**A Decade of Achievements: International Society of Paediatric Oncology**

**Baseline Nursing Standards**

**Submission to PBC**

**Authors – all authors have no conflict of interest**

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Figure – Timeline of Achievements

Table – Exemplars

Supplement Information

File 1- Baseline Nursing Standards,

File 2 - Five-year strategic plan

--A short running title–

Achievements of SIOP Baseline Nursing Standards

--Three to six keywords to index the content.

nursing, pediatric oncology, nursing standards, childhood cancer

Abbreviation key

|  |  |
| --- | --- |
| SIOP | International Society of Paediatric Oncology |
| LMIC | Low- and Middle-Income Countries |
| SIG | SIOP Baseline Nursing Standards Special Interest Group |
| IHHN | Indus Hospital and Health Network |

**Abstract:**

Ten years after the six International Society of Paediatric Oncology (SIOP) Baseline Standards for Nursing Care in Low- and Middle-Income Countries (LMIC) were published (2014), multiple LMIC nurses have used the standards for practice assessment and change. The WHO Global Initiative for Childhood Cancer has galvanized LMIC member states to prioritize childhood cancer and save one million lives by 2030. The CureALL framework highlights critical nursing practice actions aligned with the nursing standards to meet this goal. SIOP Nursing Network’s Baseline Standards special interest group has a 5-year strategic plan for advocacy, research, and standards implementation through global multidisciplinary collaboration.

**Introduction**

The International Society of Paediatric Oncology (SIOP) Baseline Nursing Standards, first published in 2014, outline key elements to promote the delivery of quality pediatric oncology nursing care and create safe practice environments.1 The six standards address nurse/patient staffing ratios and staff non-rotation (Standard 1), formalized paediatric oncology orientation programme for new nurses (Standard 2), nurse continuing education (Standard 3), nurses acknowledged as core members of multidisciplinary teams (Standard 4), resources provided for safe care (e.g., personal protective equipment) (Standard 5), and evidence-based policies and procedures to support the delivery of quality nursing care (Standard 6).1 The standards were developed to guide nursing care in low- and middle-income countries (LMIC), where pediatric cancer care is often delivered in the setting of limited resources and insufficient or absent opportunities for specialized education. See Supplement Information File 1

The WHO Global Initiative for Childhood Cancer CureALL framework states, “[Nursing]Workforce planning should be preceded by a needs assessment to guide the development of competency-based training programmes and alignment with graduate and nursing school curricula.”2 The framework also calls for pediatric oncology nursing capacity building [orientation/onboarding], sufficient staffing levels, non-rotation to other units, protected time for continuing education opportunities and involvement in multidisciplinary teams.2 Support for key Baseline Nursing Standards from the WHO CureALL framework will ensure that Ministries of Health are informed and can take action to provide the regulatory changes, educational and resource support necessary for all pediatric oncology treatment centers to achieve these standards, improve nursing care, and address existing profound inequities in global patient outcomes as documented by Erdmann et al.3

This paper provides an overview of a decade of achievements related to the SIOP Baseline Nursing Standards with a focus on supporting evidence, assessment/analysis, creating awareness and implementation. (see Table)

**Baseline Nursing Standards Special Interest Group**

Following the publication of two articles describing the development of the Standards, the Baseline Nursing Standards Taskforce (renamed the SIOP Baseline Nursing Standards Special Interest Group [SIG] in 2024) was launched to continue the work of advocating for and disseminating the standards globally. 1,4 The taskforce sought endorsements from non-governmental organizations, international nursing societies/associations and other key stakeholders including Childhood Cancer International, European Oncology Nurses Society, SIOP, St Jude Children’s Research Hospital and World Child Cancer. Translation of the standards into multiple languages and advocacy for utilization and dissemination across the SIOP membership and among other key stakeholders was instrumental in widespread implementation.

