

# Individualizing prostate cancer treatment

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Propositions belonging to the thesis

**Individualizing prostate cancer treatment**  
*Development of treatment decision support systems for  
prostate cancer patients*

Yvonka van Wijk

1. Prostate cancer patients stand to benefit from treatment selection with decision support systems in terms of quality of life. – *this thesis*
2. Using decision support systems incorporating health economic models not only improves patient quality of life, but also reduces long-term healthcare costs and enables effective distribution of limited resources. – *this thesis*
3. The development of patient decision aids connected to decision support systems is the next step in empowering patients and catalyzing shared decision making. – *this thesis*
4. A virtual CT image with an implantable rectum spacer generated using image deformation could form the basis for a decision support system for the implantation of such a device during radiotherapy treatment of prostate cancer. – *this thesis*
5. Due to limited human cognitive ability, condensation of complex information through decision support systems improves the treatment decision making process for clinical professionals. – *impact paragraph of this thesis*
6. If data is the new oil, decision support systems are the new refineries. – *Philippe Lambin*
7. Utilizing patient privacy-preserving distributed machine learning to translate and combine all data sources into knowledge will enable healthcare to move to individualized, high-quality, affordable and safe cancer treatments, ensuring the sustainability of healthcare. – *Lustberg et al. 2017*
8. The combination of rapid learning healthcare and artificial intelligence to produce decision support systems represents a profound opportunity to make precision medicine a reality. – *Walsh et al. 2019*