Whole Genome Sequencing in Personalized Oncology

To expand molecular profiling of tumors in order to improve immune- and targeted treatment selection and outcomes in patients with advanced melanoma and NSCLC.

WP: 1,2,3

To project long-term cost-effectiveness, budget impact, and relevant patient, organizational & legal issues related to the introduction of WGS compared to standard diagnostics. WP: 4,5,6

RATIONALITY

• Large variability between Next Generation Sequencing (NGS) tests throughout laboratories in the Netherlands.
• Increasing application of immunotherapy, while only a selected group will benefit: need for biomarker
• Consequence: ↓quality of life due to side effects and ↑healthcare costs.
• How can we apply NGS to select patients who will benefit from immuno- or targeted therapy?

DATAFLOW

WP1 
WP4 
WP5 
WP2 
WP3 
WP6 

DMTR 
SANTEON 
NVALT 
PALGA 

WP1: cross-sectional NGS, full and full-patient data
WP2: genetic tests for WGS, TDP and single genes
WP3: patient-level WGS data for WPS1 patients
WP4: genotype, phenotype and clinical data
WP5: Health and health policies - various scenarios
WP6: Cost data
WP7: Sensitivity data
WP8: Clinical and follow-up data, data over and after treatment
WP9: Insurance costs concerning patient pathways
WP10: Diagnostic patient-level WGS data (protocol specific)
WP11: Diagnostic patient-level WGS data (protocol specific)
WP12: Longitudinal patient-level study data (covering diagnosis, death, ESS)
WP13: Longitudinal, clinic and full patient-level data, also WPS1 patients
WP14: Relevant registry data, city and patient data

GOALS

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• To project long-term cost-effectiveness, budget impact, and relevant patient, organizational & legal issues related to the introduction of WGS compared to standard diagnostics. WP: 4,5,6

WORKFLOW

1st line

Advanced melanoma 
Diagnostics 1. standard 2. WGS 
Immunotherapy 
Complete response 
Diagnostics 1. standard 2. WGS 
Death 
Resistance/progression 
Chemotherapy 
Targeted treatment 
Complete response 
Death 
Resistance/progression

Survival
Quality of life
Costs
Process/infrastructure

RELEVANCE TO HEALTH-RI

• Project aimed at improving personalized oncology
• Storage of large amounts of biological data in a biobank
• FAIR handling of biological data
• Nationwide organization of reporting molecular data