

# Pediatric cancer care for refugees

## A response within limited resources

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# Cancer care for refugees and displaced populations

- ▶ Cancer necessitates complex, multidisciplinary and specialized therapies, in a multidisciplinary tertiary care setting, especially for pediatric patients
- ▶ International community efforts (UN, NGOs) typically focus on general public health issues affecting large numbers, such as vaccinations, sanitation, housing, infectious diseases, nutrition, etc...
- ▶ Less focus on NCDs, especially expensive and relatively uncommon such as childhood cancer
- ▶ High cure rate for childhood cancer
- ▶ Gain of years of productive life

# Children's Cancer Institute, AUBMC

- ▶ Established in 2002
- ▶ A collaboration between:
  - ▶ the American University of Beirut Medical Center - **AUBMC**
  - ▶ St Jude Children's Research Hospital - **SJCRH**
  - ▶ the Children's Cancer Center of Lebanon Foundation - **CCCL**
  - ▶ the American Lebanese Syrian Associated Charities - **ALSAC**



# Children's Cancer Institute, AUBMC

- ▶ Provide standard-of-care advanced therapies
- ▶ No family pays out of pocket expenses
- ▶ Multidisciplinary care
- ▶ Inpatient and Outpatient costs fully covered
- ▶ Ancillary medical services
- ▶ Short-term accommodation services
- ▶ Child-Life services



# Magnitude of the medical care need for refugee population in Lebanon

- ▶ Lebanon hosts the highest number of refugees per capita, and ranks 3<sup>rd</sup> in terms of total number of refugees/country:
  - ▶ 1 million refugees
  - ▶ Lebanese population 4.5 million
  - ▶ Estimated that 1 in 6 people a refugee
  - ▶ Not all refugees are registered with UNHCR or local authorities

# Magnitude of the medical care need for refugee population in Lebanon

- ▶ Syrians: Syrian war, refugees, and destruction of medical care infrastructure and exodus/loss of health care professionals
  - ▶ Displaced/refugee population peaked at more than 1.4 million (many unregistered)
  - ▶ Medical 'refugees' who are living in Syria but travel for medical access
- ▶ Palestinians: Refugees since 1948 war and subsequent events
  - ▶ Estimated 600,000 individuals
  - ▶ Limited health care coverage, only at specific hospitals (UNHCR)
- ▶ Iraqis: The consecutive Iraq wars have almost abolished medical infrastructure
  - ▶ Medical 'refugees' who are living in Iraq but travel for medical access



**Different responses to cancer treatment need**

Istanbul

Turkey

Azerbaijan

Syria

Lebanon

Palestinian Territories

Jordan

Iraq

Iran

Egypt

Persian Gulf

# Development of a Humanitarian Program for Childhood Cancer in Displaced Children

- ▶ **Initiative#1:** Collaboration among local NGOs (since 2010)
- ▶ **Initiative#2:** Access to Funded Programs for diagnostic and specialized therapies across Lebanon (2012-onward)
- ▶ **Initiative#3:** A specific Humanitarian Response Program fund (2013-onward) → 3 consecutive funds
- ▶ **Initiative#4:** A Regional Approach to a humanitarian response program (in development)



