What do we need to improve infrastructure?

[00:00:00.160] Hi, I'm Tomas Poklepovich from the National Centre of Genomics and Bioinformatics at the Malbran Institute.

[00:00:06.850] Since the pandemic, the genomic surveillance has scaled up in different levels across the globe. Depending on the kind of surveillance required, the genomic response is going to be tailored.

[00:00:19.040] The basic laboratory is similar to a molecular biology laboratory. For example a laboratory for diagnosis with qPCR for COVID-19 multichannel pipettes, thermocyclers, plastics, DNA extraction methods, et cetera. But some other specific characteristics like a fluorometer for quantifying DNA, a fragment analyzer for the library prep and of course the sequencer.

[00:00:45.010] Also electrical power stability and temperature and humidity control are essential for reagent storage and the sequencing process itself.

[00:00:54.650] If you are thinking in a reference lab where the number of samplers may be much bigger, the automatisation may be also critical. Needing different solutions of liquid handler robots for DNA or RNA extraction for PCR amplification, DNA hybridization and library prep for sequencing. Also, the storage space for cold reagents and consumables is something to work along. It sometimes takes more space than we are used to think.

[00:01:26.690] Apart from the sequencing chemistry, each sequencer has their specific requirements, informatic requirement. In Argentina, we set up from the National Centre of Genomics and Bioinformatics the federal genomics network, where each province starts their genomic lab where the diagnosis with qPCR first existed not only to respond for COVID-19, but also to integrate genomics to other pathogens and genetic diseases of public health interest.