

THE SCIENSANO BIOBANKS BEFORE, DURING AND AFTER THE COVID-19 PANDEMIC: CHALLENGES AND OPPORTUNITIES

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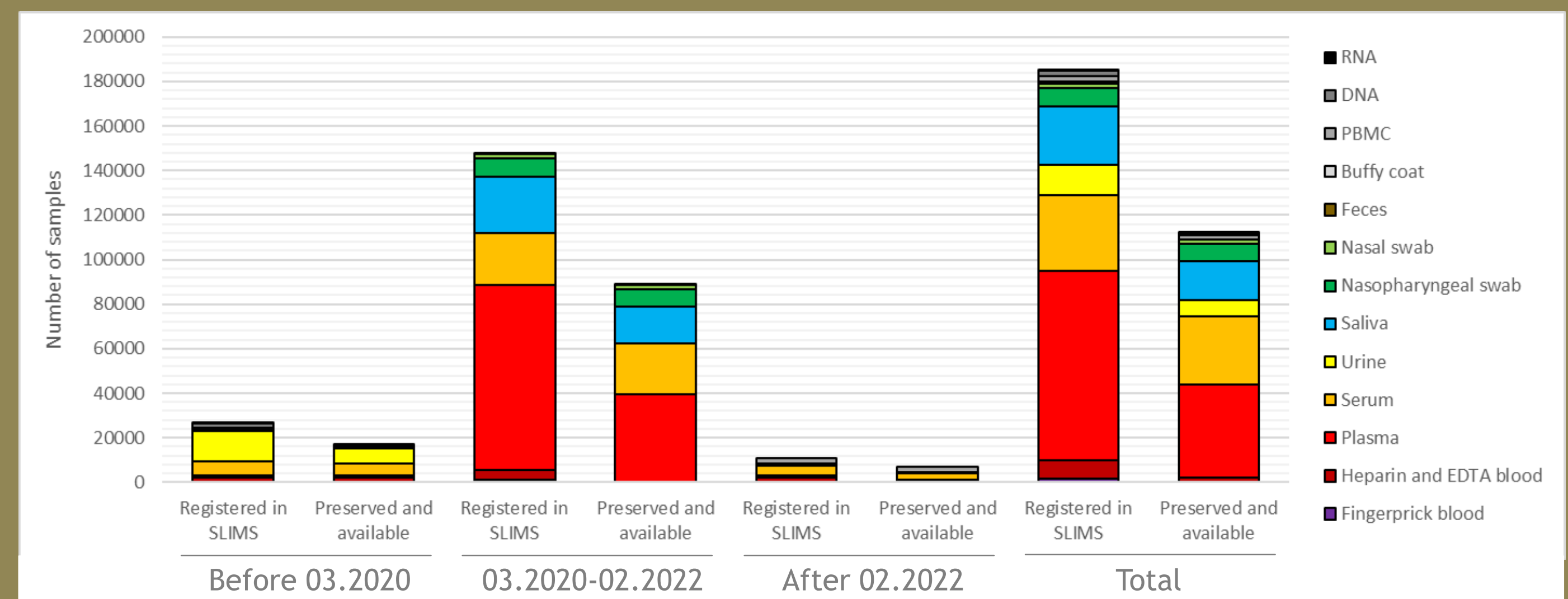
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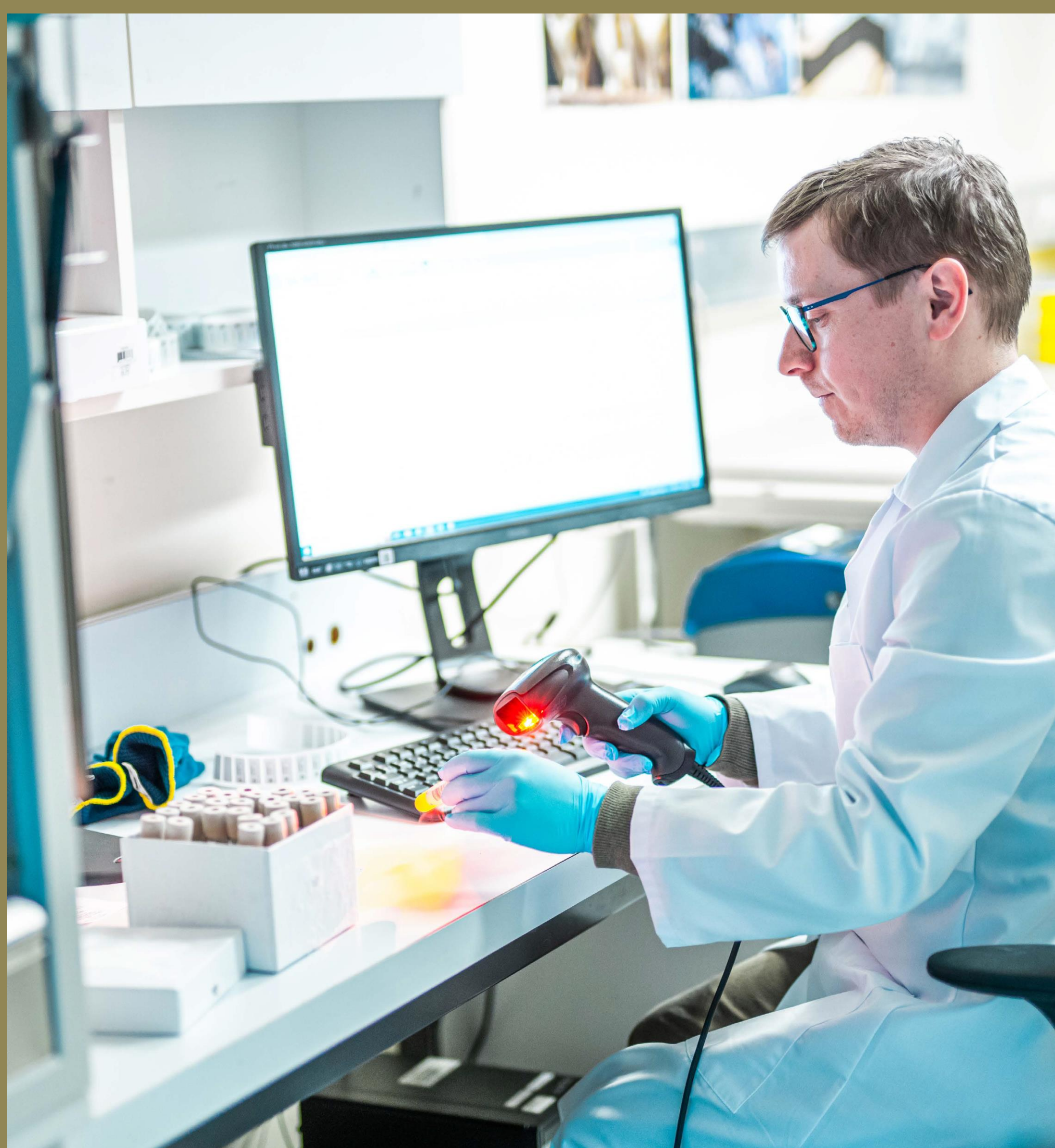
INTRODUCTION

