

Calculating lives improved

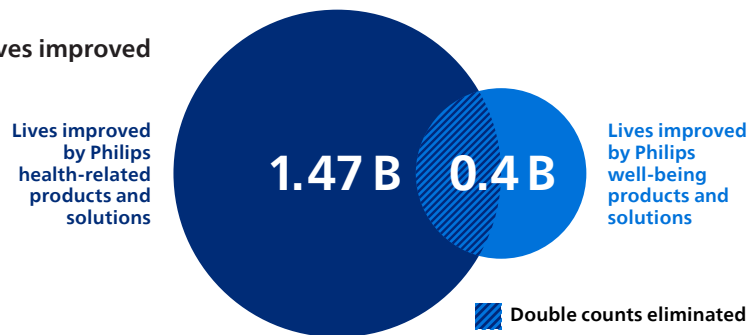
Our methodology

The lack of access to affordable, quality care is one of the most pressing issues of our time. Climate change is intensifying this situation and putting the lives of millions of people at risk. At Philips, we are conscious of our responsibilities towards society and the planet. It is our purpose to improve people’s health and well-being through meaningful innovation. As such, we aim to improve the lives of 2.5 billion people a year by 2030.

To ensure we remain on track to achieve this goal, we have developed an integrated approach, that tells us how many lives have been improved by our products and solutions in a given year. We call this our lives improved model.

The lives improved model helps us to track our performance on a country-to-country basis in line with the UN Sustainable Development Goal 3, allowing us to shape strategies to ensure healthy lives and promote well-being for all at all ages.

Philips Group
1.67 billion lives improved



We have additional commitments to improve the lives of 300 million people in underserved communities that lack access to care with our health-related products by 2025, and 400 million by 2030. This commitment allows us to increase our focus on those populations where we can make a positive impact by providing access to effective and affordable healthcare for those in need. Targeting communities where the need for providing access to healthcare is highest. By combining the strengths of Philips, Philips Foundation and its partners, we can provide better healthcare and improve health outcomes for all.

In the course of 2021, we have changed the definition of Lives Improved (effective from January 2021), to be aligned with our purpose. The new definition will only include products or solutions that contribute to people’s health and well-being. The lives improved from our discontinued Domestic Appliances business has been excluded from the from the metric. Historic values have been restated accordingly. Finally, we have included the contributions of the Philips Foundation, IGT-D, our CSR projects and multiple software products, such as TASY Electronic Medical Record (EMR) and Imaging Clinical Applications and Platforms (ICAP).

This document describes the methodology and metrics used to calculate the number of lives improved by Philips, as well as the different data sources used. The Lives Improved metric is part of the assurance assignment of EY. EY’s assurance report can be found here: [chapter 13.6 of the Annual Report 2021](#).

Methodology

To calculate how many lives we are improving, we apply a three-step approach:

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From solutions sold to lives improved, 2021

- 1 Determine installed base**
 We first determine the installed base of our health- and well-being solutions.
- 2 Determine the number of touchpoints**
 We determine the number of touchpoints per product per year
- 3 Eliminating all direct- and indirect double counts between products and solutions**
 To avoid double-counting, we eliminate all direct- and indirect double-counts between products and solutions

To determine how many solutions are active, we take multiple approach, depending on the type of product. For our larger medical systems, we know on a country-to-country basis which devices are active. We call this our active installed base. For our products- and smaller medical devices we determine if a product is active by tracking the moment of sale and combing that with the lifetime of the product. E.g., if we sell a product on the 1st of February 2022 and this product has an average lifetime of 5 years, we count the impact of this device up until 31st of January 2027. Finally, for our software solutions, we count the number of active licenses as input for our lives improved model.

The statistics are based on market intelligence and market-specific statistical data on the number of people touched by our solutions that contribute to the health- and wellbeing of its users each year.

