data are based on 57 surveys; data on mother's education on 64 surveys; and data on residence on 65 surveys.

Source: UNICEF analysis based on MICS and DHS.

MALAWI

Mary James, 18, lives in Likangala, a rural community in Malawi. On 16 August 2017, her child was born – and died.

Mary's story, as told to UNICEF staff: *I felt like my heart was breaking. I had a name for the child but he never opened his eyes and he never cried, so we kept the name to ourselves.*

I told my sister that labour had started so we walked to the health centre. It is a long journey from here to the hospital and we went there on foot. When the child was delivered, he was so weak, he did not even cry. The staff did everything they could to save him. But in the evening, they told me the child is dying. I think it happened because there were not enough medical staff. When I see my friends' children, I hope that one day I will be able to have a child of my own.

An agenda for action

The hard-won progress in many low- and lower-middle-income countries offers valuable insights into what it will take to keep Every Child Alive.

Expanding access to health services is critical

Improving access to maternal and newborn health services is a necessary first step in bringing down rates of newborn mortality. For example, it is critical to have an adequate number of competent health-care workers, backed by facilities with the capacity to deal with the main causes of newborn mortality, easily accessed by communities. In most cases, the odds of survival increase dramatically when women give birth with the support of a skilled health attendant or in a health facility. In the Central African Republic, a country long beset by conflict, political instability and scarce resources, roughly half of all mothers do not deliver in a health facility. The country's newborn mortality rate remains high, having fallen only slightly from 49 in 2000 to 42 in 2016.

In contrast, Malawi, a low-income country, dramatically improved access to health services for mothers and newborns and achieved a commensurate improvement in newborn survival. In 2000, just over half of women giving birth in Malawi did so with the support of a doctor, nurse or midwife. With steady support from policymakers and partners and an emphasis on building strong community health systems, the country increased that figure to 90 per cent in 2016.[13] From 2000 to 2016, Malawi's newborn mortality rate also fell from 41 to 23, a 44 per cent drop.[14]

Access is not enough – quality is key

Access to health services is not enough, however. Equally important is the quality of care. Supporting early initiation of breastfeeding is one of the ways health-care workers can help protect the lives of newborns. In countries like Rwanda and Nepal, where rates of early initiation of breastfeeding have improved dramatically, newborn mortality has also fallen rapidly.[16] And yet, in some countries, women attended at birth by a doctor, nurse or midwife have lower rates of breastfeeding within the first hour after birth, when compared to deliveries where a skilled attendant is not present.

In the Middle East and North Africa region, for example, the rate of early initiation of breastfeeding for births attended by a skilled health worker is 45 per cent compared with 58 per cent for births not attended by a skilled health worker.[17] There are various reasons for this counter-intuitive finding: Often health-care workers do not have the time, knowledge or skills to overcome misconceptions about breastfeeding or to support mothers who struggle to nurse. Additionally, they may follow practices that make breastfeeding more challenging, such as routinely separating newborns from their mothers immediately after birth for reasons such as assessment or washing, or feeding the baby another food or liquid in place of breastmilk.

The importance of nutrition

Millions of women enter pregnancy malnourished. In addition to the risk this poses to the mother's health, nutritional deficiencies can jeopardize the growth and survival of her baby. In low- and middle-income countries, one in five babies is born too small for its gestational age or has a birthweight that is lower than recommended. This form of malnutrition is linked to more than 20 per cent of newborn deaths in these countries.[15]

After birth, breastmilk is a baby's first vaccine – the first and best protection against illness and disease. It is critical that health workers provide adequate nutritional counselling to mothers during pregnancy. Health workers can also provide the essential support that mothers need to begin breastfeeding immediately after delivery and continue exclusively for the first six months of their babies' lives.

In any case, the consequences are grave: Delaying breastfeeding by 2–23 hours after birth increases the risk that a newborn will die by more than two fifths. Delaying it by 24 hours or more increases the risk by almost 80 per cent.[18]

Quality is not just about *whether* resources and services exist, but how they are deployed. Are facilities clean, equipped with running water and electricity? Are health workers adequately trained, paid and supervised? Do they have access to ample supplies of life-saving drugs and equipment, provided in a timely manner? And are mothers – particularly adolescent mothers – treated with dignity and respect? Far too often, poor and marginalized communities contend with poor quality health services. This, in turn, undermines their confidence in the local health system and drives down demand for services.

