Economic Assessment of Philips Nasal Alar SpO_2 Sensors Compared to Reusable and Disposable Alternatives in Germany

Goran Medic

Chief Medical Office, Philips Healthcare, Netherlands

Ksenia Putintseva

Philips, Boston, USA

Steve Groen

Philips, Boston, USA

Gisela Quadflieg

Philips, Berlin, Germany

Erik Alferink

Philips, Eindhoven, Netherlands

Abstract:

Introduction: Traditional SpO_2 sensors, particularly finger sensors, are costly and generate significant medical waste when disposable ones are used. This study evaluates whether the innovative Philips Nasal Alar SpO_2 Sensor can reduce both costs and environmental impact in Germany.

Methods: An economic model was developed to compare costs, operational efficiency and medical waste between the Philips Nasal Alar SpO_2 Sensor and traditional reusable and disposable sensors in an average German hospital. The model assumes that one-quarter of patients use disposable sensors, while three-quarters are monitored with reusable sensors.

Results: The economic model demonstrated that using the Philips Nasal Alar SpO_2 Sensor in an average (255 beds) hospital in Germany could reduce overall SpO_2 monitoring costs by 36% (€314,88 per year), due to its reusability for/on one patient and extended lifespan. The savings in the model are primarily driven by the costs associated with disposable materials and the cleaning expenses for reusable sensors.

The average cost of SpO_2 consumables with Philips Nasal Alar SpO_2 Sensor remains below €1.93 per patient per day. This is substantially more affordable than other reusable and disposable sensor alternatives, costing €5.32 per patient per day.

Using Philips Nasal Alar single patient use SpO_2 sensors will generate significantly less medical waste compared to other reusable and disposable sensors in an average hospital, with an annual waste reduction from 567kg to 2.241kg. The lightweight design of the Philips Nasal Alar SpO_2 sensor supports more environmentally conscious healthcare practices.

The Philips Nasal Alar SpO_2 Sensor may enhance workflow efficiency in clinical settings by reducing consumption of sensors. Its user-friendly design and reliable performance reduce the time and effort required for sensor repositioning, allowing healthcare providers to focus more on patient care. This improvement streamlines hospital operations and optimizes overall healthcare facility functionality.