- Local/regional hospitals
- Local/regional NGOs
- Government

# Planning the Humanitarian Program for Childhood Cancer Treatment

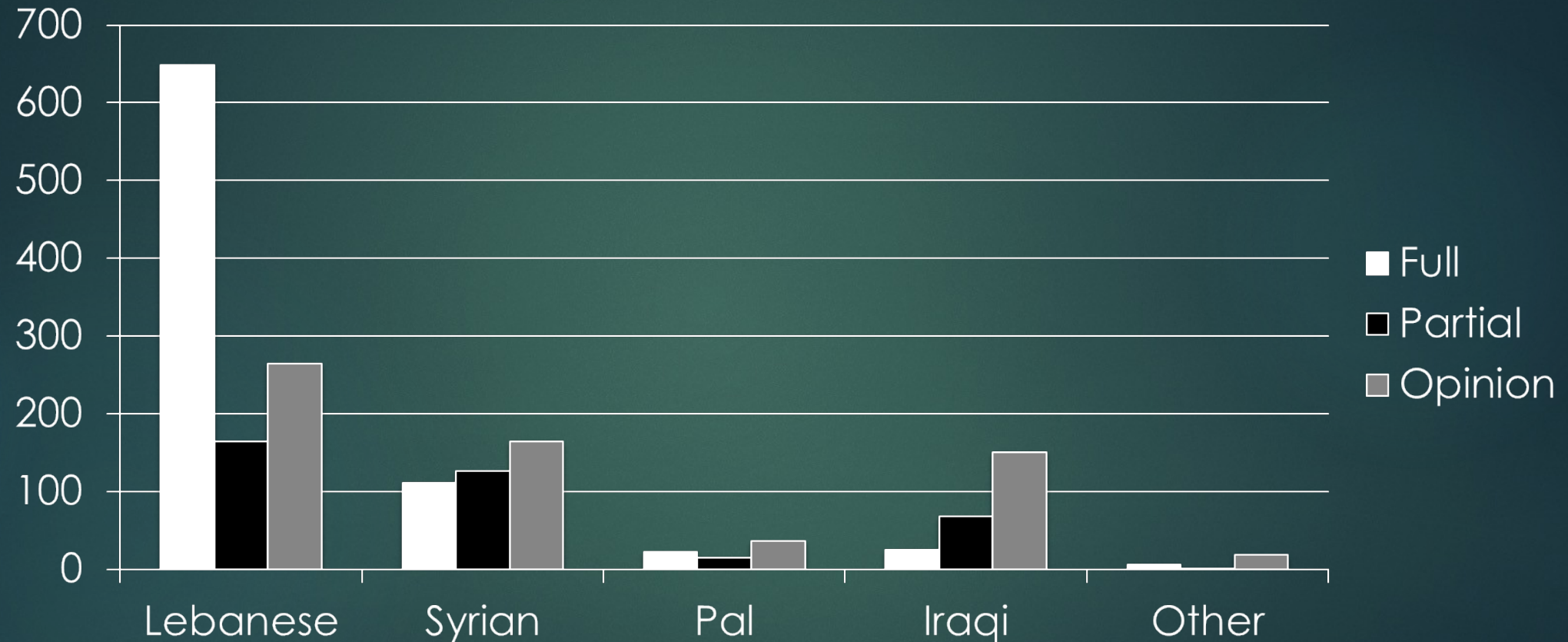
- ▶ Prioritization of resources
- ▶ Establishment of eligibility criteria for each fund mechanism
  - ▶ Newly diagnosed
  - ▶ Not previously treated
  - ▶ First-line therapy
  - ▶ Excludes certain high-cost interventions (such as Bone Marrow Transplantation)
- ▶ Enrollment, follow-up, and data management for all cases

