

ADAPTING THE BIOBANK TO THE NEW COVID-19 NORMALITY: THE BIOBANK INTEGRATED IN HOSPITAL CIRCUITS

García-Molina E¹, Conde-Garrosa G¹, Martínez-Carrasco A¹, Ramírez M¹, Silvente A¹, Vidal-Garrido N¹, Escamez, T¹

¹Biobank of Región de Murcia IMIB. Biomedical Research Institute of Murcia (IMIB-Arrixaca). Spain



INTRODUCTION

All of us have suffered one of the major pandemic situations over the world. In this new joint point, to respond to the new research requirements it is necessary to adapt all the processes, activating cooperation between institutions and the willingness of the staff and the team work. All this is the key to success.

AIM

Creation of the regional COVID collection managed under a biobank regime, so that the samples can be used in all projects. The collection has the favorable expert opinion of the Ethics Committee of the biobank. We started this collection in April, at the initiative of the Murcian Institute of Biosanitary Research (IMIB) and with full support from the Murcian health service (SMS) and the University of Murcia.

METHOD

Our biobank has **reconducted** its activity and stabilized new circuits and protocols to get samples from COVID-19 patients. We have managed to include a biobank request in the information systems of the SMS. All this has led to a substantial increase in the number of samples received and processed so far, so we purchase an automated Workstation of liquid handling that optimizes dependability and walk-away time. We have always followed the recommendations of the health authorities and the WHO, increasing the level of biosafety with which we work in the laboratories.

RESULTS

During the first wave (May, June, July) all samples were collected in check-ups of patients who had been admitted, with different degrees of severity. These samples were collected when patients were healthy. In July we also began to receive samples from admitted patients, which has been growing in recent months.

