



# HSCT Program in Qatar

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# State of Qatar

- State of Qatar is a small peninsula located in Arabian Gulf
- The surface area is 11,500 KM<sup>2</sup>



# Population

QATAR POPULATION

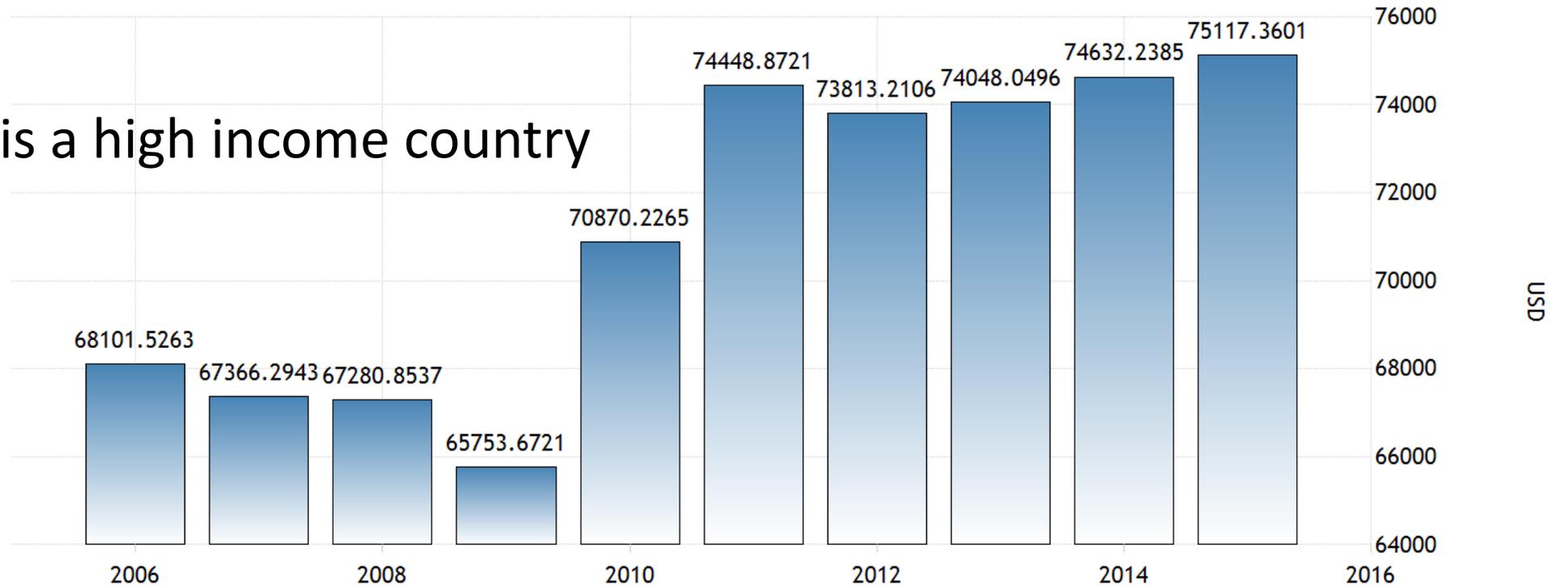
- 75% males
- Majority expatriates age between 18-60y
- Only 24% less than 18y
- 3% more than 60y