# Numbers in context: 2011-2018



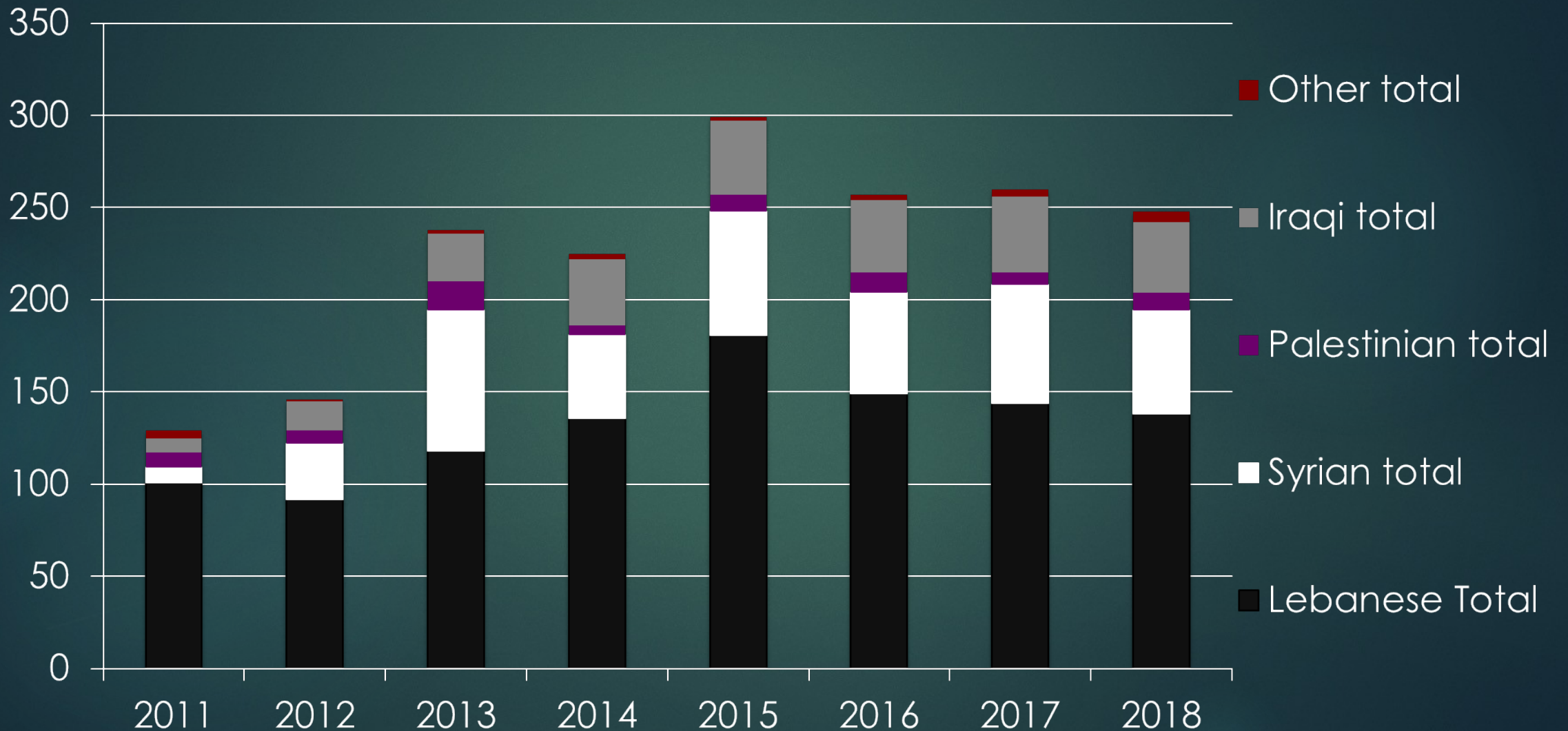
- Increase in staffing: medical, nursing, administrative
- Space expansion (inpatient & outpatient units)

# Numbers in context: 2011-2018



- Patients with 'partial enrollment' were referred to other hospitals and NGOs for chemotherapy where indicated

