

Health Technology Assessment and Health Economics

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High Medicines Pricing an International Issue

Access to medicines—the status quo is no longer an option



Last week, the much anticipated report

commendations and block its release

are not new.
system serves
human rights
decisions

Australian Prescriber
JUNE 39 : NUMBER 3 : JUNE 2016

VIEWPOINT
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2016; 306: 1061-03 Campaigners protest outside the National Institute for Health and Care Excellence over the pharmaceutical industry whose attempts to dilute health and development agenda. The Lancet

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EDITORIALS

What Happens When Proton Meets Randomization: There a Future for Proton Therapy?

[Feng-Ming \(Spring\) Kong](#) 

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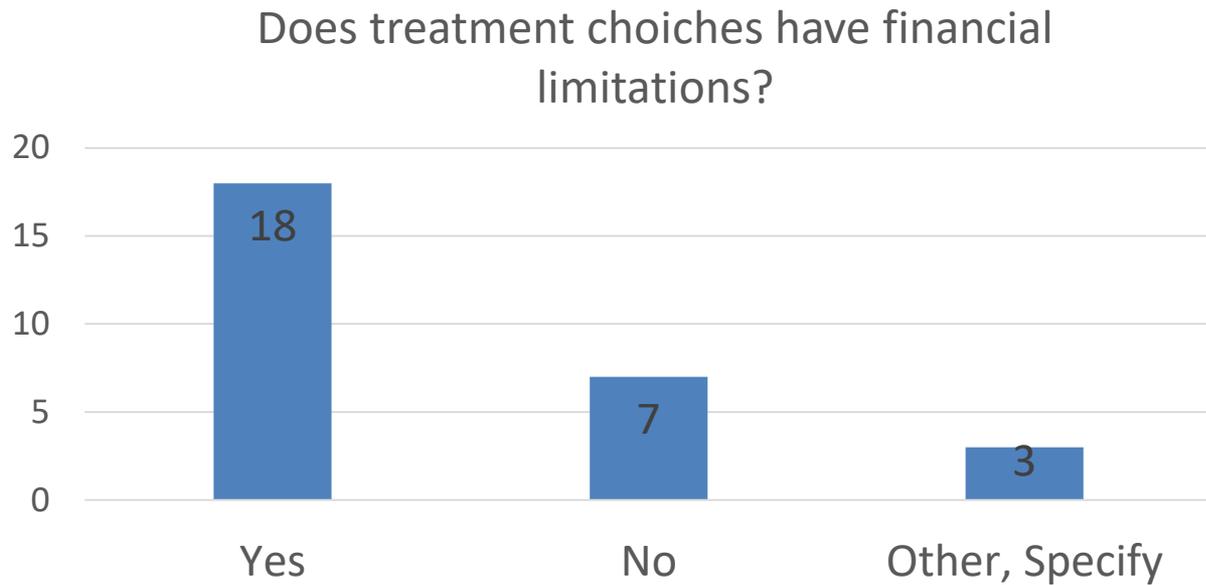
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The use of proton therapy has been a topic of debate for years. In the article
accompanies this editorial, Liao and colleagues¹ report the first randomized
assess the value of proton therapy compared with photon intensity-modulated
radiotherapy (IMRT) in non-small-cell lung cancer (NSCLC). Completion of
study is not trivial because the evaluation of the benefit of a new technology
has been done during the century-long history of radiation oncology practice
on the effectiveness of proton technology is particularly timely with the grow

Financial limitations (survey 2016)

- In 52% of responded institutes and in 59% of the participating countries there has been some cancer drugs either not accepted (skipped or delayed) from coverage because of their high cost



