

# National capacity-building initiatives for childhood hematologic malignancies in Myanmar

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## Capacity-building needs

Myanmar is a lower-middle-income country, the largest country in geographical area in mainland Southeast Asia, with a diverse cultural and socioeconomic background and variable communication and transportation obstacles. Up until 2012, childhood cancer management was particularly challenging, with a scarcity of human resources, quality improvement initiatives, and limited treatment outcomes. There have been only 2 centers for childhood cancer treatment in Myanmar (Yangon Children's Hospital and Mandalay Children's Hospital), run by 1 oncologist in each center, to cover ~300 new cases, although ≥1500 new cases of cancer (age range, 0-14 years) are expected per year based on population estimates. For leukemia, the most common cancer diagnosis, ~130 cases are newly diagnosed per year in the 2 centers; overall, the 2-year survival rate is ~50% for acute lymphoblastic leukemia and ~10% for acute myeloid leukemia. Abandonment of treatment (failure to start or complete therapy) is a major cause of treatment failure, with a rate of ~30%.

The first part of the childhood cancer initiatives described was from 2012 to June 2017.

By May 2016, the National Cancer Control Plan was launched and reinvigorated the National Childhood Cancer Action Plans for 2017 to 2021 (Figure 1).

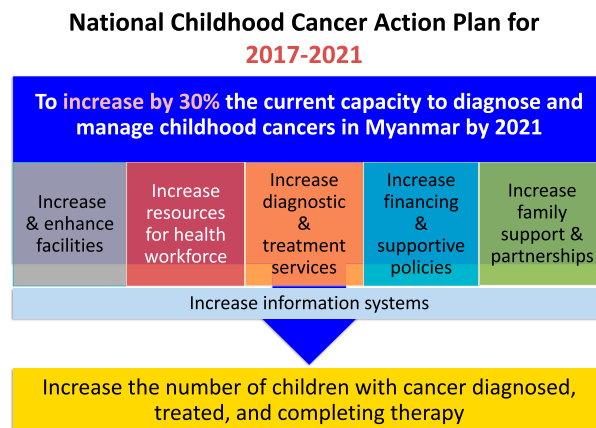


Figure 1. National Childhood Cancer Action Plan.

## National program objectives

1. To promote and equip human resources for cancer treatment in Myanmar.
2. To increase childhood cancer awareness among administrative and policy leaders as well as the community.
3. To increase patient accessibility to treatment and establish an organized national referral system for childhood cancer cases.

## Timeline

The initiatives described began in July 2012 and went through June 2017, with a continuation phase.

## Implementations

The following 3 implementations were set up and initiated: implementation 1, training of workforce; implementation 2, the National Childhood Cancer Control Program; and implementation 3, establishment of a referral network.

### Implementation 2: National Childhood Cancer Control Program

- Engagement of national and international stakeholders: The National Childhood Cancer Control Program was launched as a 2-day workshop with >75 stakeholders in May 2016 in Yangon and Naypyitaw to promote an ongoing program with an accompanying action plan for 2017 to 2021; organizations included the World Health Organization, St. Jude Children's Research Hospital, World Child Cancer, the International Society of Pediatric Oncology, Childhood Cancer International, YCH, MCH, and the Myanmar Ministry of Health
- Promotion of early recognition of childhood cancer in the community, 2015 to present: Educational sessions for local providers with 18 sessions in strategic sites (2015, 3 sessions; 2016, 12 sessions; 2017, 3 sessions), and 10 areas visited for awareness talks engaging frontline health staff (2016-2017).
- Dissemination of educational materials on retinoblastoma and childhood cancer: During the 1-year period, 5000 retinoblastoma posters and pamphlets as well as 8000 Childhood Cancer Early Awareness posters were distributed.
- Media promotion of childhood cancer: Through the running media (radio and TV), information of the childhood cancer curability and sites offering care were broadcasted regularly.
- A National Childhood Cancer Control Plan for 2017 to 2021 was also proposed and implemented as an on-going project with the target of increasing by 30% the current capacity to diagnose and manage childhood cancers in Myanmar by 2021 by improving facilities in the following sectors: health workforce, diagnostic and treatment services, financing and supportive policies, family support and partnerships, and information systems. The aim is to increase the number of children with cancer who are diagnosed, treated, and complete therapy.

### Implementation 3: establishment of a referral network

The table shown below reveals the completed programs for starting satellite and referral centers (Figure 2).

#### Ongoing efforts

Programs are undertaking to endorse the proper referral systems through those 7 satellite centers and to empower general practitioners for early recognition of childhood cancers through continuing education.



Figure 2. Map showing satellite centers.

