

# THE DEVELOPMENT OF PAEDIATRIC ONCOLOGY IN THE PHILIPPINES



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**The establishment of the clinical fellowship training programme in paediatric haematology-oncology provided the impetus for the development of the subspecialty in the Philippines. Patient care services for childhood cancer were organized around the competency needs required for trainees. The accreditation and certification process was provided by the professional subspecialty society later organized by the local graduates. They provided the manpower needs for experts in underserved areas, and the leadership to push for further improvements in diagnosis and treatment.**

Prior to the 1990s, the care of children with cancer in the Philippines was provided by medical oncologists and haematologists mainly trained to treat adult patients. Childhood cancer can only be diagnosed accurately and treated effectively in three major cities where the specialists and facilities are available. Two thirds of patients come at the late stages of their disease when a cure is no longer possible or can be done only with aggressive and costly treatment. For the remaining one third who present at the early stages, many will forego treatment or will be treated but with high rates of treatment abandonment due to economic reasons. Thus, survival rates are very poor.

Paediatricians who want exposure and experience in cancer chemotherapy and management enter a two-year adult medical oncology training programme which started in 1986 at the University of the Philippines–Philippine General Hospital (UP–PGH). The development in the Philippines of Paediatric Oncology as a distinct subspecialty in paediatrics accelerated in the early 1990s with the return to the country of three paediatricians who trained in paediatric haematology-oncology in advanced centres abroad (i.e. US National Cancer Institute, the Children's Hospital of Los Angeles, and The Children's Hospital in Sydney, Australia). These three paediatric oncologists, together with two pioneering senior paediatricians who trained in the USA in the 1970s, provided clinical services to patients organized around a post-residency training programme. A three-year clinical fellowship programme in paediatric haematology-oncology started at the UP–PGH in 1991, followed by the Philippine Children's Medical Center (PCMC) in 1992. Since then, both training hospitals have produced 35 graduates to date, and many of them are now practising in the provinces outside Metro Manila.

The Philippine Society of Pediatric Oncology (PSPO) was organized in 2000 with eight pioneering paediatric haematologists-oncologists. It manages and implements the accreditation of training programmes in hospitals, and the certification process to become Diplomates of PSPO, which includes the written and oral examinations given through the Philippine Board of Pediatric Oncology. Now a 32-member strong professional organization, PSPO obtained its official accreditation as an affiliate subspecialty society of the Philippine Pediatric Society (PPS) in 2004.

Entry requirements for the paediatric haematology-oncology clinical fellowship are completion of a three-year paediatrics residency and passing the written examination for Diplomate of PPS. The programme provides an educational environment for fellows to acquire basic knowledge and understanding of the pathophysiology of childhood haematologic and oncologic disorders, as well as competence in the clinical diagnosis and management of these diseases. Central to the fellows' training is continuity of care, which enables them to understand the natural history and psychosocial aspects of these disorders. Not only are the fellows expected to master the management of complications of the disease and its treatment, but also to develop the basic skills and aptitude in clinical research that will enable the trainee to make significant contributions to the field. A completed research project is a requirement for graduation. The core training activities are the following:

- clinical rotations in the inpatient and outpatient services;
- didactic sessions with preceptors;
- morphology and histology reading sessions;
- case management conferences;
- Tumour Board discussions;

- multidisciplinary rounds;
- blood transfusion committee meetings.

Thus, the training programme became the nidus in which the basic structures were organized for treating patients comprehensively and holistically, i.e. 1) the provision for inpatient wards and outpatient clinics; 2) pathology and laboratory services; 3) imaging procedures and radiotherapy services; 4) paediatric surgery; 5) pain and palliative care; 6) multidisciplinary teams that included paediatric oncology nurses, social workers, oncology pharmacists and clinical nutritionists, and; 7) infection control and management.

The implementation of a demonstration project at PCMC in 2006, as part of the Sanofi-Aventis and UICC My Child Matters (MCM) programme in partnership with the International Network for Cancer Treatment and Research (INCTR), was another milestone for further development. The goal was to create public awareness about the curability of childhood cancer, particularly childhood leukaemia, and implement community mobilization campaigns. It focused public attention to address delays in diagnosis and high treatment abandonment rates that were mainly responsible for poor survival rates of childhood cancer in the Philippines postulated to be at 10%<sup>1</sup>. The ultimate objective was to improve survival rates of leukaemia, the most common type of childhood cancer in the Philippines accounting for at least 60% of cases<sup>2</sup>, to at least 50% in five years. The strategy was to:

- train frontline physicians in early cancer detection;
- develop capabilities for satellite treatment units outside of the National Capital Region (NCR);
- address the affordability issues of chemotherapy mainly responsible for high treatment abandonment rates.

The graduates of the training programmes of both UP-PGH and PCMC, particularly those who returned to the provinces, were crucial in the organization of a national referral network of initially 13 participating hospitals spread out in five regional catchment areas. Based on two regional population-based studies conducted by the Department of Health and the Philippine Cancer Society, respectively, with a current estimated annual incidence of paediatric cancer (age <15 years) of 115 cases per million<sup>1,3</sup> in a country with 31 million children (age <15 years) spread out to 7,107 islands, the network resulted in improved access to care; geographic considerations being a major obstacle for prompt diagnosis and treatment where specialists and facilities are mainly concentrated in Metro Manila.