Correspondingly: **62%, 24% and 10% in participating centers**

Health Technology Assessment in Oncology

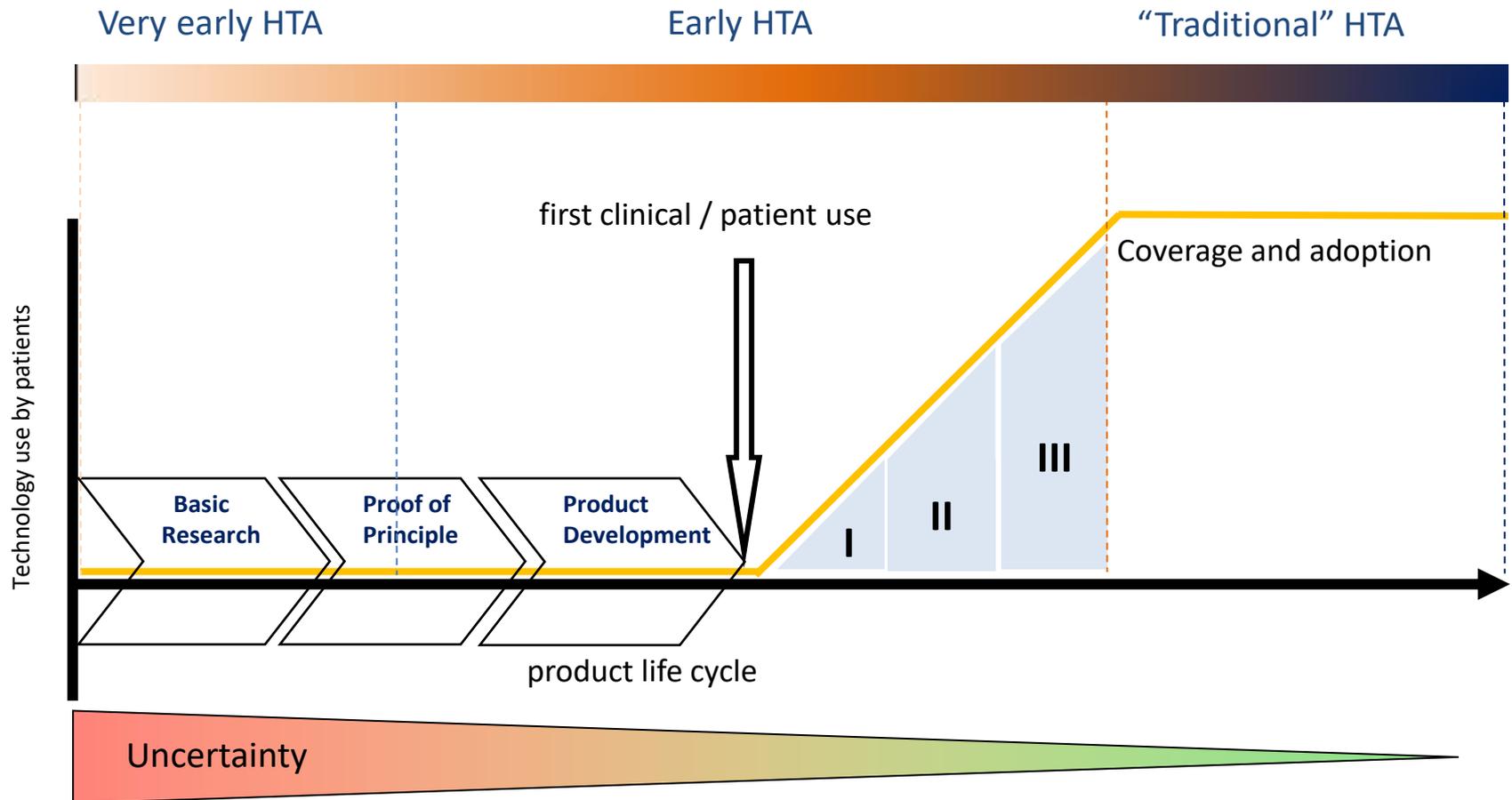
- Impressive Technology and Drug pipeline
- Increasing financial pressure
- Demanding patients

- Governments increasing pressure as higher percentage of GNP is spent on healthcare.
- Institutions specialize and have to decide what to spend their money on....

