

Supplementary Table 1. Capacity quantification questionnaire

Topic	Question
General	Does the centre have JACIE Accreditation for autologous transplantation?
General	Is the centre qualified by a pharmaceutical company for commercial CAR-T?
General	Please indicate by which company/companies (optional)
General	Is there anything you would like to comment on in this section?
General	Does your centre have clinical experience with CAR-T?
General	Include experience (Select all that apply):
General	Is there anything you would like to comment on in this section?
Capacity	How many beds are there in each unit?
Capacity	Could you please tell us how many patients were admitted in 2018 to each unit?
Capacity	Could you tell us the average length of stay in each unit?
Capacity	Does the hospital have a home transplantation programme?
Capacity	How many patients/year are treated in this context?
Capacity	Where is the CAR-T infusion performed or planned to be performed? (Please indicate one or more of the following options)
Capacity	Is there anything you would like to comment on in this section?
ICU unit	Number of ICU beds
ICU unit	Number of ICU beds where haematology patients can/are admitted
ICU unit	Number of intermediate beds
ICU unit	Indicate the total number of patients admitted to the ICU in 2018, whether haematological or not
ICU unit	Indicate the average length of stay in the ICU in 2018. (Any type of patient hospitalised in the ICU) (Express in days)
ICU unit	During the first half of 2019, please indicate how many patients treated with CAR-T therapies have been admitted to the ICU (express in number of patients)
ICU unit	During the first half of 2019, indicate the average length of stay in the ICU for CAR-T patients (in number of days)

ICU unit	Is there anything you would like to comment on in this section?
Apheresis	Indicate the number of apheresis machines:
Apheresis	What is the average duration of the apheresis process (expressed in hours)?
Apheresis	Indicate with an "x" the availability to perform apheresis in the following ranges:
Apheresis	Based on the two questions above, how many patients could be apheresis per machine per week? (with current resources)
Apheresis	During 2018, how many apheresis were performed at your centre?
Apheresis	Is there anything you would like to comment on in this section?
CAR -T Team / Resources	The existing CAR-T Team at the centre (considering clinicians from the Cell Therapy Unit, Haematology Service and Transplant Unit) Is there a dedicated CAR-T clinician*? (*Physicians involved throughout the entire treatment)
CAR -T Team / Resources	How many?
CAR -T Team / Resources	How many patients has this CAR-T Team infused with CAR-T in the first half of 2019?
CAR -T Team / Resources	How many patients would you plan to infuse with CAR-T annually?
CAR -T Team / Resources	Of these CAR-T therapy clinicians, how many general outpatient days per month does each clinician attend?
CAR -T Team / Resources	Of the clinicians that you have indicated that they are dedicated to CAR-T therapies, how many have a monographic CAR-T practice? (express in number of clinicians)
CAR -T Team / Resources	What approximate percentage of your consultations can be related to CAR-T therapies? (Consider an average of all CAR-T clinicians)
CAR -T Team / Resources	Does the centre have a CAR-T coordinator?
CAR -T Team / Resources	% of time spent on CAR-T
CAR -T Team / Resources	Do you have an administrative support / case manager for the CAR-T programme (this manager would be responsible, among others, for administrative issues of the patient and referral centres, the management of reception flats for patients and relatives)?

CAR -T Team / Resources	% of time spent on CAR-T
CAR -T Team / Resources	Which of the following units have resources available to infuse CAR-T patients? (Multiple choice)
Nursing	How many nurses are there in the dedicated cell therapy unit?
Nursing	What is the ratio of beds per nurse in the specific cell therapy unit? (number of beds per nurse)
Nursing	How many nurses are there in the haematology unit?
Nursing	What is the ratio of beds per nurse in the haematology unit? (number of beds per nurse)
Nursing	How many nurses are there in the Transplant Unit?
Nursing	What is the ratio of beds per nurse in the Transplant Unit? (number of beds per nurse))
Nursing	How many nurses are there in Others?
Nursing	What is the ratio of beds per nurse in Others? (number of beds per nurse)
Social worker support	Does the centre have a Social Worker?
Social worker support	Does the centre have a specific social worker for haematology?
Social worker support	Is there anything you would like to comment on in this section?
Social worker support	What capacity does the centre have for accessing sheltered flats?
Social worker support	Is there anything you would like to comment on in this section?
CAR Team / Resources	Clinician 1 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)
CAR Team / Resources	Clinician 2 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)
CAR -T Team / Resources	Clinician 3 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)
CAR -T Team / Resources	Clinician 4 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)
CAR -T Team / Resources	Clinician 5 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)