In order to define our statistics, we quantify the number of market-specific touch-points in a given year per solution, underpinned by our Market Intelligence teams and product experts. Additionally, we apply a so-called adjustment factor to account for same patients returning in the same year. For example, Computed Tomography (CT) usage is first broken down into the following clinical segments: Oncology, Orthopedics, Vascular and Cardiac care. For each clinical segment, the number of touch-points per patient is determined to obtain a typical treatment in that segment. Furthermore, a distinction is made between 'inpatients' (hospitalized) and 'out-patients' (not hospitalized) to eliminate overlap between Diagnosis & Treatment and Monitoring & Analytics businesses (assuming that inpatients are always touched by Patient Monitoring equipment). As a result, for example, 1,000 procedures using our CT equipment touch only 462 individual lives, and the adjustment factor is 462/1000. This detailed calculation is performed for all modalities. For fetal monitoring, only the mother is included in the calculations, not the baby. To arrive at the total lives improved for the 'Care' category, the installed base is multiplied by the number of patients per day, the average occupancy rate (days/year), and the adjustment factor. For Patient Monitoring, the result is divided by the average length of stay (ALOS) to arrive at the total number of lives touched by our monitoring systems. An estimated return-rate is included to avoid any potential double-counts from returning patients. The results of these calculations are verified by marketing intelligence officers, product marketers and clinical scientists in the different businesses. Via this process direct double counts are eliminated, accounting for patient return rates (within a given year).

Finally, for our in-direct – uncorrelated – product overlap, we eliminate the calculated chance of overlap where certain uncorrelated Philips products- and solutions are used in unison. For this step we apply the Probability Theory and the De Morgan's Law. This allows the expression of conjunctions and disjunctions purely in terms of each other via negation. E.g., it allows us to eliminate the uncorrelated overlap of a user of a Philips Sonicare toothbrush user with that of a Philips Ultrasound device, based on the saturation rates and population size of a given country.

Through Philips products and solutions that support people's health and well-being, we improved the lives of 1.67 billion people in 2021 (2020: 1.53 billion). Our wellbeing solutions contributed 0.4 billion lives. Our health-related products to 1.47 billion lives. After the elimination of double counts – people touched multiple times – we arrived at 1.67 billion lives.

Health solutions

The starting point is the installed base of Philips equipment from the following clusters:

- Precision Diagnosis
- Image Guided Therapy
- Connected Care excl. S&RC
- Sleep & Respiratory Care
- Within Personal Health we count solely the contributions of Oral Healthcare and Mother & Childcare as wellbeing

Wellbeing solutions

- Within Personal Health we count the contributions of Beauty and Male Grooming as wellbeing

Metrics and data sources for our larger Medical Systems and Software businesses

The metrics and data sources we are tracking to complete the Lives Improved calculations are:

- Installed base – calculated based on data from financial systems and market share information. From our financial systems, only equipment that is known to be operational is included. This is equipment connected to our Remote Service Network, or for which there has been service activity in the past year.
- Adjustment factors – methodology explained above. To eliminate double counts within Diagnosis & Treatment businesses and between Diagnosis & Treatment businesses and Monitoring & Analytics, a model has been set up that calculates the number of individuals that are affected by several imaging procedures (see above), based on the professional judgment of healthcare specialists. It is assumed that only 'lives improved' of in-patients need to be corrected for double counts, as out-patients are assumed not to be treated by Monitoring & Analytics. To eliminate double counts, it is assumed that in-patients are always touched by Monitoring & Analytics equipment, whether at admission or during their stay. Philips' global market share is then used to eliminate the double counts. Lastly, an estimate is made per clinical area of how many scans or touch-points are part of a typical treatment in this area. This is then used to further eliminate double counts within a modality.
- In-patient (hospitalized) versus out-patient treatments – based on expert opinion and on data from i_Supply for Magnetic Resonance.
- For some parameters (e.g. distribution over clinical segments) the professional judgment of healthcare specialists is used.

- Patients per day – data from Espicom and Netforum is used.
- Occupancy rate – data from Worldwide Medical Market Factbook 2015 is used.
- Average length of stay - ALOS in a hospital plays a role in some parts of the Lives Improved model. The data used is based on Worldwide Medical Market Factbook 2015. A global weighted average is calculated based on Worldwide Medical Market Factbook 2015 data and number of hospital admissions per country.

