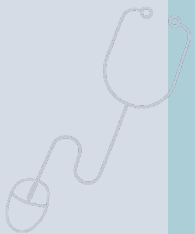


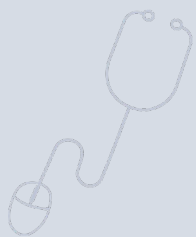
TACKLING «LOW VALUE CARE»

PD MER Dr. med. Marie **MÉAN, CHUV**
NDS symposium
Lausanne September 2023



AGENDA

- 1. LOW VALUE CARE, FROM DEFINITION TO INDICATORS**
- 2. ONE-YEAR PROGRESS OF LUCID NATIONAL DATA STREAM**





BACKGROUND

Soins médicaux inutiles pour la moitié des Suisses

In 2018 :

Swiss patients reported in a survey that 50% of the tests they received were not necessary



Photo de l'association smarter medicine – Choosing Wisely Switzerland présente les résultats du sondage sur les question des soins inappropriés.

Medienkonferenz zur Lancierung der
Informationskampagne für Patient/-innen
01. Oktober 2018 | Zürich
www.smartermedicine.ch

smartermedicine
Choosing Wisely Switzerland

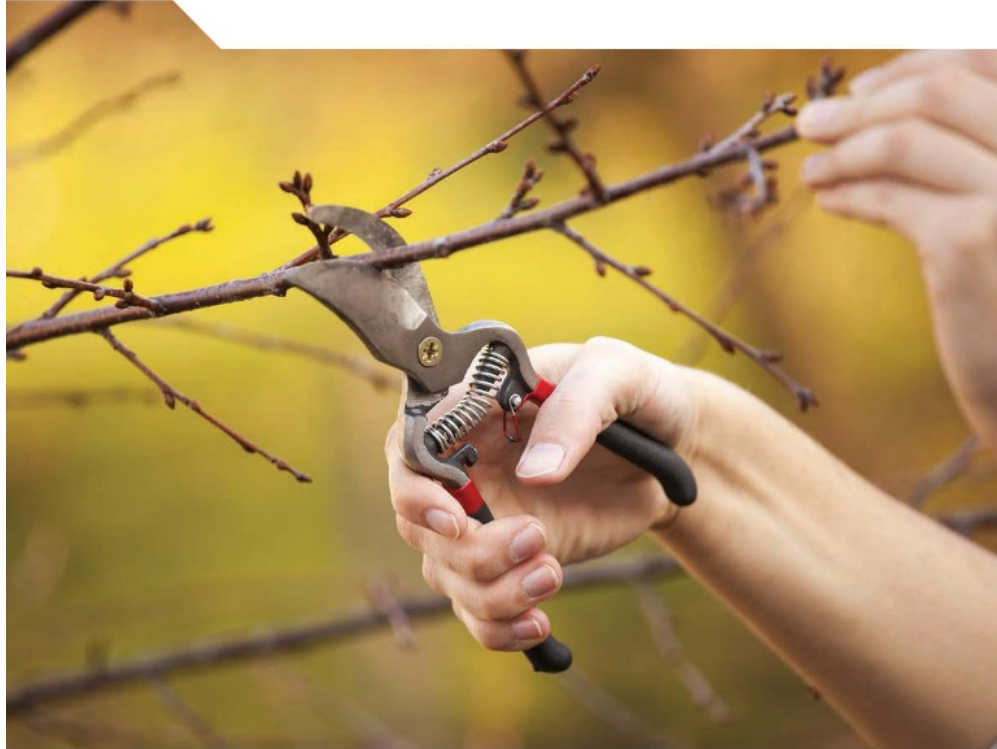
Medienrohstoff | [Embaro 01.10.2018 | 10.00 Uhr](#)

Mehr ist nicht immer ein Plus. Gemeinsam entscheiden.

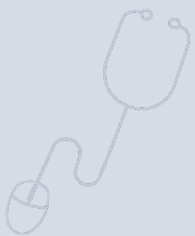
Über die Hälfte Bevölkerung in der Schweiz hat das Gefühl, sie selbst oder Personen in ihrem Umfeld hätten schon einmal eine unnötige medizinische Behandlung erhalten. Das geht aus einer repräsentativen Umfrage hervor, die der Verein *smarter medicine* – *Choosing Wisely Switzerland* in Auftrag gegeben hat. Studien zeigen sogar, dass etwa 20 bis 30 Prozent der Gesundheitskosten durch Behandlungen verursacht werden, die medizinisch nicht angezeigt sind. Deshalb lanciert der Verein *smarter medicine* Anfang Oktober eine breit angelegte Kampagne, welche auf das Thema der Fehl- und Überversorgung in der Medizin aufmerksam macht.