Resources	
CAR -T Team / Resources	Clinician 6 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)
CAR -T Team / Resources	Clinician 7 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)
CAR -T Team / Resources	Clinician 8 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)
CAR -T Team / Resources	Clinician 9 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)
CAR -T Team / Resources	Clinician 10 What percentage of your time is/could be dedicated to CAR-T? (express as a percentage)

Supplementary Table 2. Hospital resources required for three different scenarios interview guide

## STUDY DESCRIPTION

The objective of this study is to identify and quantify the different requirements/resources at hospital level to provide CAR-T therapies. For this assessment we will consider three different scenarios driven by the final number of patients per qualified site: 10, 25 and 50 patients per year, or an equivalent by month.

For the interview we will go through each phase of the CART process, identifying the requirements of the process, describing the requirement and quantifying the additional resources needed for each of the patients scenarios.

We would also ask you about those resources needed along the full process CAR-T process but not related to specific phases.

Finally we will summarize the resources needed for the different patient scenarios, considering the needs of each phase and the cross functional resources. Also, we will identify key bottlenecks in terms of resources and phases of the process.

Phase	Phase risk	Requirements	Risk of requirements	Description / Comments	Additional resources to current workload		
					10 patients (1 / month)	25 patients (2 / month)	50 patients (4 / month)
Phase 1: Pre-pheresis		Human resources					
		Infrastructure					
		Machinery / Devices					
Phase 2: Leukapheresis: Extraction, preservation, shipment, reception and conditioning of the sample		Human resources					
		Infrastructure					
		Machinery / Devices					
		Days / patient					
Phase 3: Lymphodepletion therapy		Human resources					
		Infrastructure					
		Machinery / Devices					
		Days / patient					
Phase 4: Infusion and hospitalization		Human resources					
		Infrastructure					

		Machinery / Devices						
		Days / patient						
Phase 5 : Follow-up		Human resources						
		Infrastructure						
		Machinery / Devices						
		Days / patient						
Crossfunctional resources (Full CAR-T procedure)								
Additional questions								
Which resource, in your opinion, is the want that can limit the number of patients that can be treated with CAR-T therapies at the center?								
Is the center already assessing and planning the resources needed?								
Is there any other relevant information that you would like to share with us, relevant for the objective of this study?								

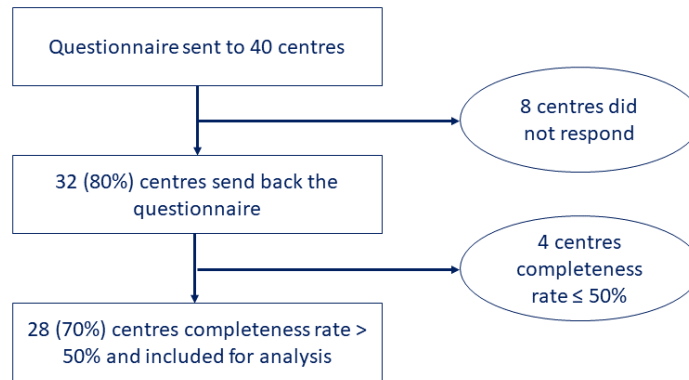
Supplementary Table 3. Total number of hospitals participating in capacity quantification