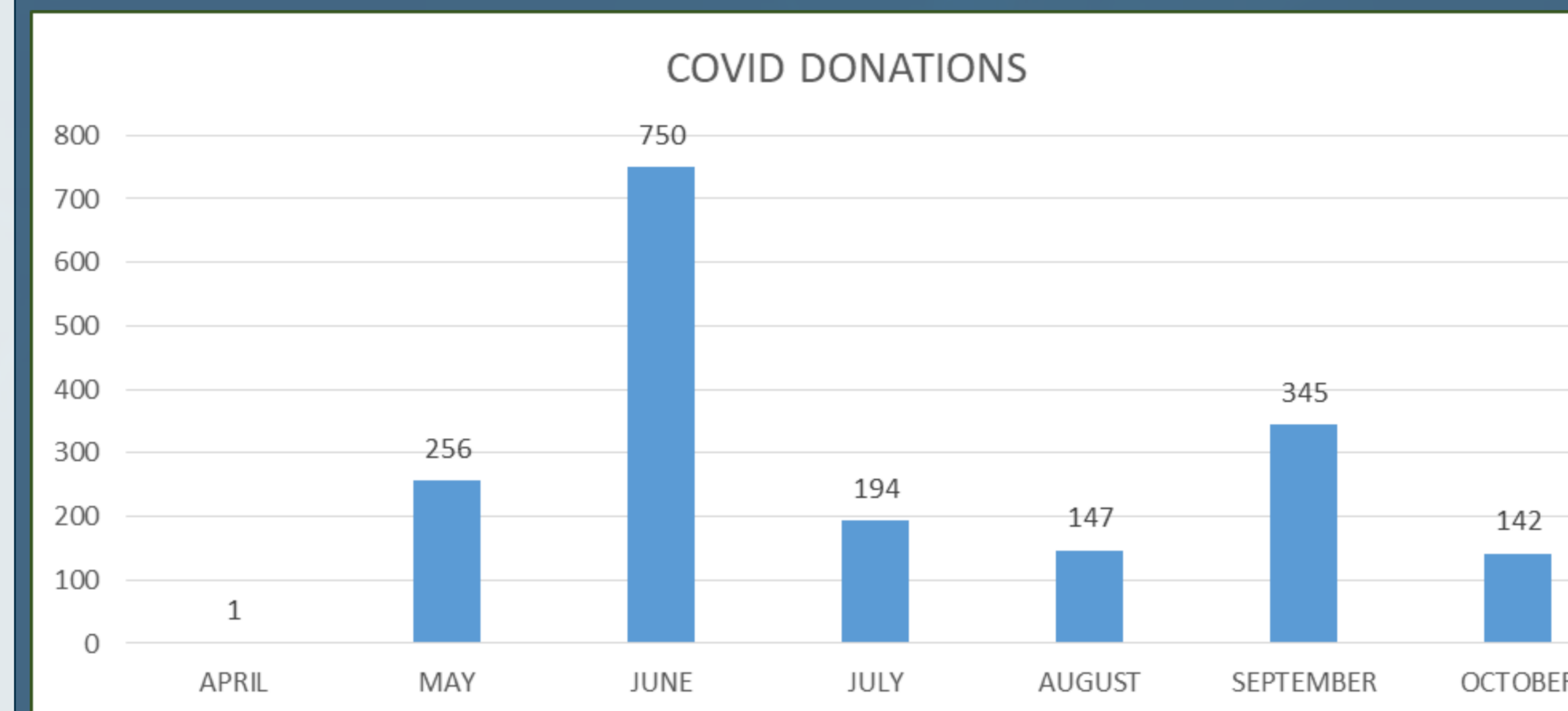


Figure 1. Donations registered in biobank since april

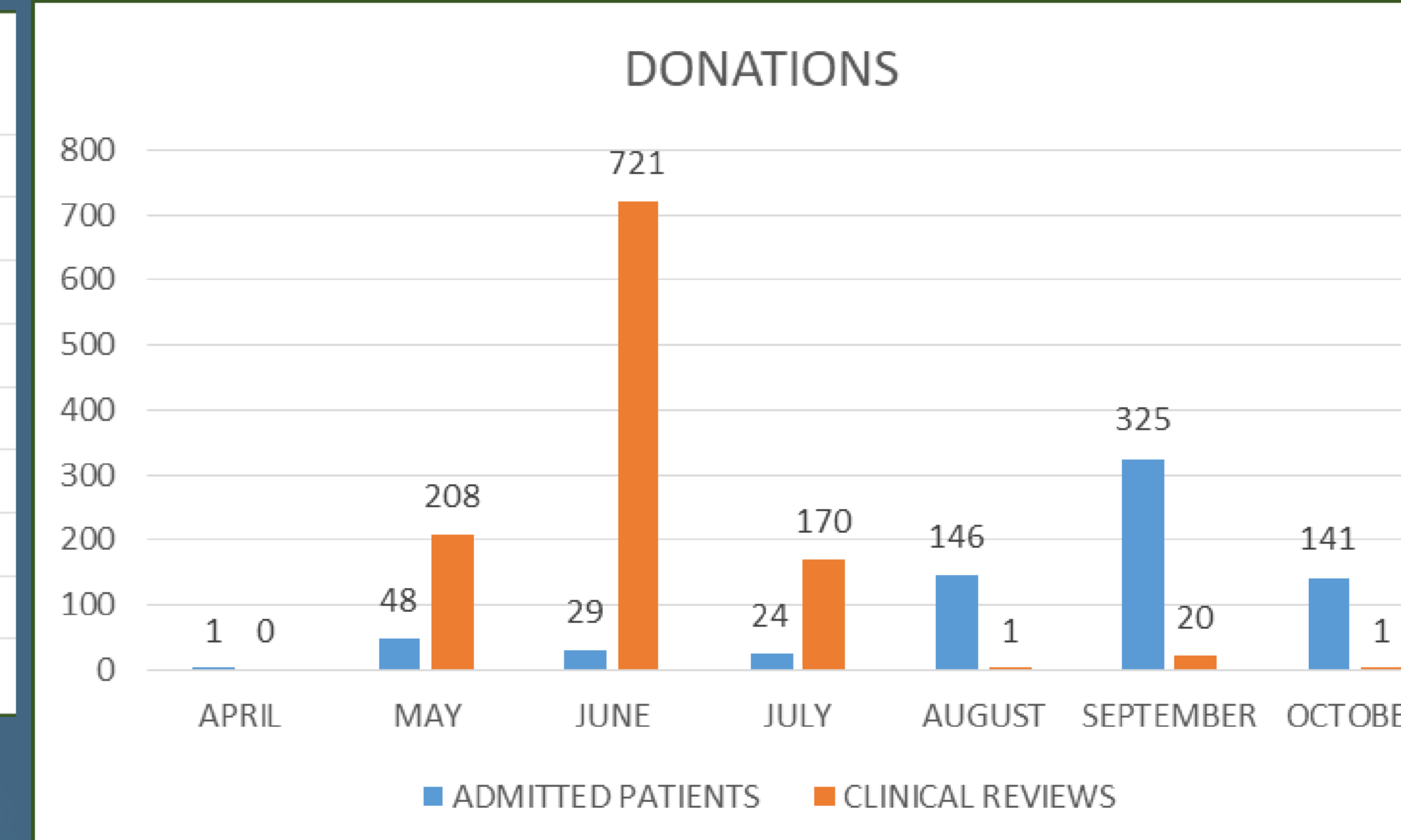


Figure 1 shows total donations registered, a large number of donations were registered in June. We currently have samples of 1,653 COVID donors available, from which we have collected 1,835 donations. Of these, about 700 are exudates collected at the hospital during the first wave for testing, 200 cases are positive and the rest are negative or indeterminate, which can be negative controls. Therefore, we have samples from 1153 PCR positive patients.

The IMIB biobank has different types of samples, as you can see in the table 1 that includes samples of exudates, plasma, serum, DNA (which we obtain from the buffy coat), viable cells, whole blood and saliva. More than 10,000 samples are available to researchers. The collection of samples will begin shortly in the reviews of patients admitted in this second wave. We are transferring human biological samples and clinical data associated with COVID patients for more than seven investigation-financed projects (one of these is a European project) and two clinical trials, all of these have been performed in three months.

Table 1. Summarizes the number of samples received. Once processed, the samples we collect and store at adequate and controlled temperature.

RECEIVED SAMPLE	Number of Samples	OBTAINED SAMPLE	Number of Samples
EXUDED NASOPHARYNX	719	EXUDED	719
S.CITRATE	582	PLASMA	2.052
S.EDTA	1.026	SERUM	3.912
S.HEPARIN	571	DNA	700
SERUM	978	CMSP	520
SALIVA	135	BUFFY COAT	1.300
TOTAL	4.011	Whole BLOOD	700
		SALIVA	135
		TOTAL	10.188

CONCLUSIONS

Other types of samples that may be necessary, the implementation of circuits, especially for the incorporation of asymptomatic patients and to include patients admitted to all hospitals in the region. And in the incorporation of the associated information. We are working on the implementation of the new needs and requirements of ongoing research.

ACKNOWLEDGEMENTS

Thanks to the support of our Institution (IMIB), healthcare authorities, Carlos III health institute (PT17/0015/0038) and to the collaboration of researchers and clinicians from the main hospitals in our region, we are receiving samples and have integrated biobank consent and clinical data dump recorded in the medical history of all COVID patients of our community.

CONTACT INFORMATION

biobanco@imib.es

www.biobanco.imib.es