Quality is also about health workers believing that the life of every mother and baby is worth saving, regardless of income, age, ethnicity, religion and social or cultural norms. It depends on communities and families sharing this belief and expecting that health-care providers will do everything possible to keep mothers and babies healthy.

Unless quality of care is prioritized, the mere presence of a health facility or health worker will often not be enough to make the difference between life and death. In Pakistan, for example, the percentage of mothers who give birth in a health facility increased from 21 per cent to 48 per cent between 2001 and 2013, and the proportion of women giving birth with a skilled attendant more than doubled, from 23 per cent to 55 per cent over the same period.[19] But despite these remarkable increases, largely the result of rapid urbanization and the proliferation of private sector providers not subject to satisfactory oversight, Pakistan's very high newborn mortality rate fell by less than one quarter, from 60 in 2000 to 46 in 2016.

The way forward

Giving every newborn a fair chance to survive and thrive requires strong cooperation among governments, businesses, health-care providers, communities and families. These actors need to come together to demand and provide affordable, quality health care for every mother and baby, starting with the most vulnerable. During pregnancy, birth and the first days and weeks of life, that care must include access to clean, functional health facilities staffed by skilled health workers with access to essential drugs and equipment. What is required are the **Places**, **People**, **Products** and **Power** to provide universal health coverage and hold policymakers and providers accountable for the quality of services.

1 Place: Clean, functional health facilities

Community-based health facilities can serve as the backbone of strong national health systems. To do so, however, they must be accessible and hospitable to all community members 24 hours a day, 7 days a week. They need uninterrupted clean water, sanitation facilities, and electricity. And they must be subject to routine supervision of cleanliness, staff performance and financial health.

Too often, health facilities and health-care workers are restricted by seemingly simple factors such as inadequate water and sanitation. One study found that 35 per cent of health facilities in 54 countries did not have water and soap for handwashing.[20] Without even the most basic standards of hygiene, mothers and babies are at risk of disease and infection. Simple upgrades like clean toilets and functional handwashing stations make families more willing to visit health facilities to access services, while also setting an important example for them to replicate at home.[21]

As countries work to keep Every Child Alive, guaranteeing access to clean, functional health facilities equipped with water, soap and electricity, within easy reach of every mother and baby, should be a top priority.

2 People: Well-trained health-care workers

A trained pair of hands can keep a newborn alive. Indeed, doctors, nurses and midwives provide an enormous range of services during pregnancy, birth and beyond. These include: antenatal care, micronutrient supplementation, delivery support, emergency obstetric care, postnatal care and treatment for small and sick newborns, support for early and exclusive breastfeeding, and vaccination.

A trained pair of hands can keep a newborn alive.

An analysis by the World Health Organization found that meeting the Sustainable Development Goal for health and well-being would require countries to have an estimated 44.5 doctors, nurses or midwives for every 10,000 people.[22] Yet in the 10 countries with the highest rates of newborn mortality, there are, on average, just 11 skilled health workers for every 10,000 people – far below the recommended minimum. In Somalia, there is only one doctor, nurse or midwife for every 10,000 people. In contrast, in the countries with the lowest rates of newborn mortality, there are, on average, 120 skilled health workers per 10,000 people, well above the recommended minimum. In Norway, there are 218 doctors, nurses or midwives for every 10,000 people. Brazil, a middle-income country, has 93.

In addition to having sufficient numbers of skilled health workers, those workers must be adequately trained, paid and supervised – as the breastfeeding example (*see page 19*) demonstrates.

3 Products: Life-saving drugs and equipment

To provide quality care, skilled health workers need drugs, products and equipment to address the most common causes of stillbirth and newborn death. Some of these supplies are sophisticated, but many are simple. A piece of cloth, for example, can be used to wrap a newborn onto his or her mother, keeping the baby warm and promoting breastfeeding. Without this simple product, a premature baby may not get the warmth and nutrition needed to grow stronger in the first days of life. As a result, baby and mother may be kept in a health facility for longer than necessary, increasing the risk of infection. Frequently, however, these simple supplies are out of stock when needed. Together, governments and businesses can help make the top 10 life-saving products, drugs and articles of equipment available for every mother and baby (*see Figure 6*).