Tackling Wasteful Spending on Health

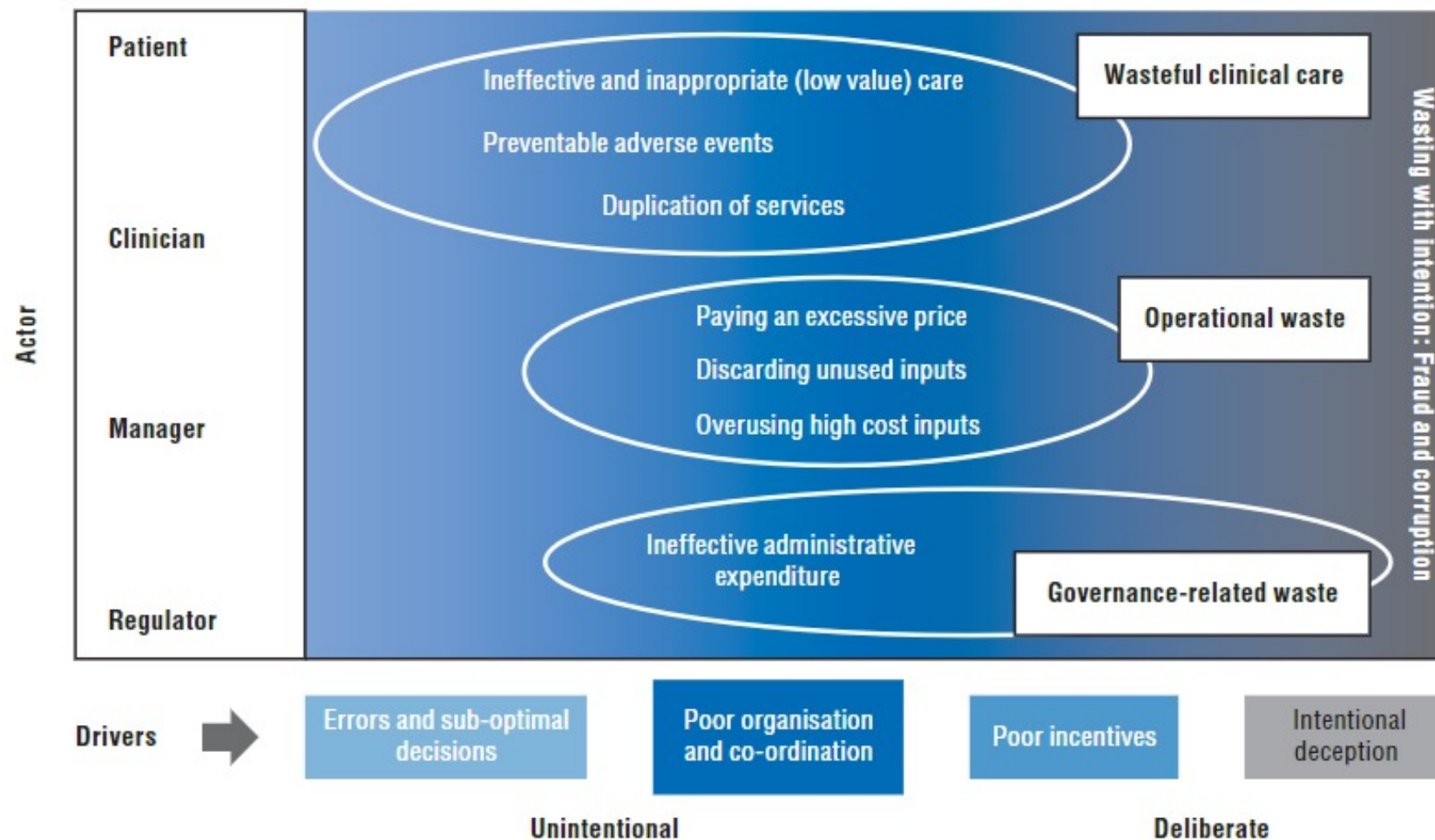


The Organisation for Economic Co-operation & Development, 2017



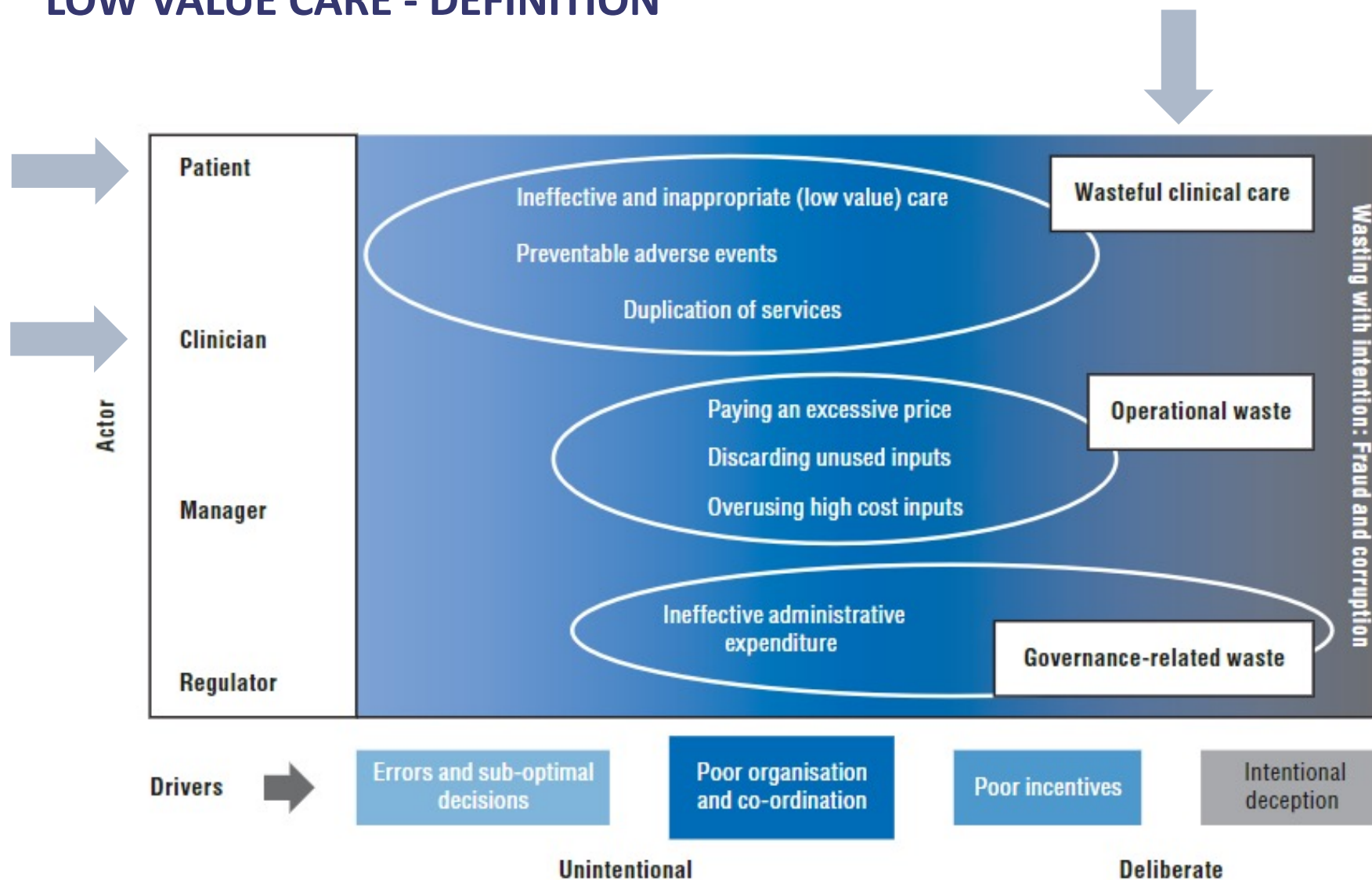
LOW VALUE CARE - DEFINITION

EOCD



LOW VALUE CARE - DEFINITION

EOCD



LOW VALUE CARE PRATICES

Drei konkrete Beispiele:

1 Antibiotika werden zu oft gegen Entzündungen der oberen Luftwege verschrieben. Diese werden in der Regel durch Viren ausgelöst. Gegen Viren sind Antibiotika unwirksam und tragen nur dazu bei, dass krankmachende Bakterien schneller resistent werden. Das ist auf die Dauer sehr gefährlich.

2 Bei Schmerzen im unteren Rückenbereich bringen Röntgenaufnahmen in den ersten sechs Wochen in der Regel nichts. Sie führen lediglich zu einer erhöhten Strahlenbelastung und ergebnislosen Folgeuntersuchungen.

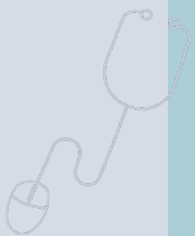
3 Wenn älteren Menschen gegen Unruhe oder Schlaflosigkeit Medikamente der Gruppe der Benzodiazepine verschrieben werden, sind häufigere Verkehrsunfälle und Stürze die Folge. Ein Effekt, den niemand will.

Trois exemples concrets:

1 Les antibiotiques sont prescrits trop souvent en cas d'inflammation des voies respiratoires supérieures, généralement d'origine virale. Les antibiotiques ne sont pas efficaces dans ce cas, et contribuent uniquement à accélérer la résistance des bactéries pathogènes, ce qui à terme est très dangereux.

2 En cas de douleurs dans le bas du dos, une radiographie au cours des six premières semaines est généralement inutile. Elle conduit simplement à des examens complémentaires sans résultat et à une exposition accrue aux radiations.

3 Quand des médicaments du groupe des benzodiazépines sont prescrits à des personnes âgées en cas d'agitation ou de troubles du sommeil, il en résulte une augmentation de la fréquence des accidents de la circulation et des chutes. Un effet qui n'est souhaité par personne.



RED STRING

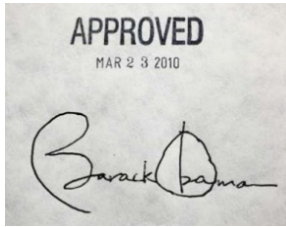
More than necessary
red blood cell
transfusion



**WHY GIVE TWO
WHEN ONE WILL DO?**

**A toolkit for reducing unnecessary red blood cell
transfusions in hospitals**

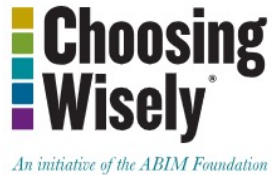
CONTEXT



2010



2012



2014



2016



Top-5-list

The Swiss Society of General Internal Medicine recommends this Top-5 interventions to be avoided in hospital care:

- Goal of the campaign: to promote conversations between clinicians and patients by helping patients choose care that is:
1. Supported by evidence.
 2. Not duplicative of other tests or procedures already received.
 3. Free from harm.

ADHERENCE TO CHOOSING WISELY RECOMMENDATIONS



Can be used as **Low Value Care** indicators

INDICATORS



INDICATORS



IDENTIFY.



MEASURE.



REPORT.



REDUCE.

IDENTIFY



IDENTIFY.



MEASURE.



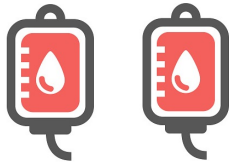
REPORT.



REDUCE.

CLINICAL CASE

IDENTIFY



- An 82-year-old patient with a history of high blood pressure and non-insulin-dependent type 2 diabetes suffered a serious hip fracture after a fall at home.
- After the surgery to treat the fracture, she developed anemia but was **clinically stable**.
- To address the anemia, she **received 2 blood transfusions** before being transferred to a rehabilitation center.
- However, her condition worsened as she experienced breathing difficulties and oxygen deficiency. She required treatment with intravenous diuretics and positive pressure ventilation in ICU, due to blood transfusion.
- **Due to this transfusion-related medical complication, her transfer to the rehabilitation center was delayed by 3 days.**

IDENTIFY

Transfusion thresholds and other strategies for guiding red blood cell transfusion (Review)

Carson JL, Stanworth SJ, Roubinian N, Fergusson D

Authors' conclusions

Transfusing at a restrictive haemoglobin concentration of between 7 and 8 g/dL reduced the need for RBC transfusion by 43% across a broad range of clinical specialities. This reduction was associated with a 30-day mortality or morbidity (i.e. mortality at other points, cardiac events, infection) compared with a liberal transfusion strategy. There were no significant differences in certain clinical subgroups, including acute coronary syndrome, myocardial infarction, neurological disorders, stroke, thrombocytopenia, cancer, haematological disorders. There is good evidence that transfusions with allogeneic RBCs can be avoided in many patients.

<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD002042>



WHY GIVE TWO WHEN ONE WILL DO?

A toolkit for reducing unnecessary red blood cell transfusions in hospitals

MEASURE

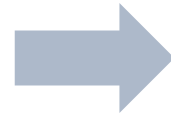


INAPPROPRIATE TRANSFUSION FREQUENCY

why the problem?