SOURCE: WWW.TRADINGECONOMICS.COM | QATAR STATISTICS AUTHORITY

# GDP Per Capita

QATAR GDP PER CAPITA

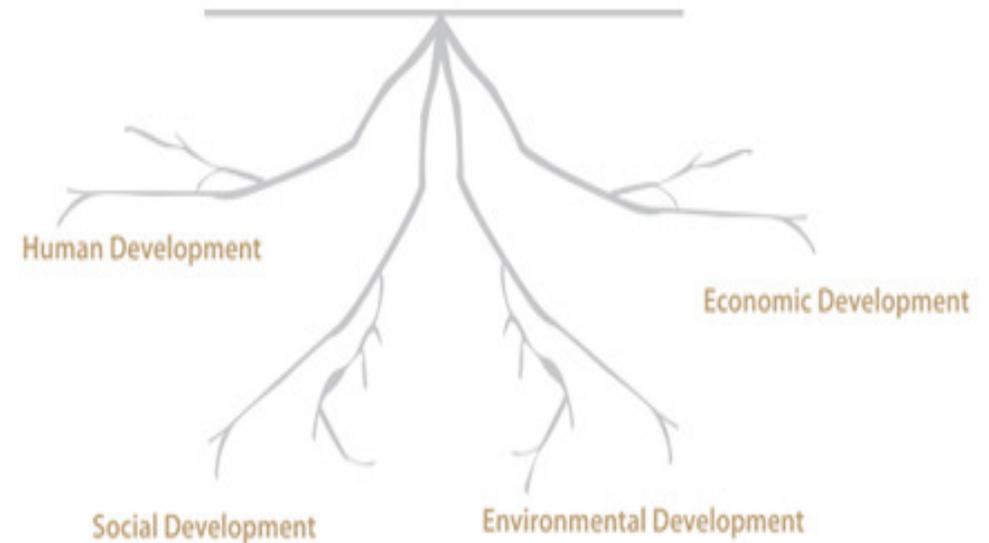


- Qatar is a high income country

SOURCE: WWW.TRADINGECONOMICS.COM | WORLD BANK

# Qatar National Vision 2030

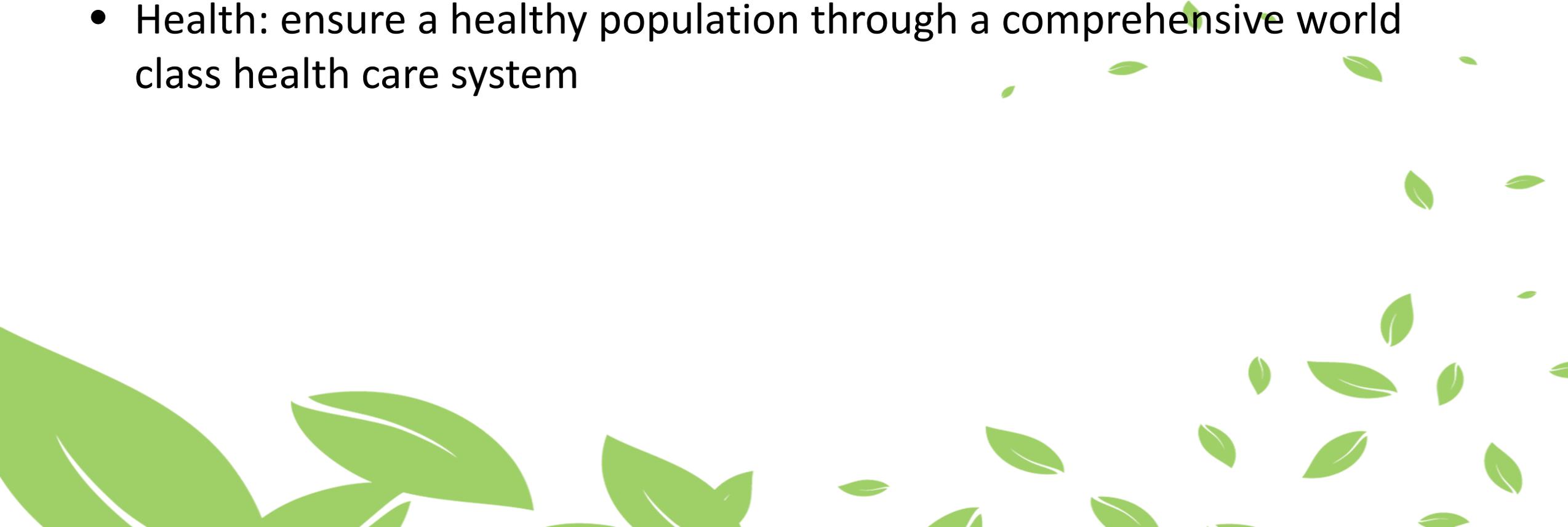
- Launched in 2005 by HH
- Aim is to transform Qatar into an advanced country by 2030
- Providing a high standard of living for its people and for generation to come
- It rests on 4 pillars