Ambu-bags, used to manually resuscitate newborns who fail to breathe after birth

Antibiotics to treat mothers and newborns who have infections

Blankets and cloth to keep the baby warm and support skin-to-skin contact, including during breastfeeding

Chlorhexidine, a broad-spectrum antiseptic used to prevent infection of the umbilical cord, which can lead to sepsis

Continuous positive airway pressure (CPAP) machines for premature babies whose underdeveloped lungs make it difficult for them to breathe

Oxygen concentrator equipment, used to help very low-birthweight babies breathe

Phototherapy machines to reduce jaundice in newborns

Micronutrient supplements, especially iron and folic acid to prevent iron deficiency anaemia in pregnant women and reduce the risk of low-birthweight babies and complications at birth

Tetanus toxoid vaccine to prevent tetanus infection, which can result from unhygienic birth conditions

Thermometers, used to closely monitor the temperature of sick newborns

Figure 6
The 10 most critical products for newborn survival

4 Power: Dignity, respect and accountability

Empowering women and girls to make the best decisions for themselves and their families and treating them with dignity and respect during pregnancy, birth and beyond are critical components of quality care. Indeed, there is a strong link between newborn mortality and the empowerment of girls and women. In countries with the highest rates of newborn mortality, women often have low levels of education, political participation and economic empowerment, compared with men. Adolescent girls are particularly vulnerable: Their babies are more likely to be small and have a significantly higher risk of dying during the newborn period.[23]

A range of policies and interventions can help to empower adolescent girls, mothers and families to demand and receive quality care. These include sexual and reproductive health education, cash transfers to promote access to health and nutrition services, efforts to solicit feedback from girls and women about the health and nutrition services they receive and legally mandated policies for family leave after the birth of a child.

Keeping Every Child Alive

When we talk in the cold language of statistics – of rates, averages, percentages, indicators – it is easy to forget that we are talking about the lives and deaths of real babies – babies who deserve to survive, to grow up healthy and contribute to their societies. This report shines a light on the fact that millions of newborn babies are denied this opportunity, dying too soon from causes that are almost all preventable.

Action in the four areas outlined in this report – Place, People, Products, Power – must be an urgent priority for every government, driving forward progress towards a world with universal health coverage, where no newborn dies of a preventable cause.

KYRGYZSTAN

Dr. Baktygul watches Jiydegul hold her newborn son, Nurdan. After two days in the hospital, mother and son will be ready to go home.

Dr. Baktygul's story, as told to UNICEF staff: *We were ready for the birth because today in this hospital, the conditions are really good. We have been trained and are connected to water. We have new windows and electric heaters to heat the birthing room. We always need to be ready, regardless of the circumstances. We are responsible for two lives – the life of the mother and of the child.*

Endnotes

1 The newborn period is 28 days. In this report, 'a month' and the newborn period are used interchangeably.

2 United Nations Inter-agency Group for Child Mortality Estimation (UN IGME), Levels and Trends in Child Mortality: Report 2017, Estimates developed by the UN Inter-agency Group for Child Mortality Estimation, United Nations Children's Fund, New York, 2017.

3 In the body of this report, newborn mortality rate (NMR) figures are rounded to integer values for the sake of brevity and ease of reading. Unrounded figures are used in tables and for the purpose of determining positions in country rankings. This is due to the fact that for a number of low-mortality countries, rounded NMR values are equivalent (e.g. Japan, Iceland and Singapore all have a rounded NMR of 1), despite small differences in unrounded NMR values (Japan 0.9, Iceland 1.0, Singapore 1.1).

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7 World Health Organization and United Nations Children's Fund, *Reaching the Every Newborn National 2020 Milestones*, WHO 2017, p.5

8 Fragile states are those listed on the World Bank Group's annual 'Harmonized List of Fragile Situations'. Criteria for inclusion on the list are: a harmonized average country policy and institutional assessment (CPIA) rating of 3.2 or less, the presence of a United Nations and/or regional peacekeeping operation or the presence of a United Nations and/or regional peace-building and political mission. The full list with details can be found at <http://pubdocs.worldbank.org/en/189701503418416651/FY18FCSLIST-Final-July-2017.pdf>, accessed 6 September 2017.