Within five years of the MCM programme, national public awareness campaigns brought down the number of late

diagnoses to 30–40% from baseline of 70%<sup>2</sup>. The current referral and treatment network of 39 paediatric oncologists made subspecialty care nationally available particularly to poorer patients outside of Metro Manila, reaching an annual average of 2,553 patient beneficiaries to date from a baseline of only about 1000<sup>1,2</sup>. The treatment abandonment rate was brought down to 10% from a baseline of 80%, and the currently available two-year survival rate for childhood leukaemia based on hospital-based data from participating hospitals improved to 68% from a baseline of only 16%<sup>2</sup>. To further expand services to as many places of the country without paediatric oncologists, PCMC has now increased the number of clinical fellows entering the first year in the training programme to four from an initial two, which together with one from the UP-PGH are expected to provide in the next ten years for an adequate number necessary for the manpower needs of the country for paediatric oncologists who will practice in underserved areas outside the NCR.

A more recent developmental milestone is the active involvement of government. In 2008, the Department of Health (DOH) designated PCMC as the national end-referral cancer centre for children, later providing funds for the construction of a cancer centre facility, which started early in 2012. In 2011, the DOH's National Center for Pharmaceutical Access and Management (NCPAM) partnered with PCMC and MCM in the implementation of its Acute Lymphocytic Leukemia Medicines Assistance Program (ALLMAP), which provided free chemotherapy drugs to indigent patients, funds for the establishment of a data registry, and for the training of health care professionals directly involved in childhood cancer management. In June 2012, the participating hospitals in the MCM referral network expanded to 24 government and privately-owned hospitals from the original 13, which are all recipients of the NCPAM's ALLMAP and selected on the basis of the presence of paediatric haematologists-oncologists in those hospitals.

Likewise in July 2012, Philhealth, the national social insurance system, launched the Z-package intended for catastrophic illnesses, which included childhood acute lymphocytic leukaemia (ALL). PCMC assisted Philhealth in the crafting of the benefit package and the implementing guidelines. Requirements for insurance reimbursements are:

- use of any of PSPO-determined standard treatment protocols;
- presence of basic structures in collaborating hospitals for accurate diagnosis, and safe administration of chemotherapy;
- effective management of treatment side effects.

In both the NCPAM's ALLMAP and the Philhealth's Z-package, PCMC was contracted to establish and implement training programmes for capacity-building of collaborating hospitals for accurate diagnosis and effective treatment of childhood cancer. Aside from addressing the financing problems of patients to sustain treatment, current developments provide opportunities to further address gaps and weaknesses remaining in improving standards of care in as many hospitals as possible by upgrading competence of professionals in the following areas: paediatric oncology nursing, histological diagnosis, clinical pharmacy for safer drug handling and preparation, and paediatric surgery.

At PCMC, chemotherapy provider training courses for nurses started in 2006 and have trained a total of 106 nurses so far<sup>2</sup>. This became the impetus for PCMC to later develop a two-year nurse residency in general paediatrics and a one-year nurse clinical specialization in paediatric oncology nursing, which will be implemented next year in anticipation of the approval this year of the training programme by the Philippine Professional Regulatory Commission's Board of Nursing. Graduates will be certified by PCMC as nurse specialists. Likewise, PCMC amended the training curriculum of its professional subspecialty society-accredited residency training programmes in paediatric pathology, paediatric surgery and paediatric radiology to include and integrate the basic concepts in paediatric oncology for their graduates to be an effective member of the multidisciplinary cancer treatment team.

In the second half of 2012, PCMC and MCM started training and accreditation of nurses as certified chemotherapy providers in all collaborating hospitals in the NCPAM's ALLMAP and Philhealth's Z-package, back-to-back with training on the storage, safe handling and preparation, and disposal of chemotherapy drugs for clinical pharmacists. These were identified as the immediate training needs, while PCMC is conducting an assessment of baseline capabilities in those hospitals in pathology, tumour surgery, imaging studies and radiotherapy to become the planning basis for the next training steps. On-going are discussions on determination of baseline infrastructure and equipment, which could be the basis for proposal to DOH of hospital facility upgrade, particularly government hospitals where majority of poorer patients go for consultations and treatment.

The clinical fellowship in paediatric haematology-oncology in

the Philippines for the last 20 years basically followed the training methodologies and basic structure of a mainly US model. This was effective in organizing patient care services around the requirements necessary to develop competence of trainees. When the critical number of locally-trained paediatric oncologists was attained, the organization of a professional society provided assurance of competence through the certification process. The development of paediatric oncology nursing is practically following the same model, which already showed success in its medical counterpart.

Our experience for the last six years showed us that hands-on training and preceptorship is the most effective, but provided in a setting that mimics closely the limitations of equipment and technology available in the locality. Traditional classroom lectures were not effective without return demonstrations and role playing. Likewise, continuous mentoring is necessary, and partnership among hospitals provided for long distance consultations that consolidated the knowledge gained in the classroom or "wet-clinic" setting. Also important was the availability of training materials and modules that presents information in a straightforward and practical manner. Much thought must be given in developing training materials with as many visuals as possible, preferably from actual patients in the country.

Finally, the training programme provided an effective foundation for the development of paediatric oncology in the Philippines. The leadership role now actively played by the paediatric haematologists-oncologists remains critical for improvements in childhood cancer care in the Philippines to continue. These positive trends will ultimately result in the near future for cancer survival rates in the country to be comparable to that in advanced centres elsewhere.●

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## References

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