Health Technology Assessment in Oncology

- Importance of HTA growing on all levels.
- Successful integration of early stage HTA increases chances of **Innovations reaching the patient**
- Consider HTA conclusions as opportunity to adapt & improve!
- DO NOT LEAVE HTA TO AGENCIES AND GOVERNMENT!!
- COST proposal submitted as OECI WG initiative

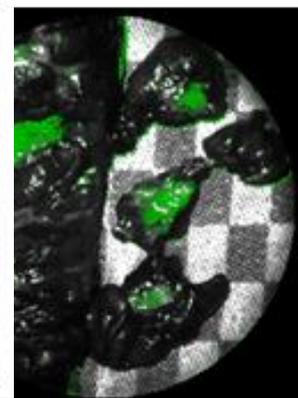
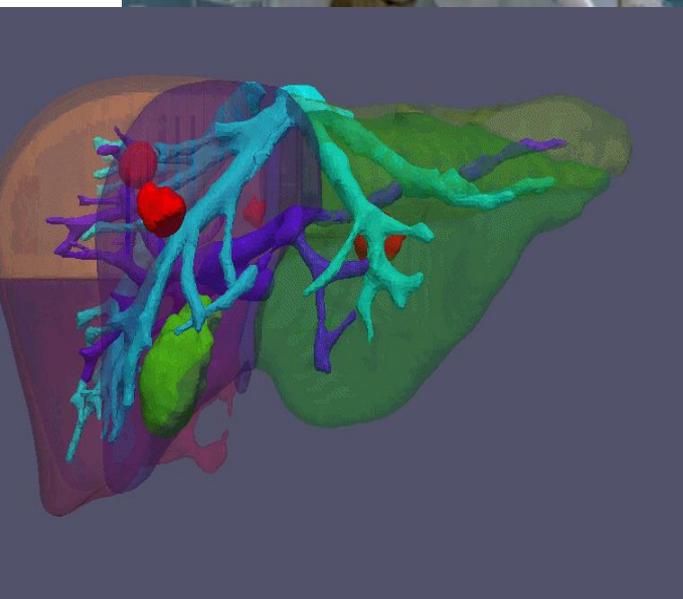
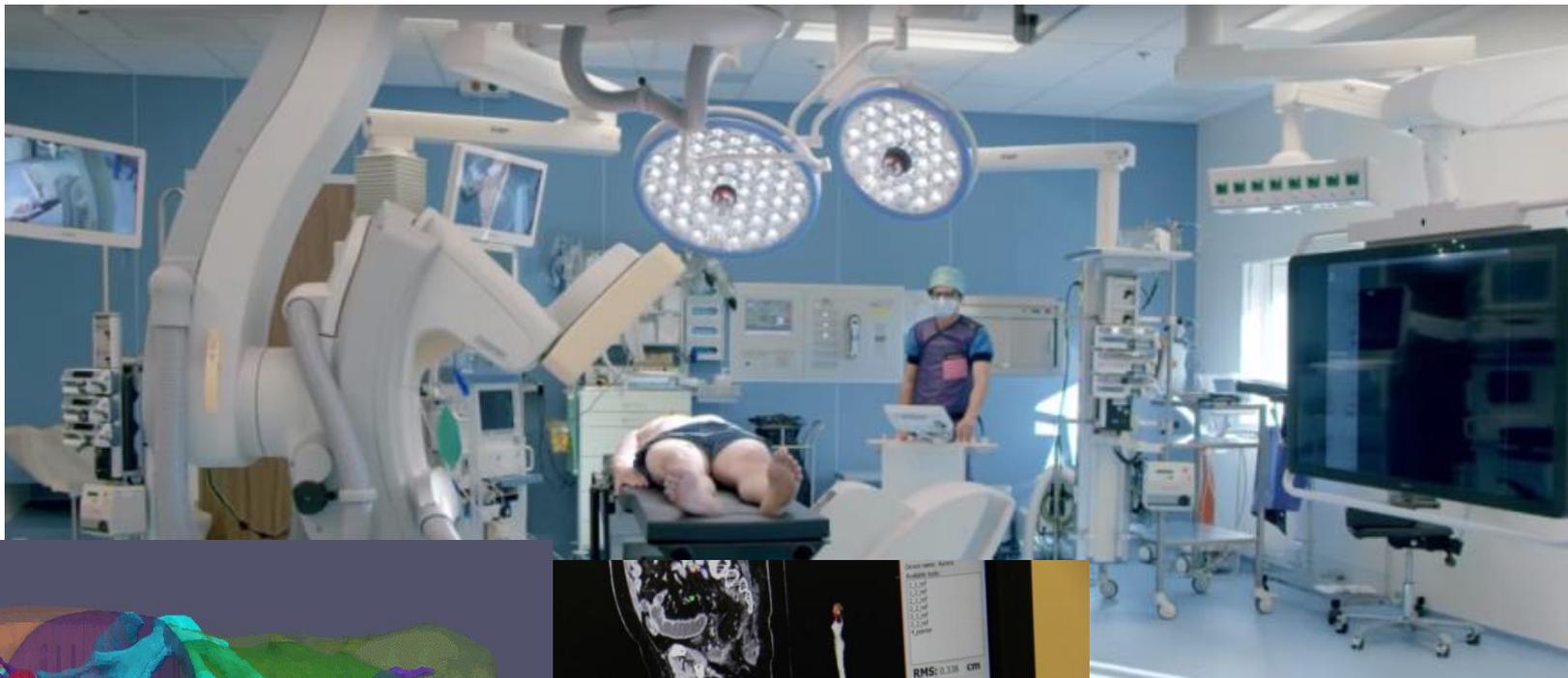
(early) Health technology Assessment