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16 United Nations Children's Fund, *UNICEF Global Databases: Infant and Young Child Feeding: Early initiation of breastfeeding, Ever Breastfed*, Division of Data Research and Policy New York, January 2018.

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19 United Nations Children's Fund, *UNICEF Global Databases: Maternal Newborn and Child Health*, Division of Data Research and Policy New York, January 2018.

20 World Health Organization and United Nations Children's Fund, *Water, Sanitation and Hygiene in Health Care Facilities: Status in low- and middle-income countries and way forward*, WHO, Geneva, 2016, p. 7.

21 World Health Organization and United Nations Children's Fund, *WHO/UNICEF Report: Water, Sanitation and Hygiene in Health Care Facilities: status in low-and middle-income countries and way forward. 10 Key Findings*, WHO, http://www.who.int/water_sanitation_health/publications/wash-hcf-10things.pdf, accessed 24 January 2018.

22 World Health Organization, *Health Workforce Requirements for Universal Health Coverage and the Sustainable Development Goals*, Human Resources for Health Observer, no. 17, Geneva, 2016, p.21, available at <http://apps.who.int/iris/bitstream/10665/250330/1/9789241511407-eng.pdf?ua=1>, accessed 24 January 2018. The SDG index threshold of 4.45 physicians, nurses and midwives [per 1,000 population] "can support the development of global estimates, aggregate analyses and cross-country comparisons. It should not however be used as a benchmark for planning at national level, as it does not reflect the heterogeneity of countries in terms of baseline conditions, health system needs, optimal workforce composition, skills mix. It is important that use of the SDG index threshold does not result in an exclusive focus on physicians and nurses/midwives while underinvesting" in other health occupations critical to achieving the SDG and UHC goals. WHO recommends that "every country should consider its unique epidemiology, demography, finances and health system set-up, and the existing numbers, distribution, and skills mix of health workers, in the planning of the workforce it will need to meet the SDGs by 2030."

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Annex Newborn mortality rates and country ranking by income group

Low income

Country or territory	Rank of newborn mortality rate using median value (from high to low)	Newborn mortality rate (deaths per 1,000 live births)	Country or territory	Rank of newborn mortality rate using median value (from high to low)	Newborn mortality rate (deaths per 1,000 live births)
Central African Republic	1	42.3 [25.7, 68.6]	Burkina Faso	17	25.6 [18.7, 34.8]
Afghanistan	2	40.0 [31.6, 48.9]	Guinea	18	25.1 [19.0, 33.2]
Somalia	3	38.8 [19.0, 80.0]	Haiti	19	24.6 [17.2, 34.9]
Guinea-Bissau	4	38.2 [25.8, 55.2]	Burundi	20	24.2 [18.3, 31.9]
South Sudan	5	37.9 [20.5, 67.3]	Malawi	21	23.1 [17.6, 30.3]
Mali	6	35.7 [20.1, 60.7]	Zimbabwe	22	22.9 [17.3, 29.8]
Chad	7	35.1 [27.4, 44.3]	Liberia	23	22.8 [15.4, 33.6]
Sierra Leone	8	33.2 [24.2, 44.0]	United Republic of Tanzania	24	21.7 [17.2, 27.6]
Comoros	9	32.8 [13.8, 71.5]	Uganda	25	21.4 [17.2, 26.5]
Benin	10	31.4 [23.2, 43.5]	Nepal	26	21.1 [17.4, 25.6]
Democratic Republic of the Congo	11	28.8 [19.5, 41.5]	Senegal	27	20.6 [15.9, 26.7]
Ethiopia	12	27.6 [21.7, 35.2]	Madagascar	28	18.6 [12.3, 27.4]
Gambia	13	27.5 [13.8, 50.2]	Eritrea	29	17.7 [10.8, 29.2]
Mozambique	14	27.1 [19.6, 37.9]	Rwanda	30	16.5 [10.4, 26.4]
Togo	15	26.0 [19.6, 33.6]	Democratic People's Republic of Korea	31	10.7 [6.5, 15.9]
Niger	16	25.7 [17.5, 36.9]			

