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## The gut microbiota of hospitalised patients: insights on *Enterococcus faecium*

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## Propositions

Accompanying the dissertation

### The gut microbiota of hospitalised patients: insights on *Enterococcus faecium*

1. Microbiota profiling during hospital admission is promising from a clinical perspective, due to its potential for predicting post-surgery clinical outcomes, such as length of hospital stay. *(This thesis)*
2. Disentangling the many factors contributing to the disruption of the intestinal microbiota composition in critically-ill patients is limited by the inherent combination of some of these factors. *(This thesis)*
3. Microbiome studies would benefit from a multi-omics approach by including, among others, metabolites (metabolome) and RNA-seq (transcriptome) analyses. *(This thesis)*
4. Active surveillance of potentially pathogenic bacteria known to arise during hospitalisation represents a critical avenue to consider for preventing the further spread of multi-drug-resistant pathogens among patients. *(This thesis)*
5. In the case of VREfm outbreaks, the interpretation of the results generated by WGS is further complicated by the presence of mobile genetic elements (MGEs). *(This thesis)*
6. Clear differentiation based on the allele profile remains challenging because of the close genetic relatedness between VSE and VRE. *(This thesis)*
7. Early detection of VRE is a crucial element in preventing hospital outbreaks. In this scenario, the fast turnaround time, and the possibility to analyse preliminary data in real-time makes ONT technology a promising approach. *(This thesis)*
8. In a situation where clonal spread is present, a shared prophage reference could identify closely related isolates and distinguish those of a different genetic background. *(This thesis)*
9. Prediction is very difficult, especially about the future. *(Niels Bohr)*
10. Science is the process that takes us from confusion to understanding. *(Brian Greene)*  
Doing a PhD is confusing until you understand what your supervisors mean. *(Hermie Harmsen)*

Paola Lisotto