# Human Development

- Education
- Workforce
- Health: ensure a healthy population through a comprehensive world class health care system



# National Cancer Program

- Launched in 2011 by HH
- Aim is to reduce cancer incidence in the country
- Provide cancer care at standard of excellence



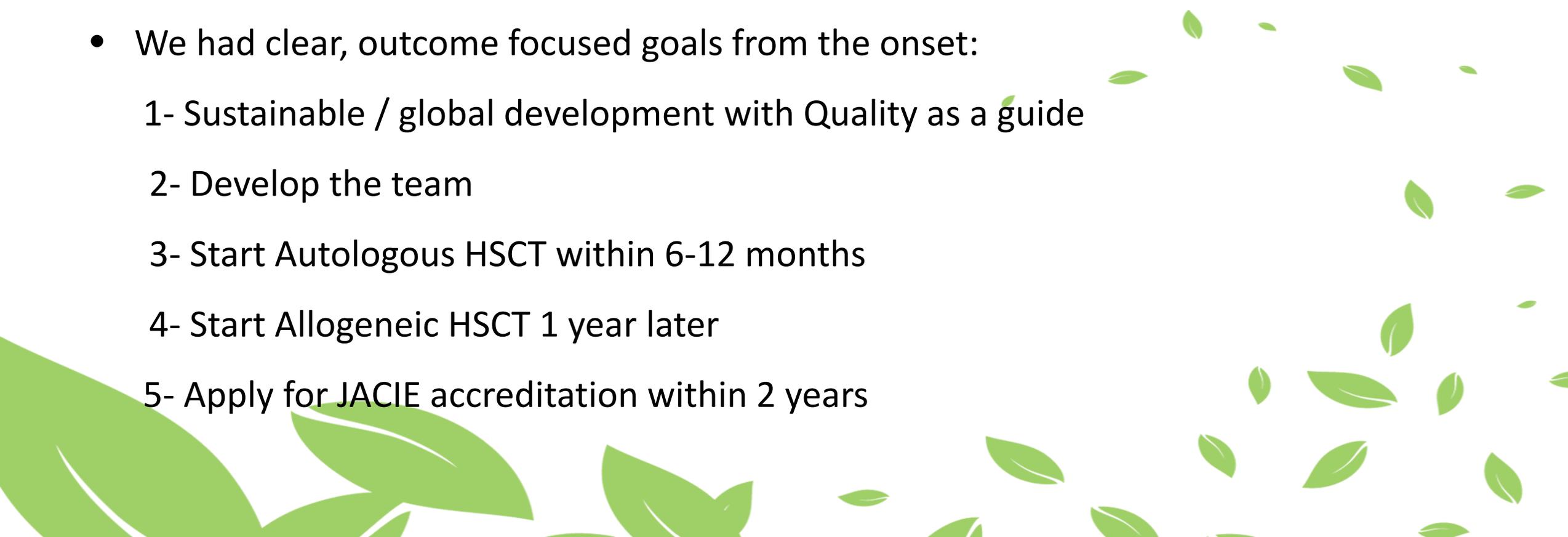
# Recommendations

1. Education and Understanding
2. Prevention
3. Early Detection
4. Rapid and Definitive diagnosis
5. Treatment
6. Ongoing Care
7. Measuring Performance
8. Workforce
9. Research