Note: Numbers in brackets present the lower and upper uncertainty bounds of 90 per cent uncertainty intervals of the newborn mortality rate.
Tables exclude countries with fewer than 1,000 live births in 2016 or less than 90,000 total population. The income classification follows the World Bank income classification, 2017. Details can be found at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>, accessed on 30 January 2018. The estimates generated by the United Nations Inter-agency Group for Child Mortality Estimation are made following annual consultations with Member States, and may differ from their official statistics because the IGME estimates are standardized, based on all sources of data from the country available in July 2017, and extrapolated forward to the year 2016.
Source: United Nations Inter-agency Group for Child Mortality Estimation, 2017.

Lower middle income

Country or territory	Rank of newborn mortality rate using median value (from high to low)	Newborn mortality rate (deaths per 1,000 live births)	Country or territory	Rank of newborn mortality rate using median value (from high to low)	Newborn mortality rate (deaths per 1,000 live births)
Pakistan	1	45.6 [33.9, 61.5]	Micronesia (Federated States of)	27	17.2 [6.7, 41.4]
Lesotho	2	38.5 [25.5, 55.6]	Cambodia	28	16.2 [9.9, 26.2]
Côte d'Ivoire	3	36.6 [26.3, 50.3]	Sao Tome and Principe	29	15.0 [9.4, 24.7]
Nigeria	4	34.1 [24.7, 46.3]	Guatemala	30	14.0 [11.2, 17.5]
Mauritania	5	33.7 [17.2, 64.4]	Uzbekistan	31	13.8 [10.1, 18.0]
Djibouti	6	32.8 [20.7, 50.0]	Indonesia	32	13.7 [10.7, 17.5]
Sudan	7	29.4 [23.0, 37.5]	Egypt	33	12.8 [9.8, 16.7]
Angola	8	29.3 [14.5, 54.1]	Philippines	34	12.6 [9.0, 17.6]
Lao People's Democratic Republic	9	28.7 [19.6, 40.8]	Republic of Moldova	35	11.9 [8.3, 17.6]
Ghana	10	26.9 [20.2, 35.8]	Vanuatu	36	11.8 [6.9, 19.4]
Yemen	11	26.8 [19.0, 37.5]	Kyrgyzstan	37	11.6 [9.9, 13.5]
India	12	25.4 [22.6, 28.4]	Viet Nam	38	11.5 [8.9, 14.6]
Myanmar	13	24.5 [18.0, 32.2]	State of Palestine	39	10.8 [7.5, 15.7]
Cameroon	14	23.9 [17.3, 32.6]	Jordan	40	10.6 [7.3, 15.2]
Papua New Guinea	15	23.5 [13.3, 42.0]	Honduras	41	10.4 [7.4, 14.5]
Zambia	16	22.9 [16.2, 31.5]	Solomon Islands	41	10.4 [7.5, 14.4]
Kenya	17	22.6 [17.8, 28.6]	Cabo Verde	43	10.2 [7.6, 13.8]
Kiribati	17	22.6 [12.3, 38.3]	Mongolia	44	9.7 [6.3, 14.5]
Timor-Leste	19	21.6 [13.4, 34.1]	Syrian Arab Republic	45	8.9 [6.5, 12.8]
Swaziland	20	21.4 [13.6, 33.2]	Nicaragua	46	8.8 [5.3, 14.5]
Congo	21	20.5 [14.3, 28.7]	Tunisia	47	8.1 [5.6, 11.7]
Bangladesh	22	20.1 [17.7, 22.5]	El Salvador	48	7.5 [5.0, 11.4]
Tajikistan	23	19.9 [11.3, 35.9]	Armenia	49	7.4 [5.2, 10.4]
Bolivia (Plurinational State of)	24	19.0 [13.0, 27.9]	Georgia	50	7.1 [6.2, 8.3]
Bhutan	25	18.1 [12.0, 26.7]	Ukraine	51	5.4 [3.5, 7.0]
Morocco	26	17.8 [12.7, 24.8]	Sri Lanka	52	5.3 [4.6, 6.2]

Note: Numbers in brackets present the lower and upper uncertainty bounds of 90 per cent uncertainty intervals of the newborn mortality rate. Tables exclude countries with fewer than 1,000 live births in 2016 or less than 90,000 total population. The income classification follows the World Bank income classification, 2017. Details can be found at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>, accessed on 30 January 2018. The estimates generated by the United Nations Inter-agency Group for Child Mortality Estimation are made following annual consultations with Member States, and may differ from their official statistics because the IGME estimates are standardized, based on all sources of data from the country available in July 2017, and extrapolated forward to the year 2016.