Health Technology Assessment in Oncology

- Horizon scanning of innovative technologies.
- Scenario analysis of technology development.
- Early stage (and repeated) modelling of Cost Effectiveness.
- Calculating Value of Research and Value of Implementation to convince funding agencies

Early HTA in image-guided surgery



Other HTA activities focused on image-guided surgery

- An early estimation of the **costs** per patient when using: navigation, optical imaging and/or augmented reality
- Sampling **clinical and patient-reported outcomes** (including quality of life) after using the navigation technology in lymph-node removal and rectal surgery
- Evaluating the **usability** of the navigation technology that is especially used in surgical procedures in the lower abdomen
- Bottom-up **costing analysis** of the hybrid operating room compared to a general operating room from a Dutch perspective
- **Budget impact analysis** (BIA) on magnetic marker localization compared to wire-guided and radio-active seed localization in breast conserving surgery

The old myth: drug prices are high because the costs of R&D are high

- \$330 million Young et al, 2001
- \$660 million Prasad et al, 2017
- \$2060 million Paul et al, 2010
- \$2760 million MiMasi et al, 2016

Biggest cost drivers
in R&D

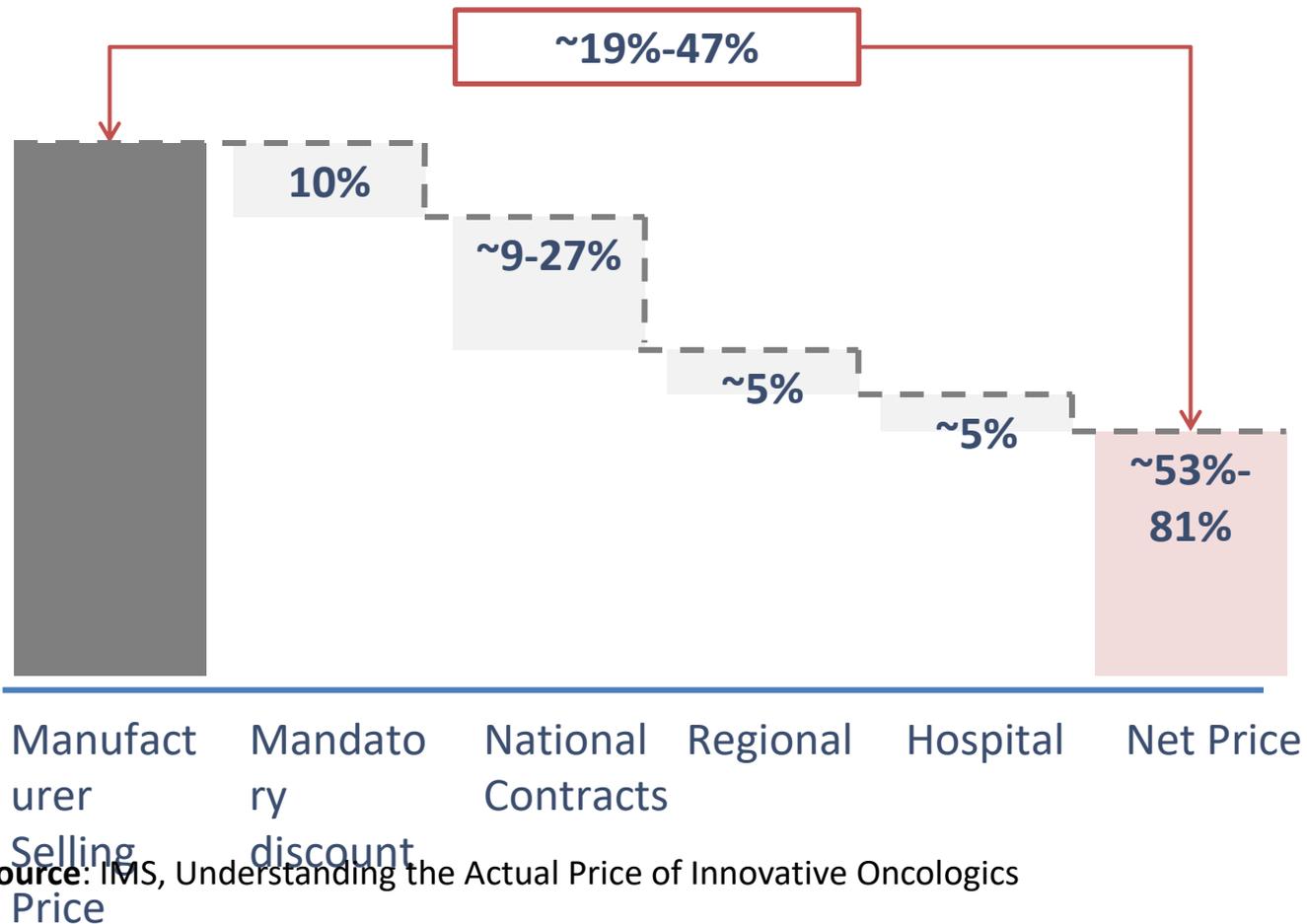
- Cost-per-project
- Success rates/Attrition
- Cycle length