In October 2017, a Baseline Nursing Standards leadership/advocacy workshop was held prior to the SIOP Congress in Washington D.C. to develop strategies and set priorities disseminating the standards internationally.5 Over 20 pediatric oncology nurses, pediatric oncologists, and a parent advocate representing 14 countries attended. An ‘Advocacy Toolkit’ was developed and is currently available on the SIOP Nursing Network web page.6 Awareness campaign materials include podcasts, videos, posters, and links to social media including Facebook, X and WhatsApp. Promotion of the baseline nursing standards has occurred through endorsement campaigns, publications and presentations.5

**Situational Analysis of Existing Global Nursing Practice**

In 2019, two studies documented the situational analysis of global nursing practice in pediatric oncology units. The first was a survey of 101 hospitals in 54 high-, middle-, and low-income countries.7 This survey study identified a strong correlation between country income level and the ability to meet the standards. For example, nurses responding from LMIC had a higher patient workload and were more likely to be responsible for chemotherapy preparation yet less likely to have access to personal protective equipment (PPE) than nurses from HIC. Nurses in LMIC were also less likely to be included in treatment discussions with patients and families. Across all income levels, key educational topics were missing from orientation and continuing educational programs.7

A secondary analysis of the initial survey results by Sullivan et al. (2020) identified characteristics that were predictors for hospitals’ ability to meet the nursing standards, such as country current health expenditure, the density of nurses/midwives per 1000 population, and the presence of a Bone Marrow Transplant Unit at the hospital.8 These indicators can help identify centers where capacity building is needed to support the delivery of high-quality nursing care. Criteria for having *met, partially met*, and *not met* each standard were defined. Nearly half of all hospitals reported *not meeting* the staffing (Standard 1) and continuing education standards (Standard 3), and over half fully *met* a multidisciplinary team (Standard 4) and evidence-based policies and procedures standards (Standard 6).8

**Standards Achievements by LMIC Nurses and Physician Advocates**

To date, members of the Baseline Nursing Standards SIG have published 7 articles in medical and nursing journals.1,4,5,7,8,9,10 The standards are regularly presented at international, national, regional, and local LMIC pediatric oncology forums, contributing to their global dissemination. Presentations at SIOP Congresses include an awards session and multiple nursing sessions and presentations by LMIC nurses and colleagues. At the SIOP 2018 Kyoto, Japan, Congress, the abstract titled Predictors of Hospitals’ Nonachievement of the Baseline Nursing Standards in Pediatric Oncology received the best abstract award and LMIC nurses shared their initial work in integrating all 6 standards in a single unit in Karachi, Pakistan.10,11,12,13 Additional abstracts included promoting collaboration and professional practice changes for pediatric oncology nurses across Vietnam14 and the development of a competency-based orientation program for pediatric oncology nurses in Cameroon (Standard 2).15 At SIOP 2019 in Lyon, France, the Baseline Nursing Standards were the topic of a featured keynote session, providing an opportunity to share the development and scientific evidence base of each standard, as well as the need for further dissemination and physician support for LMICs through adoption of the standards.

The Standards are now integrated into the annual SIOP Congress Nursing Program. A separate abstract category with a top nursing abstract award has been created. Special sessions have been incorporated such as a symposium and round table discussion forum at the SIOP 2022 Barcelona Congress. The SIOP Nursing Network launched the SIOP Nursing Quality Improvement (QI) Scholars Program with 2 of the 4 QI projects dedicated to implementing the baseline standards. The 2 mentored standards projects by nurses from India (Standard 2) and Ghana (Standard 6), were presented at the SIOP Congress in 2023 in Ottawa, Canada.16 Additional nursing presentations and posters on the baseline standards, from Pakistan (all six Standards), Sierra Leone (Standard 2), Cameroon (Standard 2) and Brazil (one project all standards used for assessment and one project for instrument development including the standards) were also shared at the Congress.17,18,19,20,21

**Implementation of the Standards**

***Repository of SIOP Baseline Nursing Standards Initiatives***

A repository of exemplars documents the Baseline Standards initiatives at 49 sites in 29 countries (See Figure). These initiatives were led by SIG members and include regional (multisite), national (health policy), hospital, and unit-level activities with the standards. Most sites (n=11; 69%) included in the repository focused on less than 5 standards, while 5 countries (31%) engaged in all 6 standards. Sample activities include situational assessments at 17 hospitals across Africa, Eurasia and South America.