Metrics and data sources for our Products and Medical Devices

The metrics and data sources we are tracking to complete the Lives Improved calculations are:

- Sales in quantities from financial systems (to provide more insightful information we changed the sales data from “country of sales” to “country of designation” resulting in changes in reported data per market)
- Public sources, where available, to determine, for example, population (e.g. CIA world fact book, IMF, OECD reports, The World Bank)
- Product lifetime and lives improved per product estimates from Philips Innovation & Development and marketing intelligence specialists
- Market share information from Philips’ marketing intelligence specialists
- Statistical elimination of cross-product category double counts based on Set Theory (refer to the Appendix)

Scope

Solutions that are out of scope for 2021 are:

- PH Software (Pregnancy app and Baby+ app)
- PD Software (ISite PAC, CI, EI HCIS, EI Intell, and Interop Solutions)
- CCI Software (TeleHealth)
- New acquisitions: Capsule - CDS, BioTelemetry - AMD and Cardiologs -AMD

We aim to start the onboarding of these businesses- and solutions in the course of 2022.

Products that are completely excluded are:

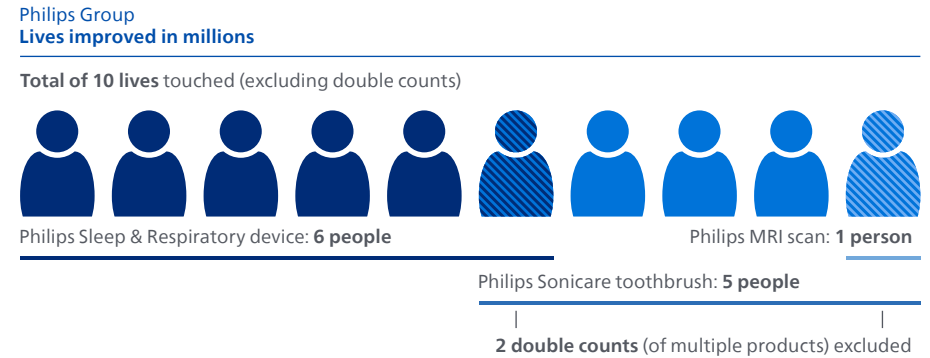
- HeartStart (AED) devices

Next steps

We used opinions from Philips experts and estimates for some parts of the Lives Improved calculations. There is therefore an inherent uncertainty in our calculations and are last revised in 2020. The figures reported are Philips’ best possible estimate. The Lives Improved model will be used in the Philips organization to manage our progress towards the target of 2.5 billion lives improved in 2030 and to gain understanding where we increase our efforts to improve access to care in all regions of the world. Therefore, we expect further refinements over the coming years. As we gain new insights, we may enhance the methodology in the future.

Appendix

In the next graphic representation we have assumed a market size of 18 people, of whom six have a Philips Sleep & Respiratory (SRC) device, five have a Philips Sonicare toothbrush, and one person has had an MRI scan in a Philips MRI machine. As the figure illustrates, there is a chance that not all lives touched by Philips products are unique lives; one person can have had an MRI scan in a Philips MRI machine and use a Philips Sonicare toothbrush.



Lives improved

$$= SRC \cup Sonicare \cup MRI = Total\ market - (SRC \cup Sonicare \cup MRI)^C$$

By assuming the product overlaps are statistically uncorrelated, i.e. using a Philips Sonicare does not significantly influence the likelihood of also using Philips well-being SRC, we can use the following: $(A \cup B)^C = A^C \cap B^C$ (De Morgan’s laws) and, $P(A \cap B) = P(A) * P(B)$ (Probability theory)

$$\begin{aligned} \text{This gives us: Lives improved} &= Total\ market * [1 - (P(SRC)^C) * P(Sonicare^C) * P(MRI^C)] = \\ &= Total\ market * [1 - ([1 - P(SRC)] * [1 - P(Sonicare)] * [1 - P(MRI)])] = 18 * [1 - ([1 - 6/18] * [1 - 5/18] * \\ &[1 - 1/18])] = 18 * [1 - (0.667 * 0,722 * 0,944)] = 18 * [1 - 0.455] = 9.8 \end{aligned}$$