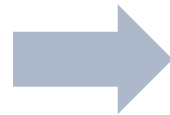
FREQUENCY:



In Swiss medical hospitalized patients :
10% to 30% of blood transfusions are inappropriate



RISKS: Higher Than Most Believe



Transfusion reactions, sepsis, pulmonary oedema, mortality

COST:

ACQUISITION
\$200-\$300



TRANSFUSION
\$700-\$1,350



= \$900-\$1,650

+ Shortage !

MEASURE

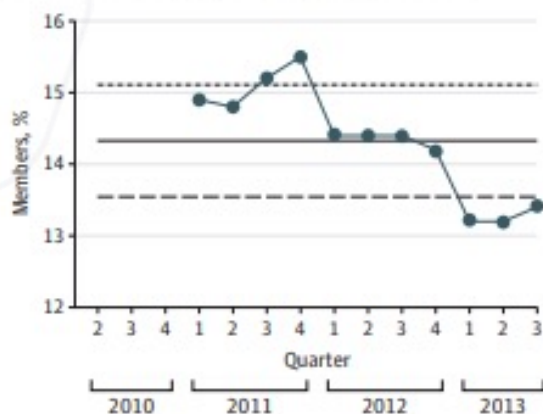
TRENDS OF A SELECTION DE LOW VALUE CARE PRACTICES, USA

Medical and pharmacy claims for approximately 25 million members across the United States

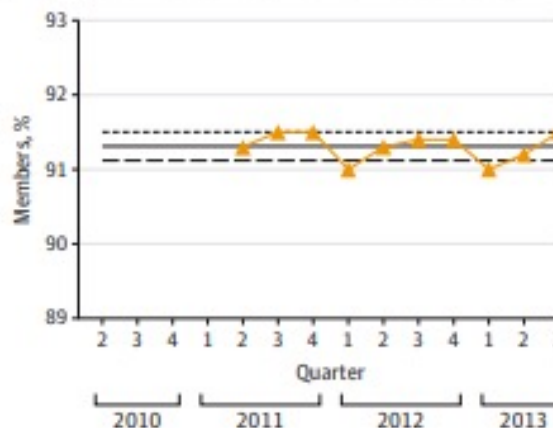
Choosing Wisely Recommendation	No. (% [95% CI])		Relative Change, % ^b	Trend Effect Estimate (95% CI) ^{c,d}	P Value
	First Quarter	Last Quarter			
Diagnostic Imaging					
Imaging for headache	6428 (14.9 [14.5-15.3])	4609 (13.4 [13.0-13.8])	-10.1	0.99 (0.98-0.99)	<.001
Cardiac imaging	15 239 (10.8 [10.6-11.0])	9134 (9.7 [9.5-9.9])	-10.2	0.99 (0.99-0.99)	<.001
Chest x-ray before surgery	138 864 (91.3 [90.8-91.8])	113 929 (91.5 [91.0-92.0])	0.2	1.00 (1.00-1.00)	.70
Medications					
Sinusitis antibiotics	140 143 (84.5 [84.1-84.9])	43 857 (83.7 [82.9-84.5])	-0.9	1.00 (1.00-1.00)	.16
Nonsteroidal anti-inflammatory drugs	633 (14.4 [13.3-15.5])	1386 (16.2 [15.3-17.1])	12.5	1.02 (1.01-1.02)	<.001

MEASURE

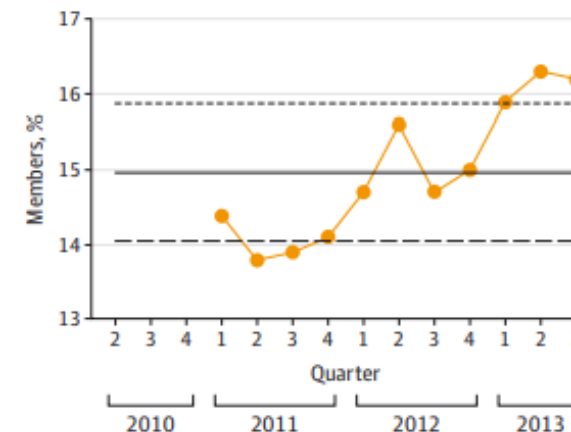
C Headache imaging for uncomplicated conditions