# Numbers in context: 2011-2018



# Numbers in context: 2011-2017

2011      2012      2013      2014      2015      2016      2017      2018

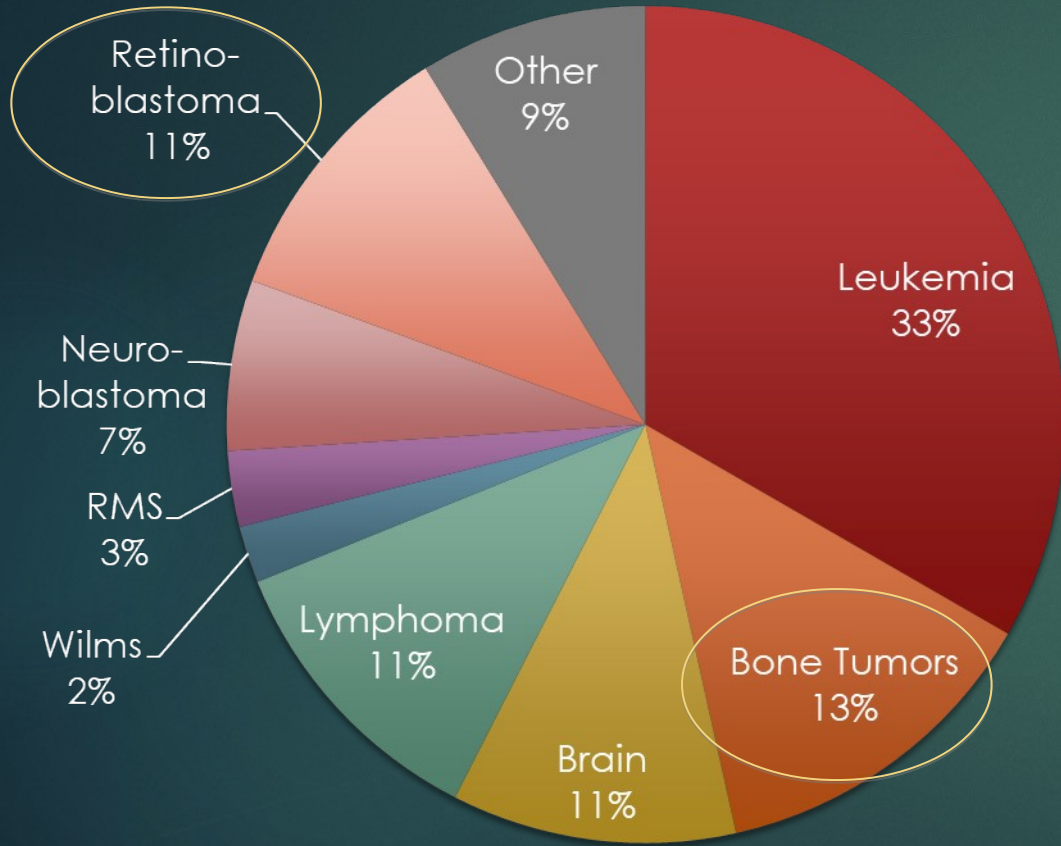
**Total patients assisted, by year:**

6      25      52      30      71      65      62      63

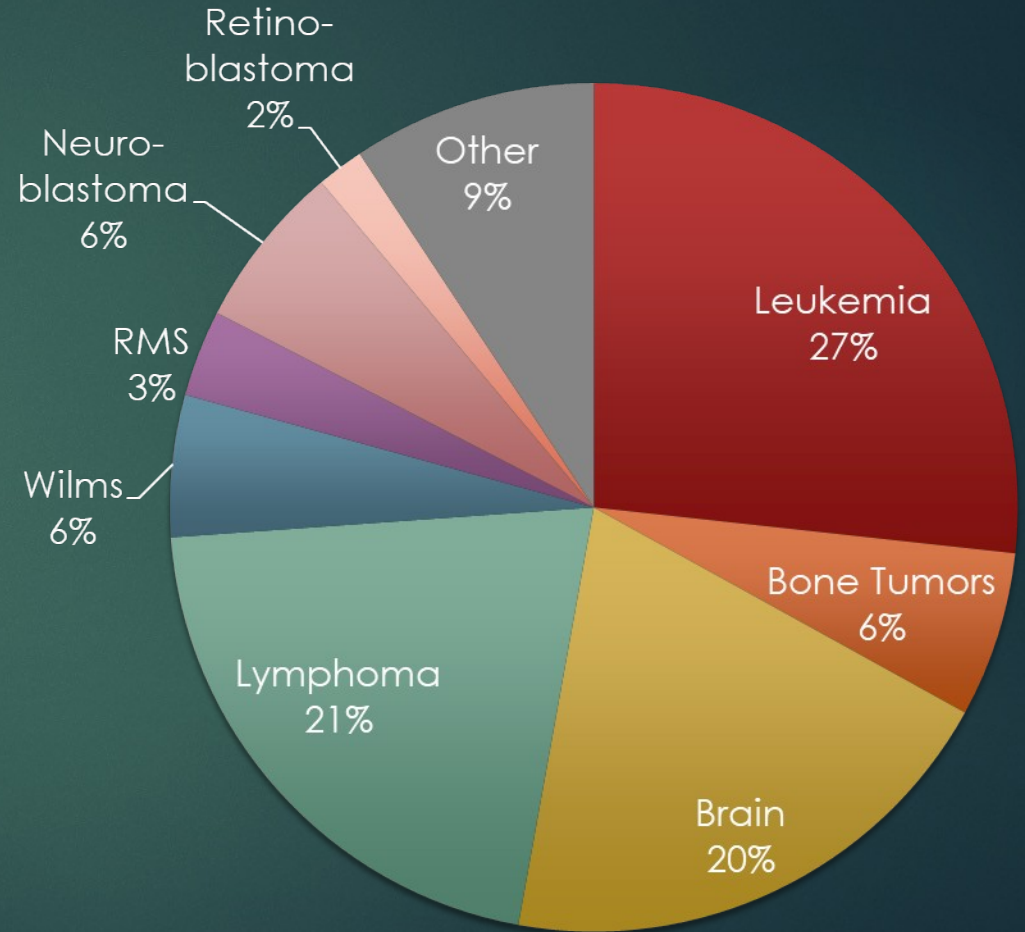
**Total patients declined (consult/opinion only), by year:**