Source: United Nations Inter-agency Group for Child Mortality Estimation, 2017.

Upper middle income

Country or territory	Rank of newborn mortality rate using median value (from high to low)	Newborn mortality rate (deaths per 1,000 live births)	Country or territory	Rank of newborn mortality rate using median value (from high to low)	Newborn mortality rate (deaths per 1,000 live births)
Equatorial Guinea	1	32.0 [18.6, 51.4]	The former Yugoslav Republic of Macedonia	26	8.3 [6.1, 13.3]
Botswana	2	25.5 [11.3, 48.4]	Brazil	28	7.8 [5.4, 10.3]
Turkmenistan	3	22.3 [9.3, 49.9]	Mexico	28	7.8 [7.2, 8.4]
Gabon	4	21.8 [14.0, 33.2]	Peru	30	7.5 [5.7, 10.0]
Dominican Republic	5	20.8 [15.5, 27.9]	Thailand	31	7.3 [3.9, 12.6]
Guyana	6	20.0 [13.2, 30.5]	Libya	32	7.1 [4.7, 10.5]
Iraq	7	18.2 [13.2, 25.1]	Tonga	33	6.8 [3.7, 11.7]
Azerbaijan	8	18.1 [10.7, 31.0]	Turkey	34	6.5 [6.1, 7.0]
Namibia	9	17.8 [12.0, 26.5]	Albania	35	6.2 [3.0, 12.5]
Algeria	10	15.6 [13.5, 18.3]	Argentina	35	6.2 [5.8, 6.7]
South Africa	11	12.4 [9.9, 15.2]	Kazakhstan	37	5.9 [4.7, 7.3]
Ecuador	12	11.2 [6.6, 19.1]	Costa Rica	38	5.7 [3.5, 7.8]
Paraguay	13	11.1 [6.7, 18.4]	China	39	5.1 [4.3, 6.0]
Jamaica	14	10.9 [6.4, 18.3]	Maldives	40	4.8 [3.4, 6.4]
Suriname	15	10.6 [4.6, 23.5]	Bosnia and Herzegovina	41	4.7 [4.2, 5.2]
Belize	16	10.3 [9.0, 11.8]	Lebanon	41	4.7 [2.2, 8.8]
Saint Vincent and the Grenadines	16	10.3 [8.0, 13.0]	Malaysia	43	4.4 [3.9, 4.9]
Venezuela (Bolivarian Republic of)	16	10.3 [8.8, 11.9]	Romania	44	4.3 [3.8, 4.9]
Iran (Islamic Republic of)	19	9.6 [6.3, 14.4]	Bulgaria	45	3.8 [3.5, 4.2]
Panama	19	9.6 [5.2, 16.8]	Serbia	46	3.7 [3.3, 4.2]
Saint Lucia	21	9.2 [7.3, 11.7]	Russian Federation	47	3.4 [2.5, 4.5]
Samoa	21	9.2 [5.2, 14.6]	Croatia	48	2.9 [2.6, 3.3]
Fiji	23	8.8 [6.6, 11.7]	Cuba	49	2.4 [2.2, 2.6]
Colombia	24	8.5 [6.4, 11.1]	Montenegro	49	2.4 [2.0, 2.9]
Mauritius	25	8.4 [7.4, 9.5]	Belarus	51	1.5 [1.2, 1.8]
Grenada	26	8.3 [6.4, 10.5]			

Note: Numbers in brackets present the lower and upper uncertainty bounds of 90 per cent uncertainty intervals of the newborn mortality rate. Tables exclude countries with fewer than 1,000 live births in 2016 or less than 90,000 total population. The income classification follows the World Bank income classification, 2017. Details can be found at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>, accessed on 30 January 2018. The estimates generated by the United Nations Inter-agency Group for Child Mortality Estimation are made following annual consultations with Member States, and may differ from their official statistics because the IGME estimates are standardized, based on all sources of data from the country available in July 2017, and extrapolated forward to the year 2016.