G Preoperative chest x-ray with unremarkable history



F Use of NSAIDs for members with selected conditions



DIVING INTO HOSPITALS OVERUSE

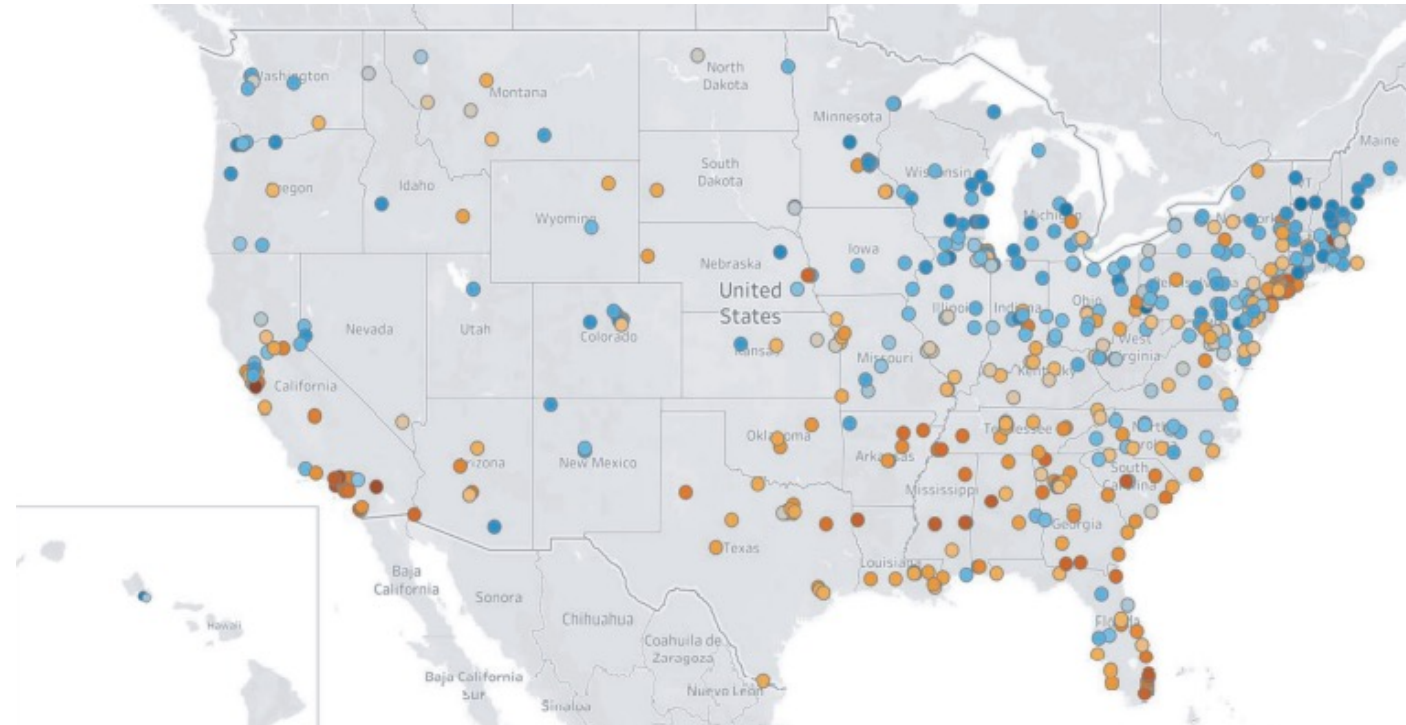


REPORT

Low-Value Care at the Actionable Level of Individual Health Systems

Cohort study reporting on 41 low-value services for 556 health systems (>11 mio US Medicare beneficiaries)

Redder the circles, higher the frequency of Low Value Care



REPORT

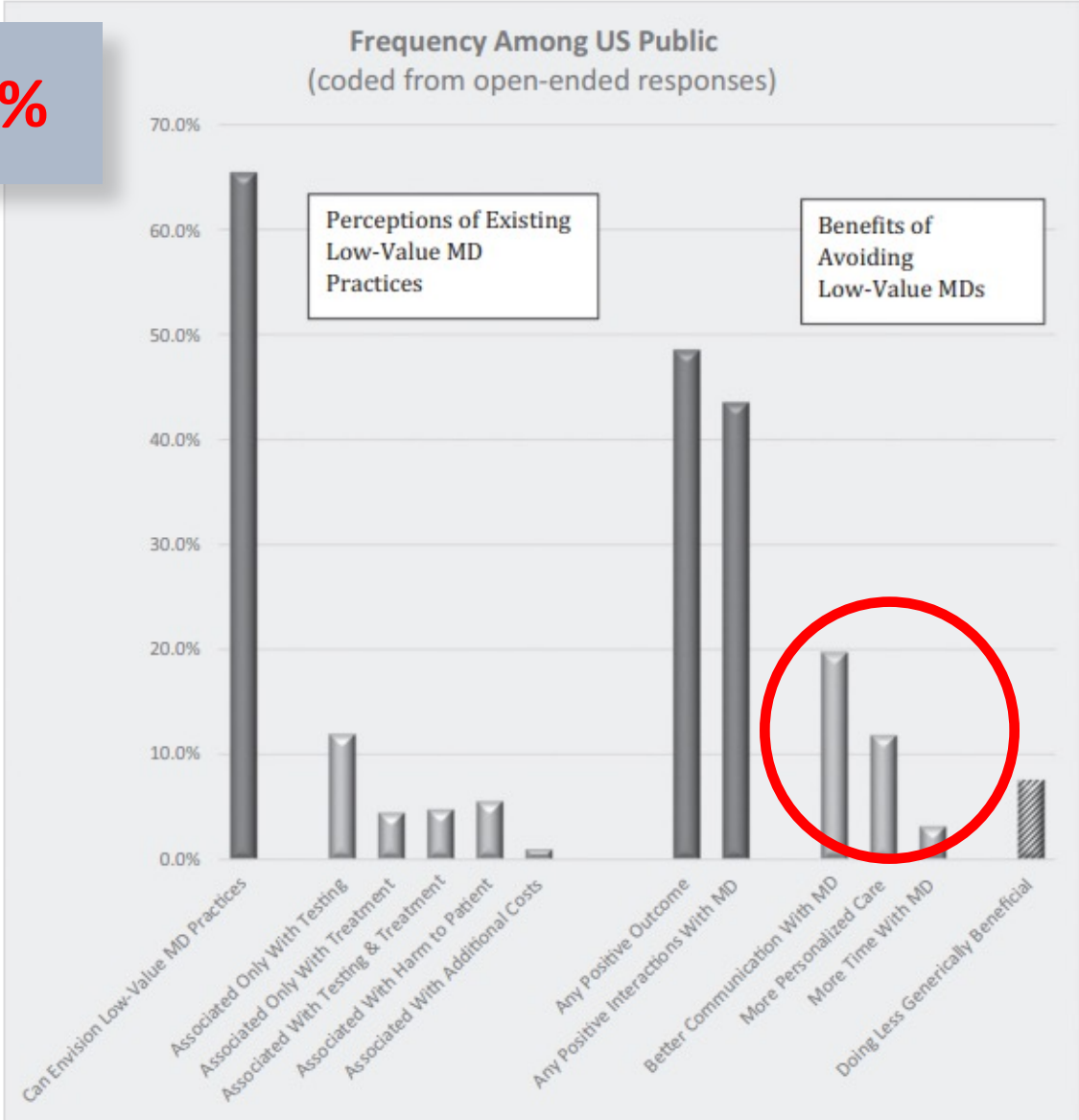
Low-value care more frequent (red) in regions :