Advocacy and health policy initiatives include mandated nurse staffing ratios in a Peru Ministry of Health Directive for “The organization of the processes pediatric oncohematology specialized care”,22 a pediatric oncology nursing induction program at 3 centers in Cameroon 23 and a tiered pediatric oncology nursing orientation program at 25 Latin American hospitals.24 Additional work features chemotherapy safety projects in the Philippines and Vietnam, a new policy for non-rotation of specialized nurse staff in Vietnam and implementation of all 6 standards at Indus Hospital in Pakistan10.

***Pakistan Case Study***

In 2009, in Karachi, Pakistan, the Indus Hospital and Health Network (IHHN) Department of Pediatric Oncology developed a capacity-building program for 5 partner institutions (satellites) across Pakistan. Supported by a Sanofi Espoir Foundation My Child Matters Grant, the goal was to provide quality pediatric oncology care through education and training for all healthcare providers10. A significant challenge was a shortage of nurses; Pakistan is one of the few countries with fewer nurses (0.5 per 1,000 people)25 than physicians (1.1 per 1,000 people).26 Thus, nurses are often forced to prioritize and even limit patient care.

In 2016, approximately 35 registered nurses from the 5 satellite sites implemented a nursing strategic plan for capacity building with baseline onsite satellite assessments of the SIOP Baseline Standards and a plan to meet each standard. Bi-annual satellite site assessments were completed by the IHHN primary clinical nurse instructor and nursing education manager to determine progress.

By improving the knowledge and skills of Pakistani nurses caring for children with cancer we increase the chance for cure, and for others a reasonable end-of-life experience. The satellite assessments provided objective and credible findings and an organizational framework for implementing change. This focused approach is critical in LMIC, since patient needs can be overwhelming, and nurses discouraged from showing initiative or claiming professional status. After more than a year of advocacy, negotiations with hospital authorities and galvanizing nursing leadership support, IHHN met all 6 standards.

Once all 6 Baseline Nursing Standards were met, the oncology nurses from the paediatric department stated they felt empowered by the specialized training they had received and the option to not rotate to other units. Remaining in the pediatric oncology unit created a sense of ownership of their specialized pediatric oncology practice in the nurses. The enforcement of the standards’ nurse/patient ratio made the nurses feel “heard” since they now had the time to deliver more comprehensive nursing care, e.g., family teaching, patient counseling. In summary, the achievement of the 6 standards was a positive experience for all the nurses on the unit.

**Discussion and Future Directions**

The culmination of 10 years of baseline nursing standards research and implementation activities has established early descriptive evidence of international pediatric oncology nursing practice settings. Although the standards were initially developed to advocate for care in LMICs, the 2019 survey by Morrissey et al. demonstrated a need in both LMIC and HICs7. Global endorsements by multiple pediatric oncology stakeholder groups and the inclusion of a baseline standard in national cancer control planning, (i.e., Peru Ministry of Health directive for pediatric onco-hematology for nurse-to-patient ratios)27,28 is a testament to the political will in support of the standards. The repository content of implementation initiatives demonstrates how the standards have impacted practice changes across multiple LMICs. A decade of achievements has led to an ongoing awareness of the SIOP Baseline Nursing Standards within the pediatric oncology global community. An interest in utilizing the standards as a framework for assessing nursing practice as well implementation to improve nursing practice has been observed in multiple LMICs, e.g. Peru29. The SIOP Baseline Nursing Standards SIG continues to be responsible for the ongoing work to promote and implement the standards. Advocacy, research, and implementation are the 3 main pillars of focus. Our vision and mission align with the SIOP Nursing Network strategic plan and the WHO Global Initiative for Childhood Cancer. Our current efforts include updating and expanding the standards based on the latest scientific evidence of nursing practice and supporting LMIC hospitals to achieve the standards through nursing educational and mentorship opportunities. Promoting advocacy, research, and implementation of the standards through global multidisciplinary collaboration will be key to the successful execution of our 2023-2028 strategic plan. (See Supplement Information File 2). In addition to the SIG’s strategic goals, the SIG will promote global dissemination of the standards as part of the overarching SIOP Nursing Network 2023-2027 Strategic Plan.