27      27      64      57      47      43      54      47

# Tumor types

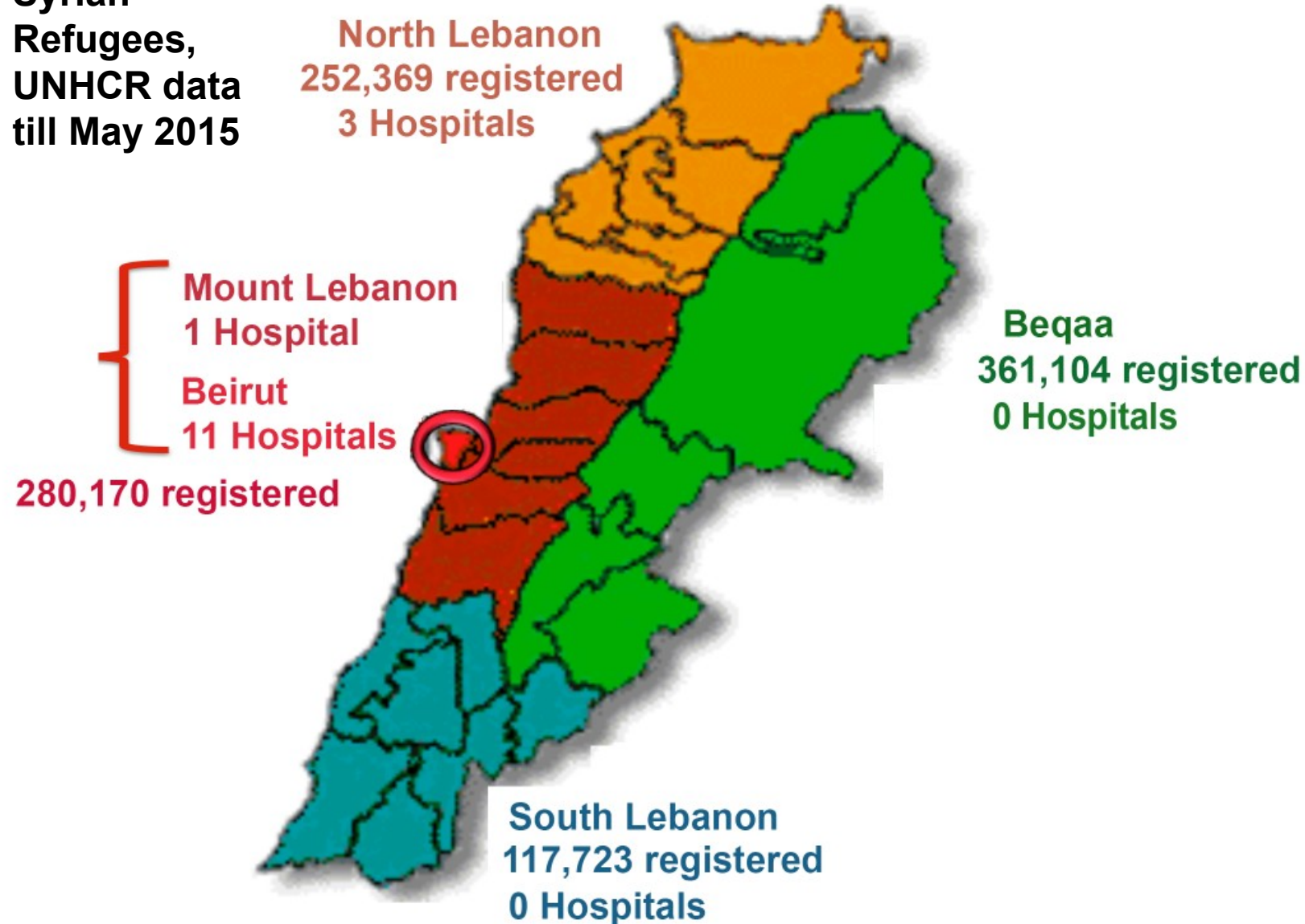


