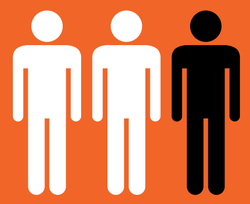
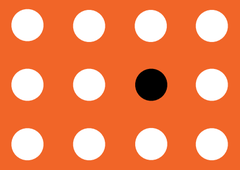
IMPLEMENTING PERSONALISED ONCOLOGY

From Experimental to Mainstream: Stakeholder Elicitation Regarding the Implementation of Personalised Oncology in Dutch Healthcare.

Background



Cancer is responsible for **31%** of the total death rate.



It is a **complex** disease & every patient is **unique**.

Standard of care **treats** most cancer patients **the same**.

Personalised Oncology offers promising **tailored treatments**.

INTRO: The global evolution of Personalised Oncology (PO) provides examples how state-of-the-art healthcare integrates into patients' lives and serves as a precedent towards widespread future implementation (Singer *et al.*, 2018). The implementation efforts of PO will result in **durable clinical benefit**, **facilitate nationwide access to care** and exploit future **scientific and technological advances in cancer care** (Janssens, Schuster, & Voss, 2018).

PROBLEM: Current initiatives do not contribute to the health of the vast majority of Dutch cancer patients. Many significant barriers to mainstreaming PO exist and implementation is hampered (Joosten *et al.*, 2016); therefore, **the healthcare system is not exploiting its potential**.

AIM: Develop **actionable insights** on the implementation of Personalised Oncology in Dutch healthcare by analysing **value assessments of stakeholders** following allocative decision-making criteria for implementation.

Theoretical Framework

EVIDEM model for value assessment

Quantitative appraisal → **Qualitative appraisal**

- **Need for intervention**
- Comparative outcomes
- **Type of benefit of the intervention**
- Economic consequences
- **Knowledge of the intervention**

- Normative contextual criteria
- **Feasibility contextual criteria**

Study Design (mixed-methods)

Online survey
Medical specialists (N=107)

Stakeholder interviews
(N=8)

Analysis
(causal)

Actionable insights & Recommendations

Results

	Quantitative data	Qualitative data
Need for intervention	**83%** high disease burden of cancer	**Number of patients is growing** > ageing population **Difficult to cure** > cancer is N=1
Type of benefit of the intervention	**31%** PO-based therapy will cure the patient	**Lack of drugs** > unclear rules for administering off-label therapy **No treatment is also a treatment** > QoL is important > severe side-effects
Knowledge about intervention	**54%** not enough supporting scientific evidence	**Few implementation of knowledge** > no valuation of implementation quantity > wrong incentives in science

Only qualitative data

Feasibility contextual criteria

High costs and no investments > no direct cost-benefit relation
No leadership > no mandate of stakeholders > no one feels responsible
No data governance > no interoperability > no rules in data (re)use

> *"You will need a radical approach that proves Personalised Oncology really has a therapeutic effect on the patient, rather than shifting the burden of proof. Only then the majority will follow."*
>
> Policymaker

Conclusion & Recommendations

The national implementation of Personalised Oncology **will not be feasible yet**.
To support its effectiveness within cancer care, the healthcare system and all stakeholders have to understand the use of PO and proof its benefit in a clinical setting.

Recommended approach:

Create **mandate** and take **leadership** within the PO debate. Launch a foundation or an institute to accelerate cancer care. Why? To treat todays' patient with tomorrows care.

Invest & take leading position in genomic research via **big data** based analysis of Real World Evidence (RWE) (n=1, n=1, n=1)

Develop a platform to mine global treatment options based on PO and **match patients to existing therapies**

Be responsible for the burden of proof by treating patients with PO-based care; arranged in one clear **patient journey**

MEDICINE BASED EVIDENCE.

Author: Victor Bakker **; Supervisor:** Kenneth Fernald **; On-site supervisor:** Dr. Henk Viëtor & Dr. Coenraad van Kalken **; Presentation date:** June 21, 2019.

References: Janssens, J. P., Schuster, K., & Voss, A. (2018). Preventive, predictive, and personalized medicine for effective and affordable cancer care. EPMA Journal, 9(2), 113–123. **;** Joosten, S.E.P, Retel, V.M.H., van den Heuvel, M.M. & van Harten, W.H. (2016). Scenario drafting for early technology assessment of next generation sequencing in clinical oncology. BMC Cancer. 16 (1). **;** Singer, F., Irmisch, A., Toussaint, N. C., Grob, L., Singer, J., & Thurnherr, T. et al. (2018). SwissMTB: establishing comprehensive molecular cancer diagnostics in Swiss clinics. BMC Medical Informatics and Decision Making, 18(1).