...But how high?

Prices are also not transparent



List price vs actual price



Actual costs of cancer drugs

Country		Lithuania	Spain (N=2)	France (N=2)	The Netherlan ds (N=3)
GDP/capita (€)		12,400	22,800	32,200	39,300
Perjeta® 1 vial/420 mg	Actual price	N/A	2,590.18	2,891.10	3,000.00
Pertuzumab	Official price	N/A	2,910.58	2,891.10	3,000.00
Mabthera® 1 vial/100 mg	Actual price	N/A	210.56	266.44	271.13
Rituximab	Official price	N/A	238.06	266.44	279.27
Yervoy® 1 vial/ 50 mg	Actual price	5,500.00	2,338.83	3,536.50	4,144.00
Ipilimumab	Official price	5,500.00	4,086.54	3,536.50	4,250.00

Cancer Mission

- Speeding up innovations that actually reach the patient
- Improve Quality of Care with a audacious objectives
- Reduce inequalities and lift up less well performing regions/countries.

Cancer Mission: Working Group Cancer Economics and HTA

- - Create Infrastructure/Network aligned with European CCC's
- -Bridging the gap between (translational) research and Health Technology Assessment
- -Identifying knowledge & training needs
- -Select common projects for cancer economic analysis: biomarkers/sequencing/medication/locoregional treatment & survivorship
- -Participants from OEI members, professional societies and related academic institutions
- **Patient involvement in HTA!!**

Thanks:

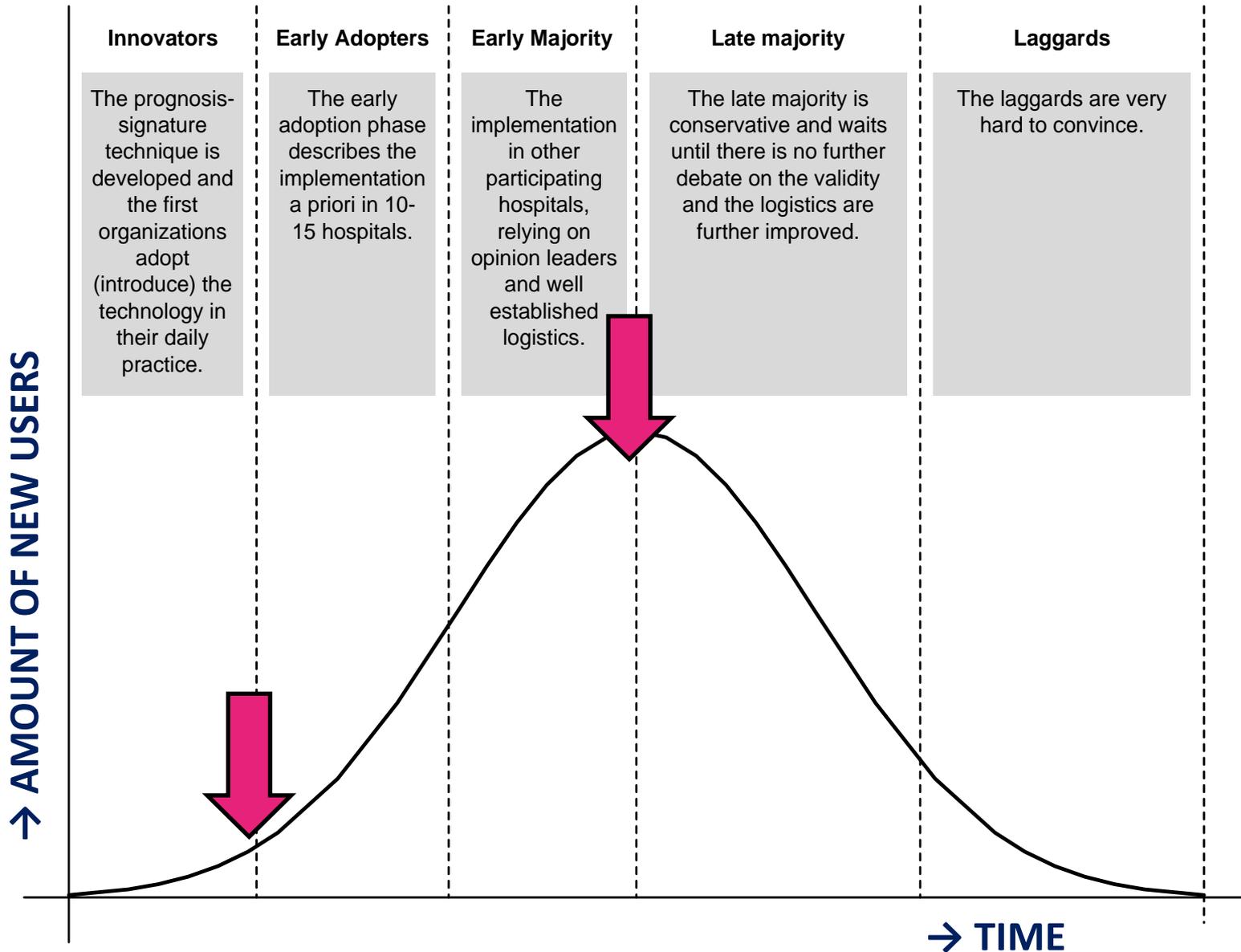
Valesca Retel; Melanie Lindenberg; Nora Franzen; Maarten Ijzerman; WG Health Economics OECD



Health Technology Assessment in Oncology

- Governments/Insurance agencies:
- - Incremental Cost-Effectiveness Analysis (ICER)
 - UK 40.000, NL 80.000 Euro/QALY
- - Net Benefit????
- Hospital level: **Budget Impact Analysis..**
- Costs versus coverage/funding
- Value Based Health Care: Health Gains/Euro

Adoption curve



HTA: Case example

Use of localization techniques in Breast Conserving surgery to improve cosmetic and clinical outcomes.