Non-Lebanese



Lebanese

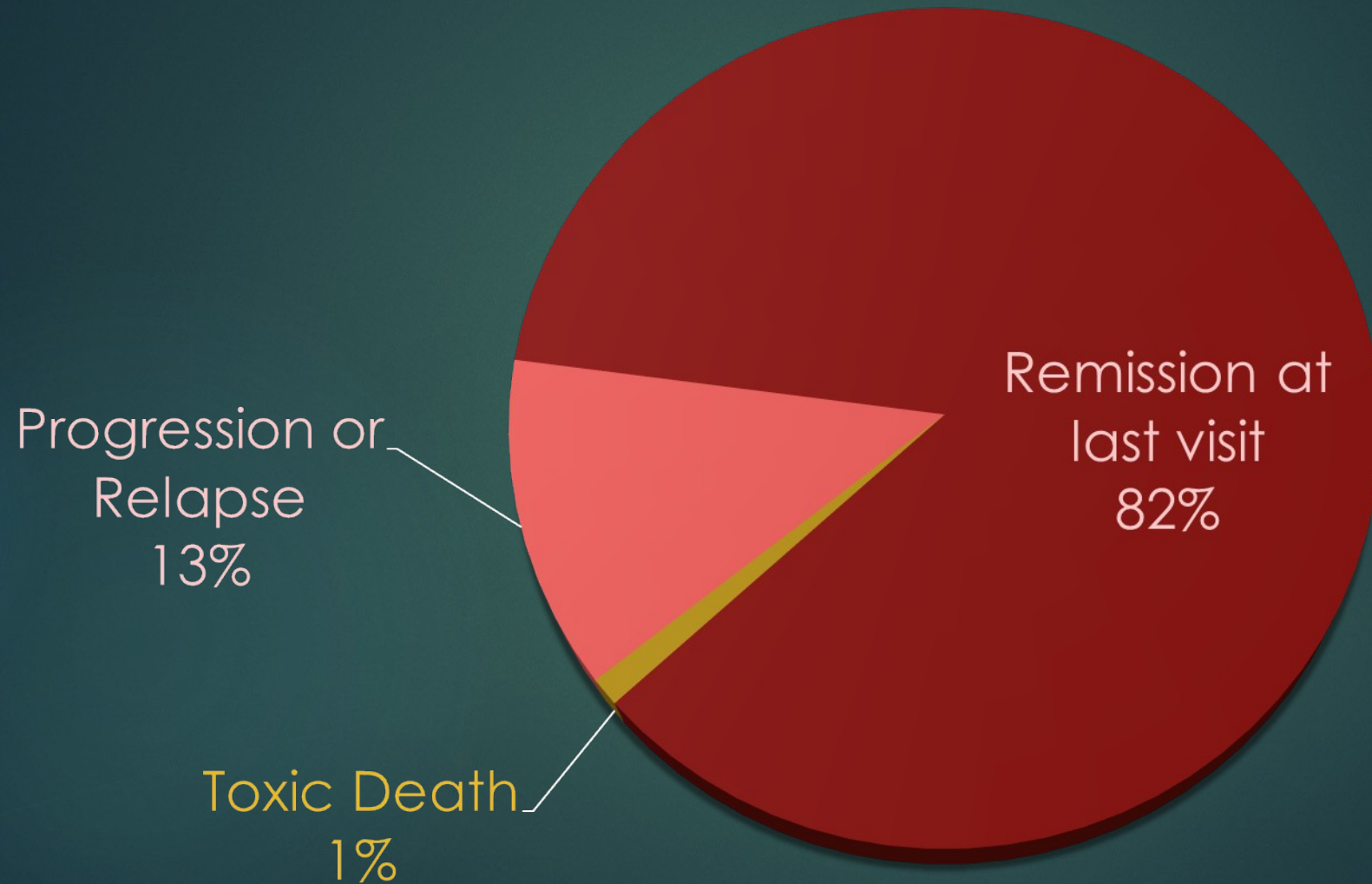
**Syrian  
Refugees,  
UNHCR data  
till May 2015**