- serving a larger proportion of non-White patients, delivered in South and West
- with few primary care physicians, no major teaching hospital

PUBLIC PERCEPTION OF LOW VALUE CARE

35 %

REPORT



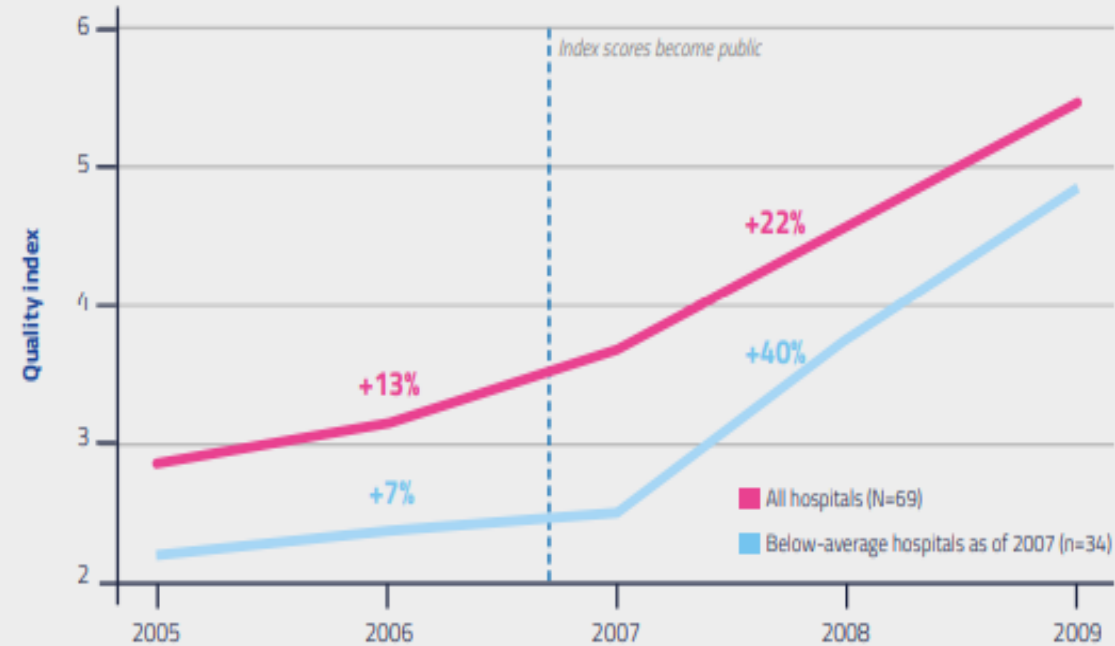
TACKLING WASTEFUL SPENDING ON HEALTH



REDUCE

IMPACT OF DATA TRANSPARENCY ON PRACTICES

Swedish Coronary Care Registry



In 2005, the Swedish Coronary Care Registry created a quality index that tracked how closely hospitals across the country adhered to clinical guidelines. In late 2006, it decided to make both the index scores and the actual patient survival rates public (Figure 11). As soon as the data were public, the average rate of improvement grew by 22%, but below average performers improved by 40% per year, decisively narrowing the gap^[84]. This transparency resulted in higher guidelines adherence and lower mortality rates.

REDUCE

IMPACT OF DATA TRANSPARENCY ON PRACTICES



REDUCE

This report found that overuse of **8 of the 12** selected tests and treatments declined by **10% or more** between 2014–2015 and 2019–2020.

Overuse remains an issue, and further reductions in low-value care are both possible and necessary.



To achieve widespread change, we need system-level changes in addition to continued efforts from front-line clinicians and patients.



The red blood cell transfusion rate in hospitalized patients was 6.3%
(New Brunswick, Quebec, Ontario, Manitoba and Saskatchewan).



ONE-YEAR PROGRESS OF LUCID PROJECT

LOW VALUE CARE IN MEDICAL HOSPITALIZED PATIENTS

A NATIONAL DATA STREAM ON QUALITY OF CARE IN SWISS HOSPITALS
(LUCID)



PD MER Dr. med. Marie **MÉAN**, CHUV
Dr. Guillaume **Obozinski**, SDSC, EPFL

NDS symposium
Lausanne, September 2023



GOALS

Monitor and study quality of care in Swiss medical hospitalized patients



more specifically, identifying Low Value Care practices

Why ?

- **Number of patients and cost of care are expected to increase**
- Low Value Care represents up to 20% of healthcare costs
- **No systematic monitoring of the processes of care in Swiss Hospitals**

How ?

- **Build Low Value Care indicators, based on the *Choosing Wisely Initiative***
- Creation of a registry to efficiently study hospitals practices
- **Promote data-driven benchmarking and targeted quality improvement actions**



DIRECTORS



PD Dr. Méan



Dr. Obozinski

LUCID CONSORTIUM

INTERNAL MEDICINE
EXPERTS



PD Dr. Vallelian



PD Dr. Aubert



Prof. Aujesky



PD Dr. Stirnemann



Prof. Bassetti



Prof. Meier

IT / DATA SCIENCE
EXPERTS



Prof. Lovis



Prof. Raisaro



Dr. Stieljes



Prof. Leichtle



Dr. Riba-Grognuz



Dr. Despraz

PPI EXPERTS



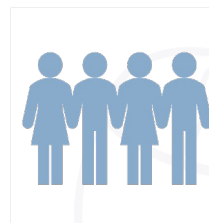
Prof. Eicher



Dr. Rueter



Prof. Chioléro



Panel of patients

+ DATA MANAGER
+ PROJECT MANAGER

MULTICENTRIC REGISTRY : A COHORT OF MEDICAL HOSPITALIZED PATIENTS

REGISTRY INCLUSION CRITERIA

- age ≥ 18 year old
- hospitalized in Geneva, Lausanne, Bern, Zürich, Basel
- After 01.01.2014, start of general consent use