# Development of HSCT Program I

- In October 2014 – The HSCT Program Project was initiated
  - Aim to provide comprehensive cancer care for patients in Qatar
  - We had clear, outcome focused goals from the onset:
    - 1- Sustainable / global development with Quality as a guide
    - 2- Develop the team
    - 3- Start Autologous HSCT within 6-12 months
    - 4- Start Allogeneic HSCT 1 year later
    - 5- Apply for JACIE accreditation within 2 years
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# Development of HSCT Program II

- 6- Establish constructive collaborations
- 7- Implement HSCT associated research
- 8- Promote and drive awareness and education
- 9- Establish credibility and state-of-the-art service



# HSCT Facility

- Clinical-5 HEPA filtered room
- Collection-Transfusion Medicine
- Processing and cryopreservation-CTL





## ( Qatari patients)

- 45 Qatari pts are candidate for SCT every year
- Sent abroad for the procedure
- The no. is doubled for expatriates
- No access or do the procedure in their countries

Designation	Allogenic BMT	Autologus SCT	Over all	Percent
Pediatic hematology-oncology	4	2	6	13%
Pediatic genetic disorder	5	0	5	11%
Adult benign hematology	13	0	13	29%
Adult malignant hematology	9	12	21	47%
<b>TOTAL</b>	<b>31</b>	<b>14</b>	<b>45</b>	<b>100%</b>
Percent	69%	31%	100%	



# Patients' and disease characteristics

- First harvesting in June 2015
- First transplant procedure in October 2015

	No	% or range
<b>No of patients</b>	<b>16</b>	
<b>No of Transplants</b>	<b>17</b>	
<b>Patient's age(yr), median (range)</b>	<b>47</b>	<b>31 - 57</b>
<b>Patient's sex (male/female)</b>	<b>10 / 6</b>	
<b>ECOG PS</b>		
0 - 1	<b>12</b>	<b>75</b>
≥ 2	<b>4</b>	<b>25</b>
<b>Diagnosis</b>		
Multiple Myeloma	<b>10</b>	<b>63</b>
Refractory Plasmacytoma	<b>2</b>	<b>12.5</b>
Relapsed DLBC	<b>2</b>	<b>12.5</b>
Relapsed MCL	<b>1</b>	<b>6</b>
Refractory Hodgkin's Lymphoma	<b>1</b>	<b>6</b>

# Patients' and disease characteristics

	No	% or range
<b>Disease status at transplant</b>		
CR	9	56
VGPR/PR	5	31
Stable/Progressive Disease	2	13
<b>Comorbidities</b>		
Renal Impairment/Failure	3	19
Cardiac	2	12
<b>Mobilization regimen</b>		
Cyclophosphamide + G-CSF	12	75
R-DHAP	3	19
IGEV	1	6
<b>Conditioning Regimens / no of transplants</b>		
High dose melphalan	13	76
BEAM	4	24

# Results

	No	% or range
<b>No of patients / No of Transplants</b>	<b>16 / 17</b>	
<b>No of Harvests / patient, median (range)</b>	<b>1</b>	<b>1 – 3</b>
<b>No of collected CD34+ cells/kg, median (range)</b>	<b>10.5</b>	<b>6.7 – 16</b>
<b>No of CD34+ cell dose / Transplant, median (range)</b>	<b>7</b>	<b>4.2 – 12</b>
<b>ANC recovery (days), median (range)</b>	<b>11</b>	<b>10 - 12</b>
<b>Platelet recovery (days), median ( range)</b>	<b>15</b>	<b>9 - 24</b>
<b>Febrile Neutropenia / no of transplants</b>		
Fever of unknown origin	<b>8 /17</b>	<b>47</b>
Microbiologically/Clinically proven infection	<b>4 /17</b>	<b>24</b>
<b>Transplant Related Toxicities / no of transplants</b>		
Mucositis grade 3-4	<b>8/17</b>	<b>47</b>
Diarrhea $\geq$ grade 3	<b>3/17</b>	<b>18</b>
Other	<b>3/17</b>	<b>18</b>