United Nations High  
Commissioner for Refugees.  
Syria regional refugee response.  
[http://data.unhcr.org/  
syrianrefugees/country.php?  
id5122.](http://data.unhcr.org/syrianrefugees/country.php?id5122)

Data from October 28, 2017

# Displaced patient outcomes



	Mean cost of treatment, in USD		
Diagnosis	Full Treatment	Partial Treatment	Consult/ Diagnostics
ALL	98,819	24,603	1,436
AML	108,560	-	1,171
Ewing sarcoma	72,032	15,742	692
Osteosarcoma	108,129	29,086	1,800
Astrocytoma	25,008	10,227	508
<b>Range cost of treatment: ~ \$ 11,000 → ~ \$ 122,000 per patient</b>			
Hodgkin lymphoma	29,688	10,305	1,437
Wilms tumor	35,981	-	-
Rhabdomyosarcoma	46,188	10,185	918
Neuroblastoma	121,882	11,494	2,376
Retinoblastoma	28,802	13,724	-
Nasopharyngeal carcinoma	29,300	-	852
Others	11,365	7,847	9,122

# Challenges

- ▶ Limited financial resources
- ▶ Limitations in infrastructure and capacity
- ▶ Insufficient national and international support
- ▶ Lower priority for relief and humanitarian agencies
- ▶ Barriers to seeking/continuing medical care
  - ▶ Competing basic and social needs
  - ▶ Lack of support system
  - ▶ Complex family dynamics in displaced settings

# Resource-stratification?

- ▶ Curable disease in most cases
- ▶ Doing the best we can with the resources we have
  - ▶ Palliation for advanced stage?
  - ▶ Progressive and recurrent disease?
  - ▶ High-cost procedures for patient subgroups?
  - ▶ Resource-stratified guidelines (LMIC and LIC): Basic Level, Limited Level, Enhanced Level, Maximal Level
- ▶ Re-building infrastructure in native countries
- ▶ Training of health care personnel during re-building phase

→ Need for collaborative and synergistic efforts among stakeholders across borders and area of focus

# Distribution of POEM Centers



[www.poemgroup.org](http://www.poemgroup.org)

**List of Countries:**

Algeria, Armenia, Bahrain, Egypt, India, Iraq, Iran, Jordan, KSA,  
Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Palestine, Sudan,  
Syria, Tunis, Turkey, UAE, Yemen

# Healthcare as a human right?

