NGS FOR INFORMING LUNG CANCER THERAPY IN EUROPE – HOSPITAL IMPACT WITH A LIFECYCLE PERSPECTIVE

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Introduction
Within oncology, next-generation sequencing (NGS) has paved the way for more effective treatment, including personalized medicine.¹ There are, however, large variations in access and reimbursement across Europe.²

Objectives
The aim of this study is to understand the European NGS landscape and barriers to access.

Methods
Semi-structured telephone interviews, using a pre-developed questionnaire. Interviews were undertaken with 68 key opinion leaders in four different European Union countries (France, Germany, Italy, and Spain). In each country, interviews were undertaken with three payers, seven clinicians and seven pathologists (N=17 per country). Respondents were identified and selected using screener questionnaires to ensure sufficient experience and knowledge of NGS in oncology, as well as a heterogeneous representation of settings (Figure 1).

Results
• Payers, clinicians and pathologists in all countries generally found NGS highly useful, but the benefit depends on the availability of approved, targeted treatments.
• Lack of information linking a mutation to available treatments or trials was considered an issue.
• Respondents perceived that NGS has the potential to improve patient quality of life and reduce resource use through avoiding suboptimal treatment.
• All of the payer respondents expected the role of NGS to increase, though it may be held back by lack of reimbursement.
• Respondents favoured in-house NGS over outsourcing in terms of clinical benefit: “Advantages of in-house NGS are turnaround time, results and lean processes”
“If you have urgent samples, it’s easy to prioritise them”.
• Reasons for not having in-house NGS included costs and logistics.
• Respondents from all countries agreed that there is an unmet need for NGS testing and that not all patients who could benefit from NGS can access it.
• As illustrated in Figure 2, a majority of respondents in all countries found that there was a lack of guidance regarding appropriate NGS usage, which is a barrier to uptake.

Discussion & Conclusion
All respondents recognized the potential benefits of NGS. Barriers to its uptake were lack of national guidance and clear links between identified mutations and clinical intervention. Respondents wanted a better understanding of when to invest in NGS, requiring more peer-reviewed publications and understand of the cost-benefit provide by NGS.

References
2. Lung cancer Europe. POSITION PAPER. Disparities and challenges in access to lung cancer diagnostics and treatment across Europe (2020)