# Results

	No	% or range
<b>Follow up (months), median (range)</b>	<b>6</b>	<b>2 – 14</b>
<b>Response / no of evaluable patients</b>		
CR	<b>8/13</b>	<b>61</b>
VGPR/ PR	<b>4/13</b>	<b>31</b>
SD	<b>1/13</b>	<b>8</b>
<b>No of Relapses</b>	<b>1</b>	<b>6</b>
<b>Survival</b>		
alive	<b>16</b>	<b>100</b>
<b>NRM at Day100</b>	<b>0</b>	

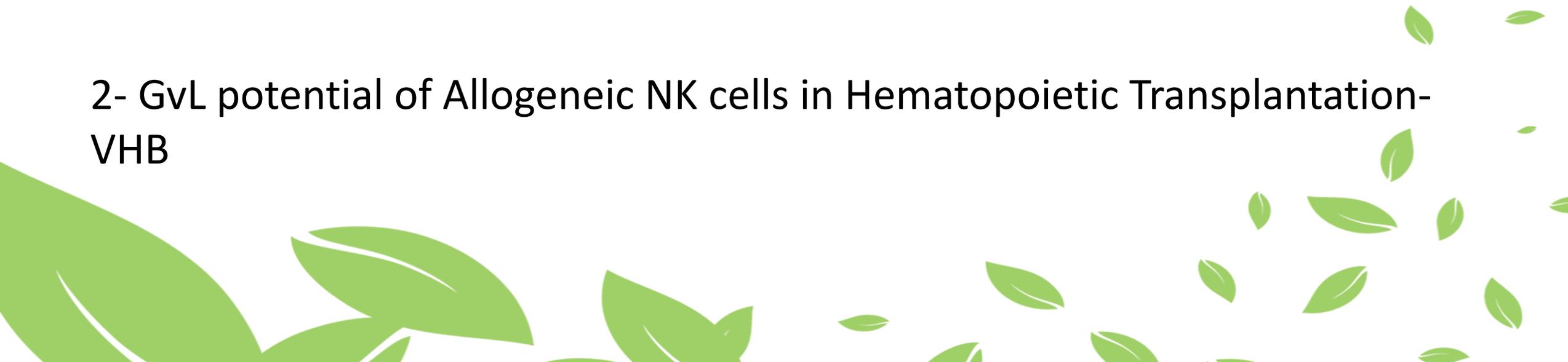


# Research in NCCCR

- NCCCR has an active Translational Cancer Research Facility (TRI)