All Sciensano biobanks were installed conform to the biobank legislation of 2018. This in order to keep preserving and using Sciensano's existing and future collections of human body material for scientific research, mainly in the domain of infectious diseases. At the beginning of 2020, the structure of a Central Biobank Platform has been developed to support administratively as well as operationally these 18 different biobanks, having their specific goals and activities. At the same time, the COVID-19 pandemic broke loose, imposing several challenges but also opportunities for the future.

This shows the impact of the COVID-19 pandemic on biobank activities and also the importance of the Sciensano biobanks for research.



Legend: Number of samples registered in Sciensano biobanks before, during and after the COVID-19 pandemic. During the COVID-19 pandemic (taken from 03.2020 until 02.2022), 21 studies, mainly COVID-19 studies, were supported by the Central Biobank Platform Sciensano and 147.486 samples have a registration date in our SLIMS within that period. This is a clear increase compared to after the COVID-19 pandemic (i.e. after 02.2022). Note that Sciensano also houses several collections with sample registration dates before 03.2020. Nevertheless, an increase in sample registrations during the COVID-19 pandemic is clearly visible and this has resulted in valuable collections of different sample types. Indeed, until now, a total of 184.622 samples have been (SLIMS) registered in our Sciensano biobanks of which 112.161 are kept preserved (according to donor consent) and can potentially be used in future research.



The Sciensano biobanks have gathered a wealth of valuable collections that can be used in future research to study various human health problems in the domain of public health and infectious diseases.

The Sciensano biobank activities and contributions to research during the COVID-19 pandemic

The COVID-19 pandemic forced us, as a Central Biobank Platform, to develop at a fast pace. This implied (1) giving advice to researchers throughout the entire biobanking lifecycle ; (2) installing new COVID-19 collections ; (3) ensuring adequate biobank administration for studies ; (4) supporting the registration of samples and data of importance for the biobank ; (5) providing and maintaining sample storage facilities ; and (6) providing samples to end-users. Meanwhile, the governance structure of the Central Biobank Platform was further optimized and a biobanking software (SLIMS from Agilent) was implemented taking into account a quality system to keep guaranteeing biobanking services of high-quality.

During the COVID-19 pandemic in Belgium, when exigent sanitary measures were in place (i.e. from March 2020 until February 2022), 147.486 samples were registered in Sciensano biobanks of which 99,4% were used in COVID-19 studies and leading to the publication of 12 research articles, 11 scientific reports and other types of communication (newsletters, etc.). Compared to before the COVID-19 pandemic (cf. 26.408 samples), there was an increase of 82,1% in total amount of samples registered in Sciensano biobanks. After February 2022, 10.728 samples have been registered in Sciensano biobanks of which 89,5% were used in COVID-19 studies.

ACKNOWLEDGEMENTS

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