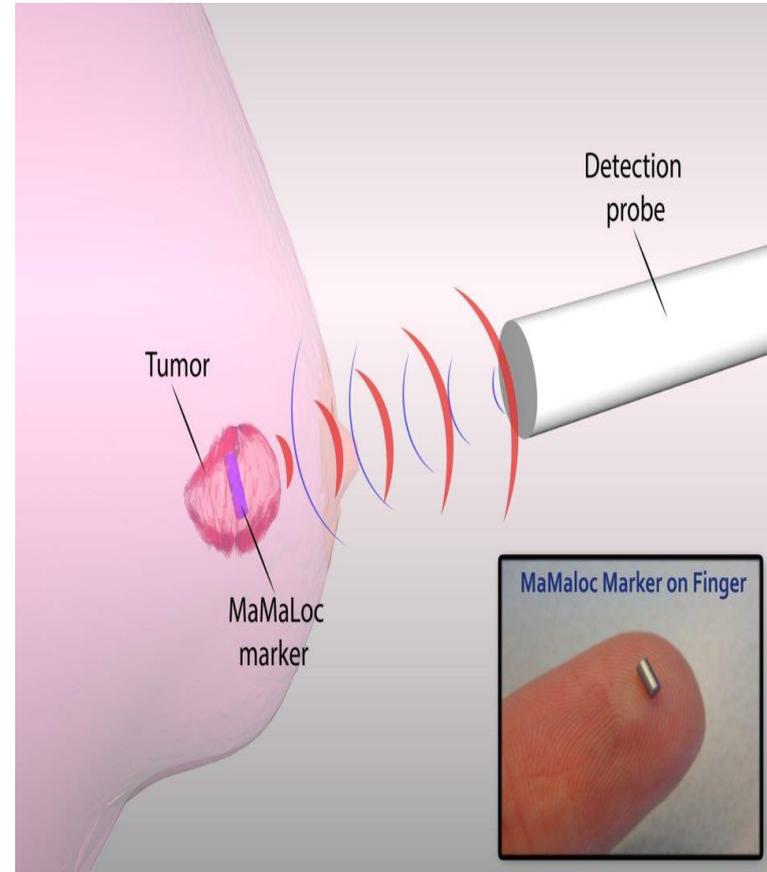
Proposed techniques:

- WIRE-GUIDED LOCALIZATION (WGL)
- RADIOACTIVE SEED LOCALIZATION (RSL)
- MAGNETIC SEED LOCALIZATION (MSL) (e.g. Magseed)

localization techniques

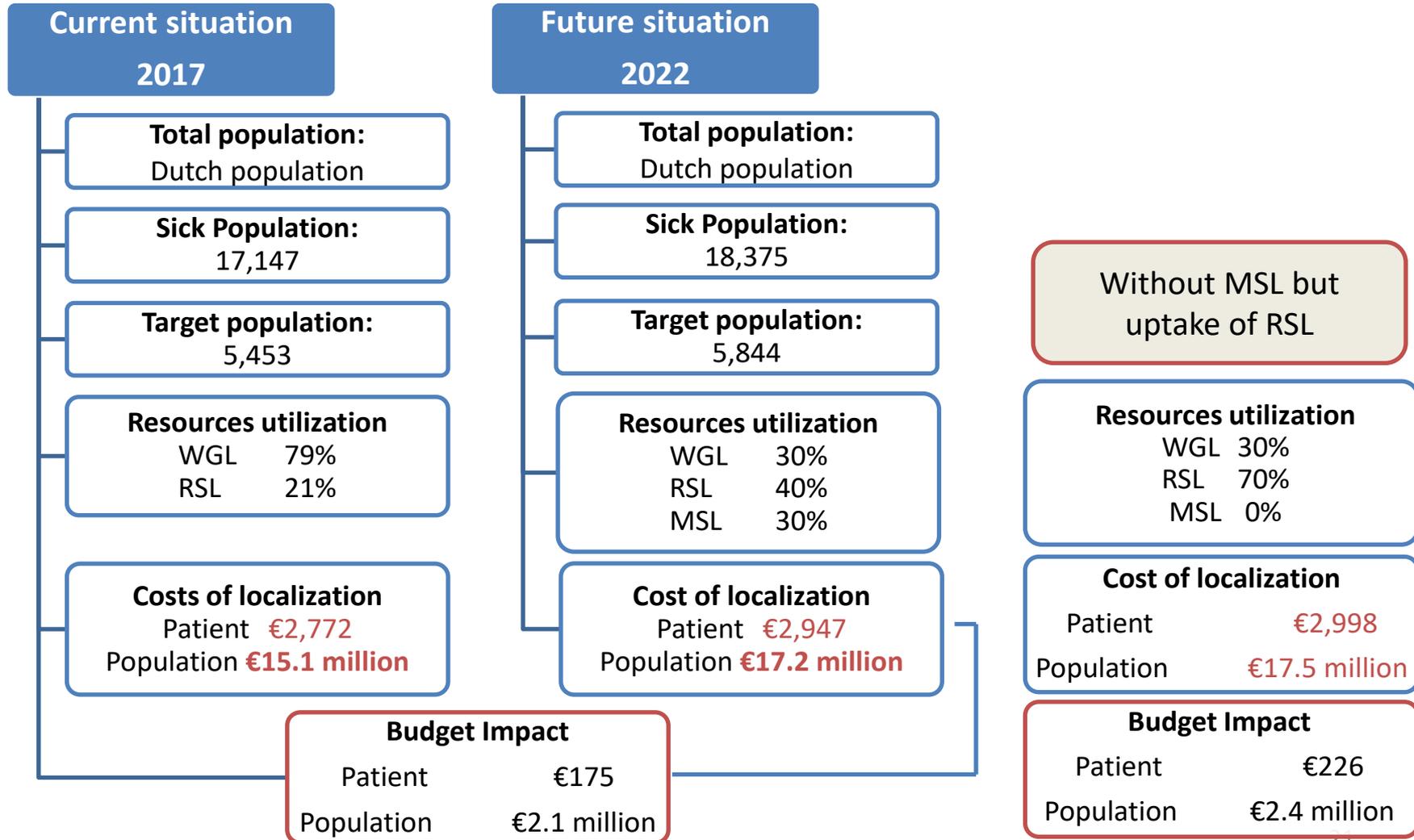
MAGNETIC MARKER LOCALIZATION (MSL)