Source: United Nations Inter-agency Group for Child Mortality Estimation, 2017.

High income

Country or territory	Rank of newborn mortality rate using median value (from high to low)	Newborn mortality rate (deaths per 1,000 live births)	Country or territory	Rank of newborn mortality rate using median value (from high to low)	Newborn mortality rate (deaths per 1,000 live births)
Trinidad and Tobago	1	12.6 [5.8, 29.4]	Netherlands	25	2.5 [2.3, 2.7]
Seychelles	2	9.0 [6.7, 11.9]	France	27	2.4 [2.1, 2.7]
Barbados	3	7.9 [5.9, 10.3]	Latvia	27	2.4 [2.0, 2.8]
Saudi Arabia	4	6.9 [3.4, 14.4]	Germany	29	2.3 [2.2, 2.5]
Bahamas	5	5.8 [4.3, 7.5]	Greece	29	2.3 [1.9, 2.8]
Chile	6	5.4 [4.9, 5.9]	Australia	31	2.2 [2.0, 2.4]
Oman	7	5.2 [3.4, 6.6]	Austria	31	2.2 [1.9, 2.4]
Uruguay	8	5.0 [4.6, 5.5]	Belgium	31	2.2 [1.9, 2.5]
Malta	9	4.6 [3.8, 5.5]	Ireland	31	2.2 [1.9, 2.7]
Brunei Darussalam	10	4.4 [3.7, 5.1]	Portugal	35	2.1 [1.5, 2.9]
Kuwait	10	4.4 [3.9, 5.1]	Israel	36	2.0 [1.7, 2.2]
Qatar	12	4.1 [3.4, 4.8]	Italy	36	2.0 [1.8, 2.3]
United Arab Emirates	13	4.0 [2.7, 5.7]	Spain	36	2.0 [1.7, 2.4]
Antigua and Barbuda	14	3.8 [2.5, 5.6]	Czechia	39	1.6 [1.4, 1.8]
United States	15	3.7 [3.4, 4.0]	Sweden	39	1.6 [1.4, 1.7]
Canada	16	3.2 [2.7, 3.9]	Luxembourg	41	1.5 [1.1, 2.0]
Denmark	16	3.2 [2.7, 3.8]	Norway	41	1.5 [1.3, 1.8]
Bahrain	18	3.1 [2.5, 3.7]	Republic of Korea	41	1.5 [1.4, 1.7]
New Zealand	19	3.0 [2.6, 3.6]	Cyprus	44	1.4 [1.1, 1.9]
Slovakia	19	3.0 [2.7, 3.3]	Estonia	45	1.3 [1.1, 1.6]
Switzerland	21	2.9 [2.7, 3.2]	Slovenia	45	1.3 [1.1, 1.6]
Hungary	22	2.8 [2.3, 3.4]	Finland	47	1.2 [0.9, 1.4]
Poland	22	2.8 [2.7, 3.0]	Singapore	48	1.1 [1.0, 1.3]
United Kingdom	24	2.6 [2.1, 3.1]	Iceland	49	1.0 [0.7, 1.4]
Lithuania	25	2.5 [2.1, 2.9]	Japan	50	0.9 [0.8, 1.0]

Note: Numbers in brackets present the lower and upper uncertainty bounds of 90 per cent uncertainty intervals of the newborn mortality rate.
Tables exclude countries with fewer than 1,000 live births in 2016 or less than 90,000 total population. The income classification follows the World Bank income classification, 2017. Details can be found at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>, accessed on 30 January 2018. The estimates generated by the United Nations Inter-agency Group for Child Mortality Estimation are made following annual consultations with Member States, and may differ from their official statistics because the IGME estimates are standardized, based on all sources of data from the country available in July 2017, and extrapolated forward to the year 2016.

Source: United Nations Inter-agency Group for Child Mortality Estimation, 2017.

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