AC	Hospital
Galicia	Complejo Hospitalario Universitario de Vigo
	Hospital Clínico Universitario de Santiago
	Hospital Universitario de A Coruña
Asturias	Hospital Universitario Central de Asturias
Cantabria	Hospital Universitario Marqués de Valdecilla
Navarra	Clinica Universidad de Navarra
	Complejo Hospitalario de Navarra
Castilla y León	Hospital Clínico Universitario de Salamanca
	Hospital Universitario Río Ortega
Aragón	Hospital Universitario Miguel Servet
Cataluña	Hospital Sant Joan de Déu
	Hospital Universitario Vall d'Hebron
	Instituto Catalán de Oncología (ICO) Hospitalet
	ICO Badalona
	Hospital Clinic Barcelona
Madrid	Hospital Universitario Ramón y Cajal
	Hospital Universitario 12 Octubre
	Hospital Universitario Infantil Niño Jesús
	Hospital General Universitario Gregorio Marañón
	Hospital Universitario Fundación Jimenez Diaz
	Hospital Universitario Quirón Madrid
	Hospital de La Princesa
Valencia	Hospital Universitari I Politécnic La Fe
	Hospital Clínico Universitario de Valencia
Murcia	Hospital Clínico Universitario Virgen Arrixaca

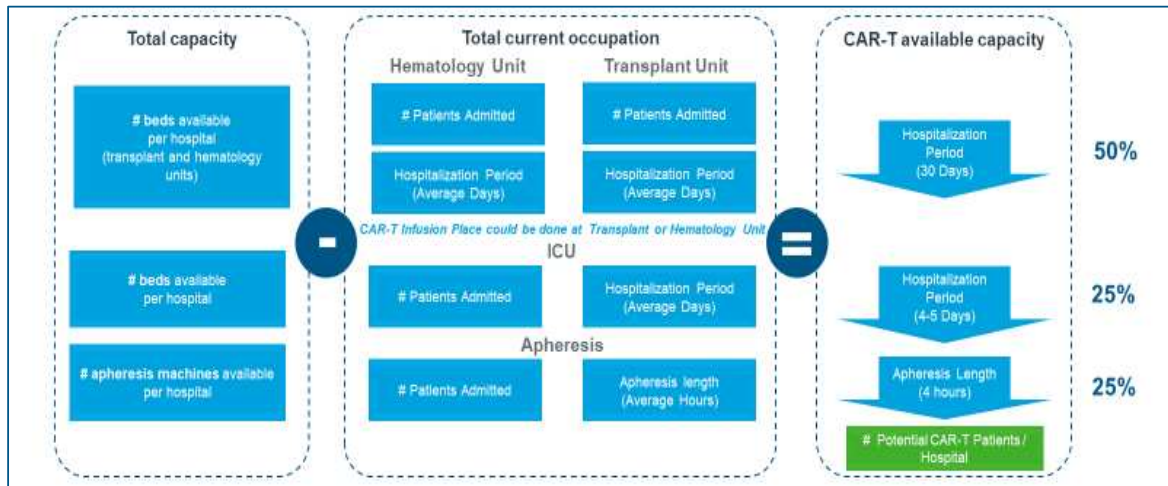
	Hospital General Universitario Morales Meseguer
Andalucía	Hospital Regional Universitario de Málaga
	Hospital Universitario Virgen del Rocio
	Hospital Universitario Virgen de las Nieves
	Hospital Universitario Reina Sofia
Baleares	Hospital Universitari Son Espases
Canarias	Hospital Universitario de Gran Canaria Dr. Negrín



Supplementary Figure 1. Flowchart of centres participation in quantification the current capacity of Spanish centres to administer CAR-T



Supplementary Figure 1. CART- T available capacity



CAR-T.- Chimeric Antigen Receptor T; ICU: Intensive Care Unit

Supplementary Figure 2. Final set of variables and weights

Case manager and/or administrative		Consultancy Rooms		Social Support		CAR-T Team (Clinical)		Nurse / Patient Ratio	
Status	Pts.	Status	Pts.	Status	Pts.	Status	Pts.	Status	Pts.
Yes	1	Above average	1	Yes	1	Yes	1	Ratio > 1/4	1
No	0	Below average	0	No	0	No	0	Ratio < 1/4	0
15%		15%		10%		40%		20%	

CAR-T.- Chimeric Antigen Receptor T