- Just launched on the market (e.g. Magseed)
- Obviates the need for radioisotopes
- In some cases still in R&D



Results

budget impact analysis



Early HTA in image-guided surgery

preliminary results

- 19 interviews with surgeons

		Overall value score based on the <u>complete criteria set</u>				
		Interventions				
		Lymph node removal (n=4)	Liver surgery (n=3)	Tongue surgery (n=4)	Breast surgery (n=3)	Rectal surgery (n=3)
Technologies	Navigation	0.41	0.47	0.28	0.27	0.33
	Optical imaging	0.18	0.21	0.26	0.26	0.34
	Augmented Reality	0.23	0.17	0.26	0.24	0.18
	Usual care	0.18	0.16	0.19	0.26	0.15

Early HTA in image-guided surgery

preliminary conclusion

- We gained insight in the importance of criteria for making decisions in these interventions
- Ranking these 3 technologies on 5 interventions we found that R&D should focus on:
 - Navigation usage in LN, rectal surgery, liver surgery and tongue surgery
 - Optical techniques in tongue and rectal cancer
 - Augmented reality in tongue tumor resection
- Future research: incorporating the expectations on clinical outcomes in an early cost-effectiveness model.

Innovation Reimbursement schemes in literature

Country	Reimbursement scheme inpatient sector	Reimbursement scheme outpatient sector
France	<ol style="list-style-type: none"> 1. DRG-based (DRG) 2. Additional payment methods 3. Coverage with evidence development 4. Other research programs (PHRC/PRME/ Forfait innovation) 	Reimbursement list (LPPR)
Germany	<ol style="list-style-type: none"> 1. DRG-based (G-DRG) 3. Supplementary payments 4. Additional payment methods (NUB) 5. Coverage with evidence development 	<ol style="list-style-type: none"> 1. Reimbursement schemes (EBM/IGeL/TAS/GOÄ) 2. Coverage with evidence development
UK	<ol style="list-style-type: none"> 1. DRG-based (HRG) 2. Additional payment methods 3. Coverage with evidence development 	<ol style="list-style-type: none"> 1. Reimbursement list (Drug tariff list) 2. Coverage with evidence development
Italy	<ol style="list-style-type: none"> 1. Per-case tariffs 2. Additional payment methods 	-
Spain	<ol style="list-style-type: none"> 1. Global hospital budget 2. Additional payment methods 	-
Netherlands	Coverage with evidence development	Coverage with evidence development

A dash (-) means not available in the literature.

Abbreviations: DRG, diagnosis-related group; EBM, the Statutory Health Insurance Physician Fee Schedule; GOÄ, Private Health Insurance Physician Schedule; IGeL, Individual Health Services; HRG, Healthcare Resource Group; LPPR, list of products and services; NUB, new examination and treatment methods; PHRC, Program for Hospital Clinical Research; PRME, Program for Medical Economic Research; TAS, Therapeutic Appliance Schedule.