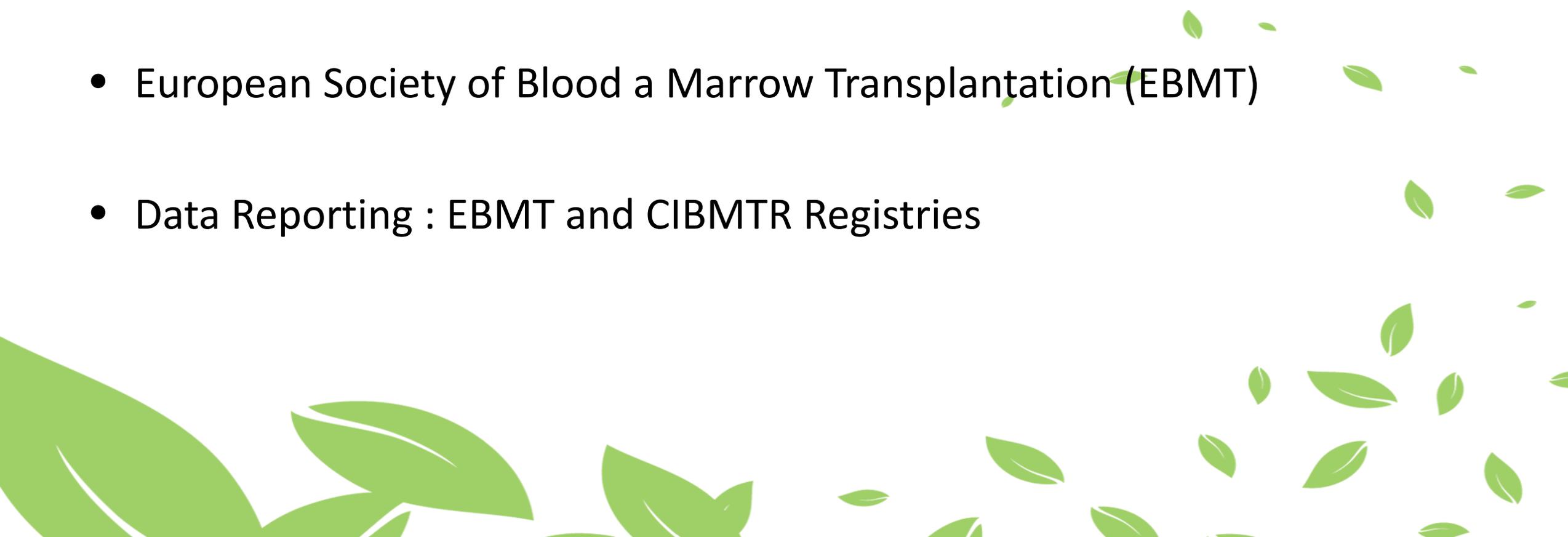
1- X-vivo Expansion of virus specific T cells (VSTs) to be used as adoptive T cell therapy in Patients with leukemia receiving allogeneic hematopoietic stem cell transplantation