Nurses comprise the largest single group of health care professionals globally and are essential to providing quality care needed to improve patient outcomes. Many hospitals have accreditation standards to monitor delivery of quality care which are not specific to nursing. The baseline standards were initially created to provide universal practice standards for nursing and outline the minimal support required for nurses to provide safe and quality care to pediatric oncology patients. The standards provide an objective and credible approach to evaluating pediatric oncology nursing education and practice and an organized framework for implementing change. A broad set of standards cannot account for a country’s unique characteristics; however, there is evidence that many quality concerns are universal. A study conducted by Aiken, Clarke, Sloane, and the International Hospital Outcomes Research Consortium noted that authorities in many countries tend to believe that gaps in quality of nursing care are a result of unique circumstances. Yet, data from their study suggested that contrary to popular opinion, many problems encountered in hospital settings know no country boundaries.30

The WHO Global Initiative for Childhood Cancer aims for a 60% 5-year global survival by 2030.2 The implementation of quality care, of which nurses are the primary providers, is essential for meeting this aim. However, nurse leaders, physicians, hospital authorities and Ministry of Health personnel’s support and advocacy of the Baseline Nursing Standards is critical for success. Nurses in HIC working in settings that have not yet achieved all six standards and those in LMIC striving to achieve even one or more, cannot make long-lasting change in nursing practice alone. They require nursing systematic, and in some cases regulatory changes to limit patient assignments and achieve the nurse/patient ratio based on acuity (Standard 1), assure patient safety through specialized training for new nurses (Standard 2) and continuing education (Standard 3), nurses’ continual participation in multidisciplinary teams (Standard 4), appropriate nursing resources (Standard 5) and evidence-based nursing policies and procedures for use with local realities and resources (Standard 6). Erdmann et al. (2019) state, “The large survival inequities observed globally between countries by socioeconomic development are likely predominantly related to limited access to (or utilization of) health care services including contemporary therapy in poor resource settings.”3 Poor resource settings exist in countries of all income levels. The SIOP Nursing Baseline Standards represent a research-based interdisciplinary approach to providing quality nursing care in every unit that offers childhood cancer treatment. Without achievement of these standards, the WHO Global Initiative for Childhood Cancer’s aim will be difficult, if not impossible to meet, while children/adolescents in poor resource settings everywhere will continue to suffer.

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Figure - Timeline of Achievements

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Table - Exemplars of SIOP Baseline Nursing Standards Initiatives 2014-2024

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Location**  **(Number of Sites\*)** | **Standard**  **1**  **Staffing** | **Standard**  **2 Orientation** | **Standard**  **3**  **Continuing Education** | **Standard**  **4**  **Multi-disciplinary Team** | **Standard**  **5**  **Resources** | **Standard**  **6**  **Policies** |
| **Regional/Multisite** | | | | | | |
| Eurasia (N=10) |  |  |  |  |  |  |
| Latin America (N=25) |  |  |  |  |  |  |
| **National/Policy** | | | | | | |
| Ghana |  |  |  |  |  |  |
| Philippines |  |  |  |  |  |  |
| Peru |  |  |  |  |  |  |
| Vietnam 1 |  |  |  |  |  |  |
| Vietnam 2 |  |  |  |  |  |  |
| **Hospital/Unit** | | | | | | |
| Cameroon (N=3) |  |  |  |  |  |  |
| Ghana (N=2) |  |  |  |  |  |  |
| Pakistan |  |  |  |  |  |  |
| Peru |  |  |  |  |  |  |
| Tanzania |  |  |  |  |  |  |
| Vietnam 1 |  |  |  |  |  |  |
| Vietnam 2 |  |  |  |  |  |  |
| Zambia |  |  |  |  |  |  |
| Zimbabwe |  |  |  |  |  |  |

*\* 1 unless otherwise specified*

*Note. N=49 sites in 29 countries*