REGISTRY EXCLUSION CRITERIA

- hospitalization in non-medical wards
 - (I.e., psychiatry, gynecology/obstetric, pediatrics, surgical wards)
- «Medical Patient»: Challenging to define, high variability between hospitals

LARGE DATASET

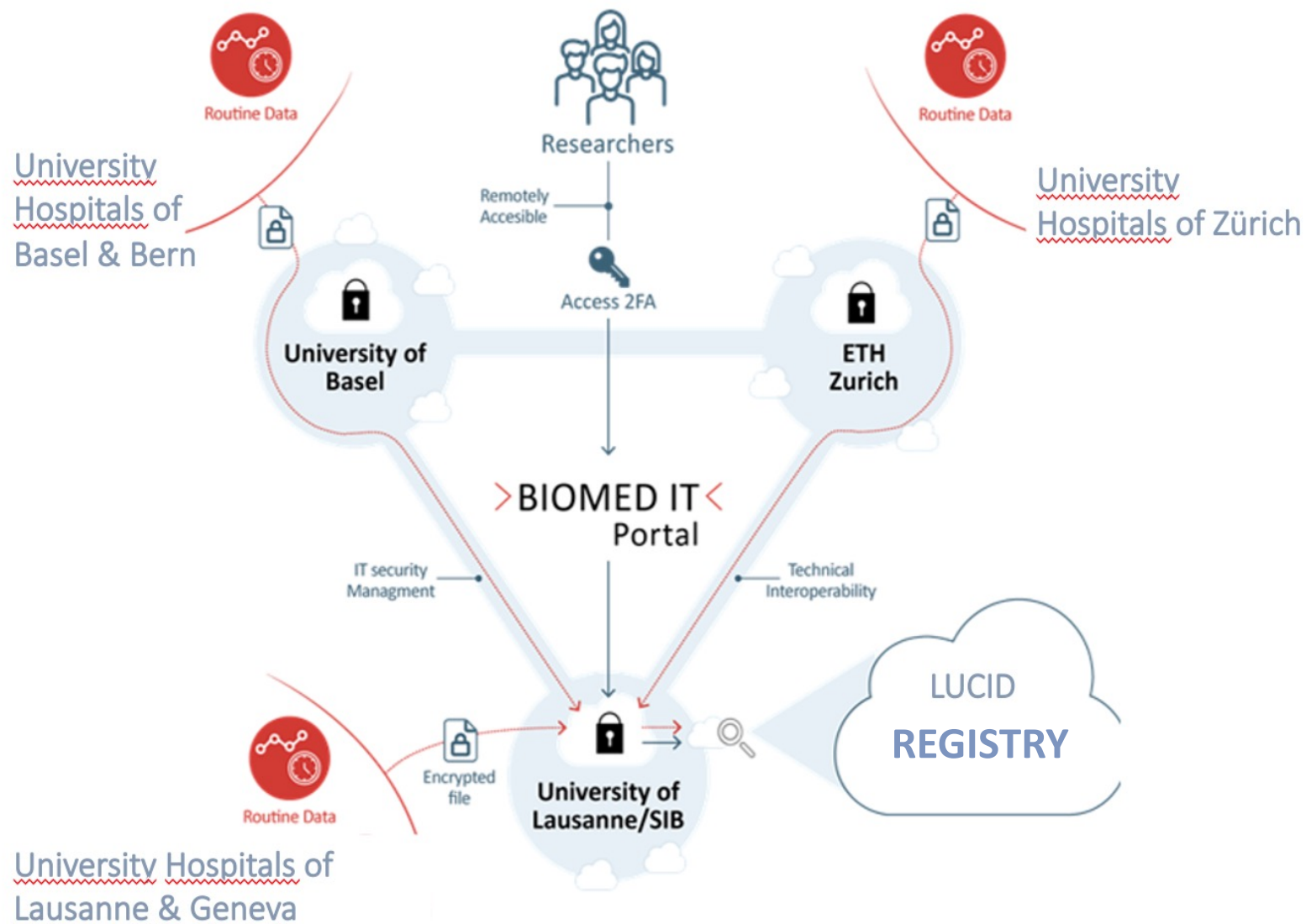
- Routinely collected data (Diagnosis, Laboratory Test, Treatment, Administrative Data, ..)