2- GvL potential of Allogeneic NK cells in Hematopoietic Transplantation-VHB

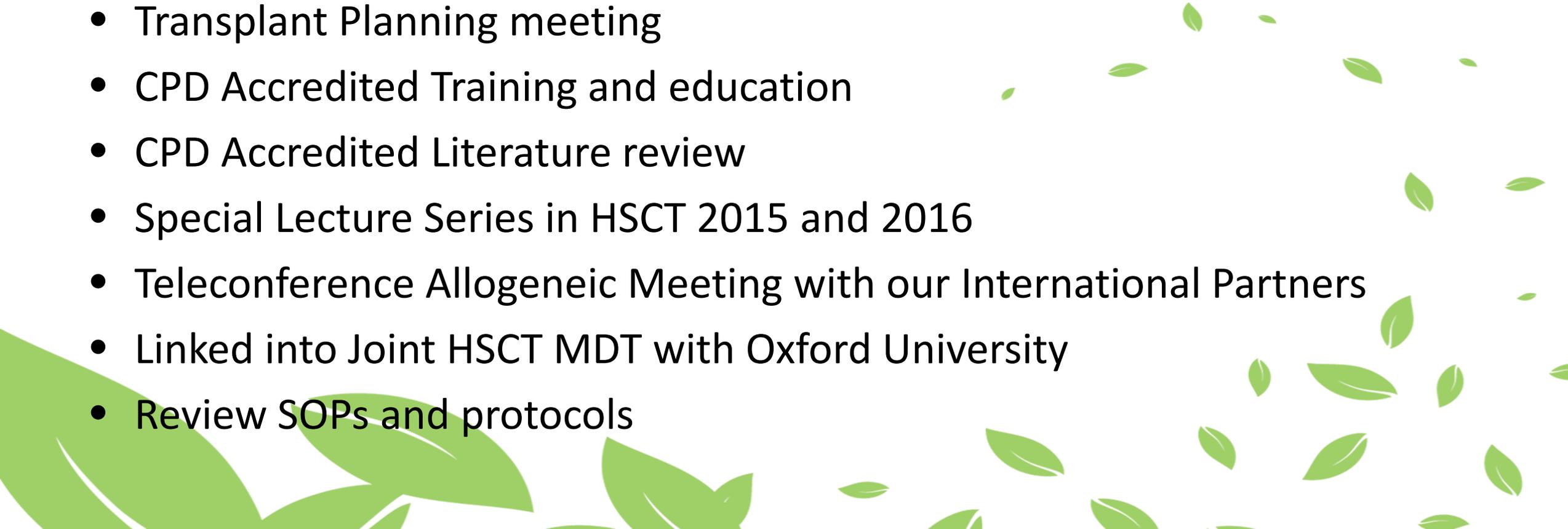




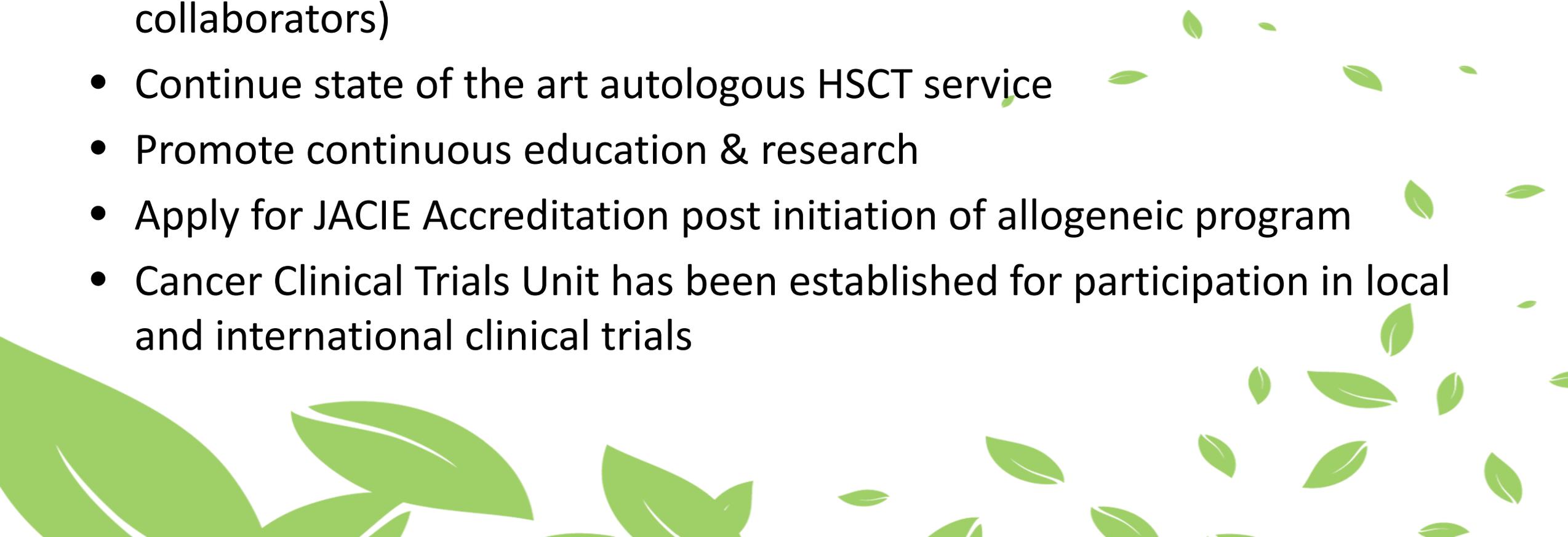
# Affiliations and Data Reporting

- Eastern Mediterranean Blood and Marrow Transplantation group (EMBMT)
  - European Society of Blood a Marrow Transplantation (EBMT)
  - Data Reporting : EBMT and CIBMTR Registries
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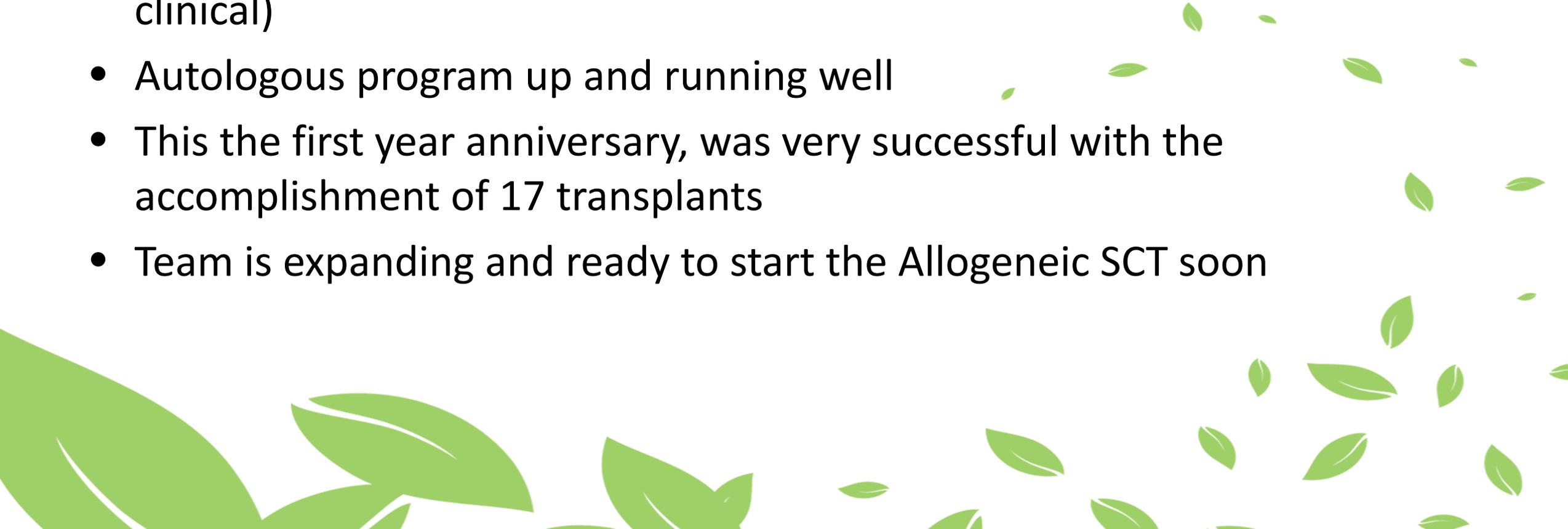
# Current Activities

- Leadership Meetings
  - Structured Quality Meeting
  - Transplant Planning meeting
  - CPD Accredited Training and education
  - CPD Accredited Literature review
  - Special Lecture Series in HSCT 2015 and 2016
  - Teleconference Allogeneic Meeting with our International Partners
  - Linked into Joint HSCT MDT with Oxford University
  - Review SOPs and protocols
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# Future Plan

- Start Allogeneic program soon
  - Donor Registry (working with local, regional and international collaborators)
  - Continue state of the art autologous HSCT service
  - Promote continuous education & research
  - Apply for JACIE Accreditation post initiation of allogeneic program
  - Cancer Clinical Trials Unit has been established for participation in local and international clinical trials
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# Summary

- HSCT program is the only one in Qatar
  - It is self-sufficient with all 3 core components (collection, processing and clinical)
  - Autologous program up and running well
  - This the first year anniversary, was very successful with the accomplishment of 17 transplants
  - Team is expanding and ready to start the Allogeneic SCT soon
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# Acknowledgement

- Dr. Mohammad Bakr
  - Hematology Team
  - Department of Nursing
  - Department of Pharmacy
  - Department of Lab
  - CTL
  - Transfusion Medicine
  - Transplant Quality Management
  - Transplant Coordinator
  - Transplant Data management
  - Prof. Niederwieser-LUH
  - Dr. Peniket-COUH
  - Prof. Rocha-Oxford/Sao Paolo
  - Dr. Aljurf-KFSHRC
  - Dr. Effie Liakopoulou  
NCCCR/NHS-E/UW
  - Prof. Knuth-MD
  - Dr.Ussama-Chairman
  - Dr. Alkhater-AMD
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Thank You