Our methodology for defining medically underserved health communities

Philips believes that regardless of GDP, population density or existing infrastructure, improving access to healthcare requires meaningful innovation. It also requires an understanding of the complex relationship between all stakeholders and their specific needs to truly make a difference and help people to improve access to healthcare.

Philips has made strong commitments towards enabling healthy living and well-being for all. Amongst others towards the UN Every Woman Every Child movement, with the commitment to improve the lives of 300 million people, in underserved countries that suffer the highest maternal, neonatal and child, infectious diseases and NCD mortality rates, by 2025, and 400 million by 2030. This will allow us to increase our focus on those populations where we can make a positive impact by providing access to effective and affordable healthcare for those in need.

To increase our focus on those communities and countries where the need for providing access to healthcare is highest, we have developed a model to identify medically underserved health communities and countries. These communities and countries are determined by the **“Access to Care score”**, a scoring based on the computation of the sub-categories of the Universal Health Coverage Service Coverage index, developed by the World Health Organization (WHO)¹. Communities and countries that have relatively higher **maternal, newborn and child mortality**, higher **probability of dying from non-communicable diseases**, higher **incidence of infectious diseases** and lower **service capacity and access** than others, are defined as **medically underserved**. The underlying metrics, as detailed in table 1, are sub-targets of the Sustainable Development Goal 3 “Ensure healthy lives and promote well-being for all at all ages”, developed by United Nations².

Table 1: Composition of Royal Philips’ Access to Care score

Sub-category	Metric	SDG 3 sub-target
1. Maternal, newborn and child health	Maternal mortality ratio per 100'000 live births	3.1.2
	Neonatal mortality rate per 1'000 live births	3.2.2
	Under-five mortality rate per 1'000 live births	3.2.1
2. Non-communicable diseases (NCDs)	Probability of dying from cardiovascular, cancer, diabetes, chronic respiratory disease between age 30 and exact age 70	3.4.1
3. Infectious diseases	Tuberculosis incidence per 100 000 population	3.3.2
	Malaria incidence per 1000 population at risk	3.3.3
	New HIV infections per 1000 uninfected population	
4. Service capacity and access	Physician density (per 10,000 population)	3.C.1
	Nurse density (per 10,000 population)	3.C.2

The metrics are normalized to a percentiles scale. The average of the metrics within a specific category results in a score between 1-100 for that sub-category. Each country gets an Access to Care score by taking the average score of the 4 sub-categories. A lower score indicates low access to care. A high score indicates good access to health services. At least half the world’s population lacks access to the health services they need and therefore communities and countries scoring 55 and lower are defined as medically underserved³. The WHO 2019 Report (2015 and 2017 data) is our reference for data on these metrics. Countries for which no data is provided by the WHO are excluded until new insights are available. The methodology will be updated with newer data in 2025 to assess the impact of changes in the data.

At Philips we are aware that access to healthcare is an extremely complex issue that requires a multi-lateral approach among those who have the means, stature, mission and personal drive to move the needle. This idea, together with the methodology to define medically underserved markets will drive our effort of improving people lives: setting ourselves underserved markets specific targets will let us make a meaningful impact in delivering an effective care where is needed the most.

By bringing together the qualities of Philips, the Philips Foundation together with its partners, we know we can provide better healthcare and improve health outcomes for all.

Sources:

1. World Health Organization. (2019). Primary health care on the road to universal health coverage: 2019 monitoring report. World Health Organization.
2. United Nations, [Sustainable Development Goals Knowledge Platform](#)
3. World Health Organization. (2017). Tracking universal health coverage: 2017 global monitoring report.