### Program outcomes: highlights

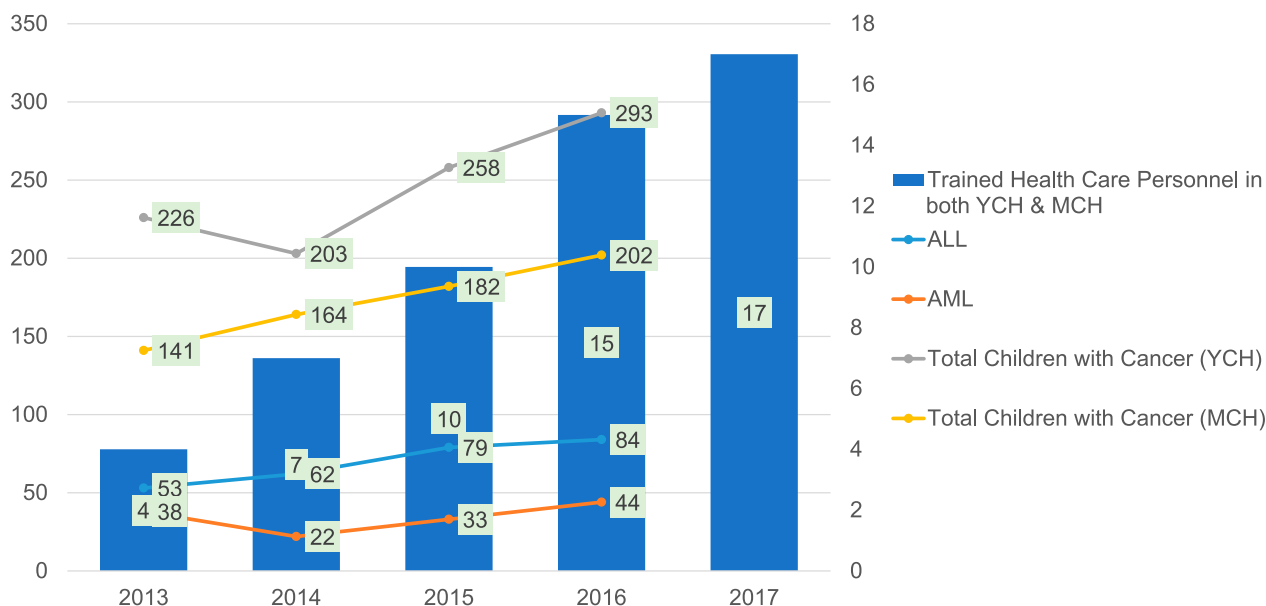
Through collaborative efforts with World Child Cancer, St. Jude Children's Research Hospital, VIVA-Asia Pre-Forum team mentors, and SIOP, propagation about childhood cancer control among the local administrative authorities was instigated, which enforced improvement in training for health care personnel, and satellite centers were launched, resulting in increased numbers of committed and trained health care providers and increasing numbers of children successfully diagnosed with hematologic and other cancers.

The future plans are to continue and strengthen the workforce and promote effective definitive treatment and supportive care, including the referral and data management systems.

Figure 3 shows the increase in the number of trained health care personnel at Yangon Children's Hospital and Mandalay Children's Hospital and the number of children with cancer.

### Conclusions

Plans are under way to further develop capacity across other dimensions of the health care system, including plans to increase and enhance facilities, improve the diagnostic and treatment



**Figure 3. Program outcomes: highlights.**

**Implementation 1: Workforce training completed**

Training type completed	Personnel trained	Trained, n	Sites of implementation or facilitation
Overseas specialty training experiences	Oncologists/hematologists	6	Singapore, Malaysia, United Kingdom, Thailand, South Korea, India
	Pathologists	2	
	Nurses	6	
	Technicians	3	
	Social workers	1	
International conferences	Doctors, nurses, and data manager	9+	St. Jude VIVA Forum, Singapore
	Doctors and nurses	7	SIOP Asia
On-site continuing education lectures from international visitors (doctors and nurses)	Pediatricians, postgraduate pediatric students, nurses	>100	St. Jude Children's Research Hospital, Guys and Thomas Hospital, Singapore (NUH and KKH), Bangkok, Boston Children's Hospital

**Implementation 1: Workforce continuing education established**

Training forum established	Personnel trained	Personnel from Myanmar registered/engaged, n	Hospital partners in facilitation	Sample outputs
Online continuing education (multidisciplinary providers)	Pediatricians, postgraduate pediatric students, pediatric oncologists, pathologists, other physician specialists	53 (as of July 2017)	St. Jude Children's Research Hospital, Guy's and Thomas Hospital, Singapore (NUH and KKH), YCH, MCH	>50 sessions attended >100 regional clinical cases discussed
Online continuing education (nurses)	Nurses and nursing trainees	8+	Boston Children's Hospital, YCH, MCH	Nursing rounds Quality improvement initiatives

services, including palliative care, increase the financing and supportive policies locally, and enhance family support and partnerships.

The ultimate outcome will be to increase by 30% the current capacity to diagnose and manage childhood cancer in Myanmar by 2021, effectively increasing the number of children who are

diagnosed with cancer, treated, and complete therapy as targeted in the Myanmar National Childhood Cancer Control Program (2017-2021).

These successful capacity-building efforts for childhood hematologic and other malignancies in Myanmar will also help fuel the

Completed initiatives	Number	Years of achievement
Mapping of satellite and referral sites	7 satellites, 5 referral sites	2016-2017
Satellite site assessment + cancer control and awareness training	5 centers	2016
	2 centers	2016-2017
Sessions on childhood cancer for general practitioners	4 sessions	2016
	2 sessions	2017
First workshop for satellite centers (2-day course)	7 centers (18 multidisciplinary team members)	2017

synergistic development and further strengthening of other benign hematologic conditions in Myanmar.

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