January 2014 – July 2023

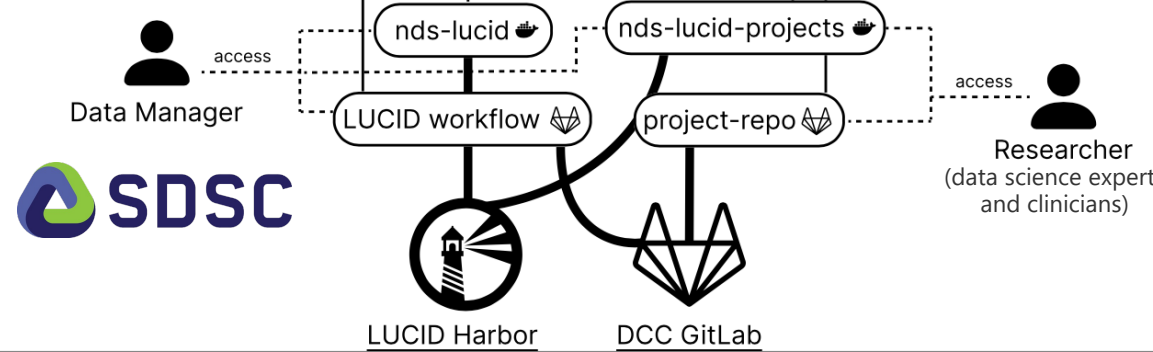
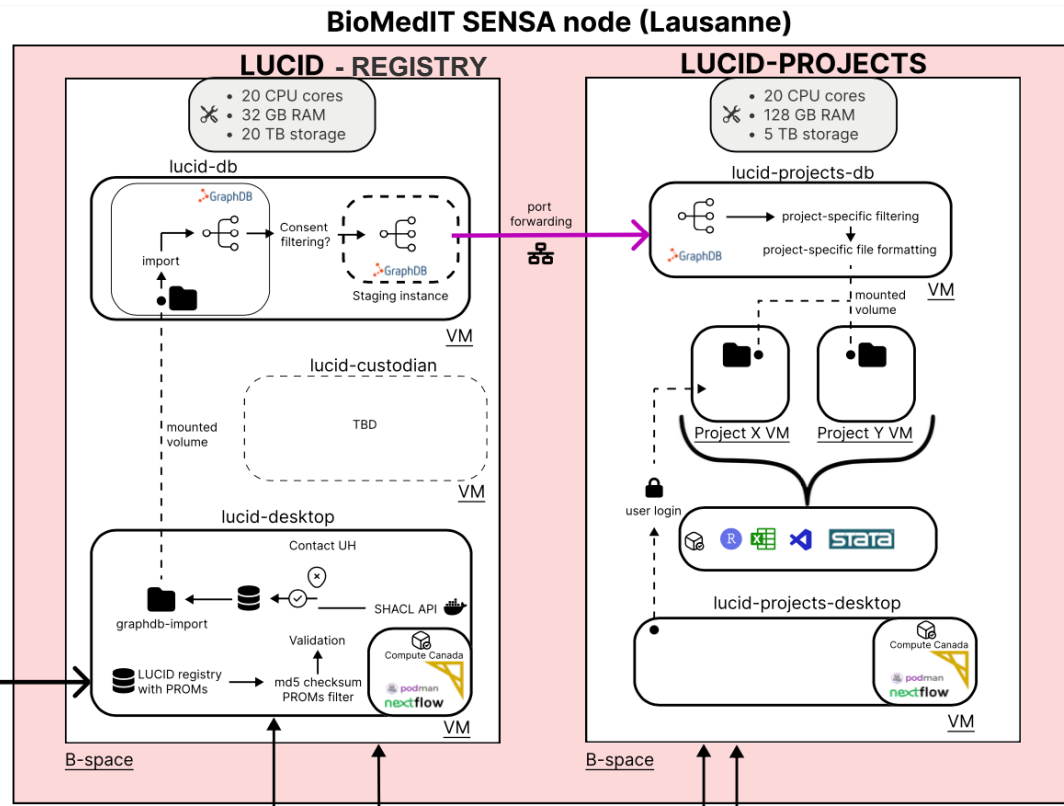
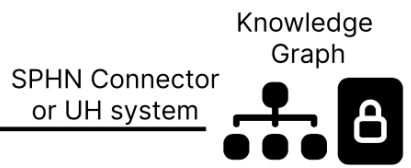
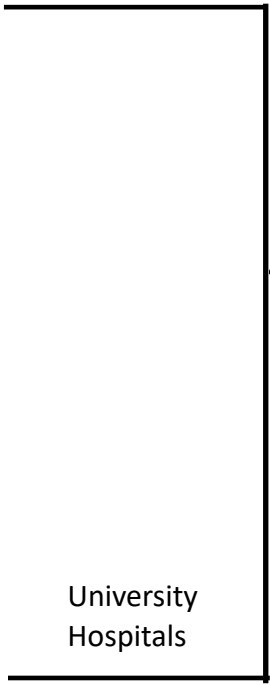
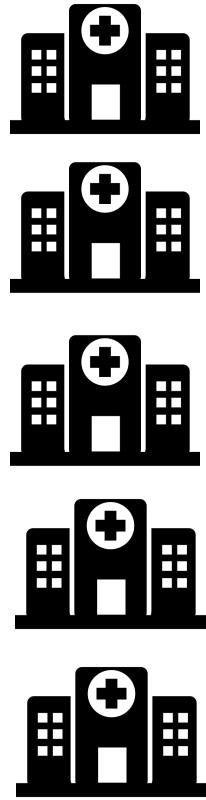
135'000 patients



BIOMEDIT SECURE DATA INFRASTRUCTURE



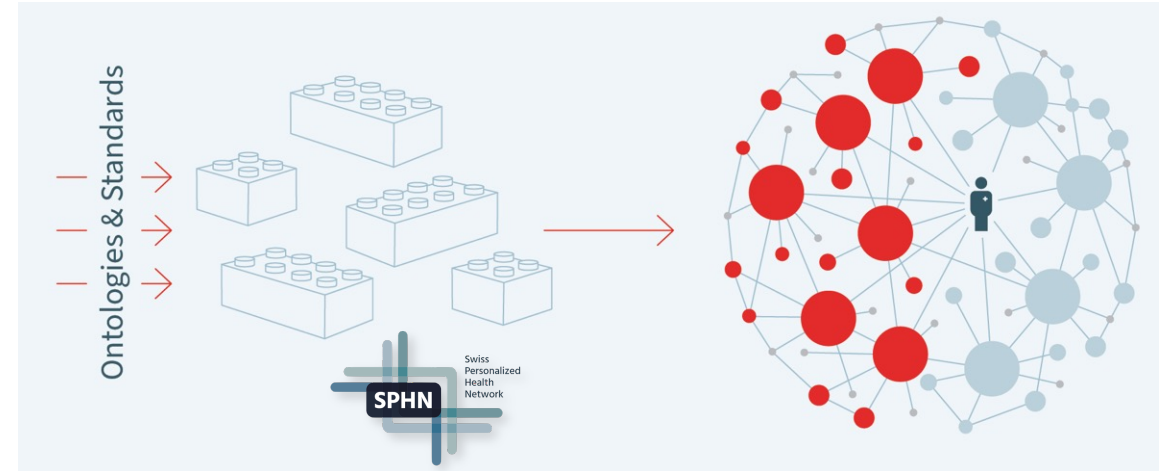
LUCID SECURE DATA FLOW



DATA DOES NOT SPEAK BY ITSELF...



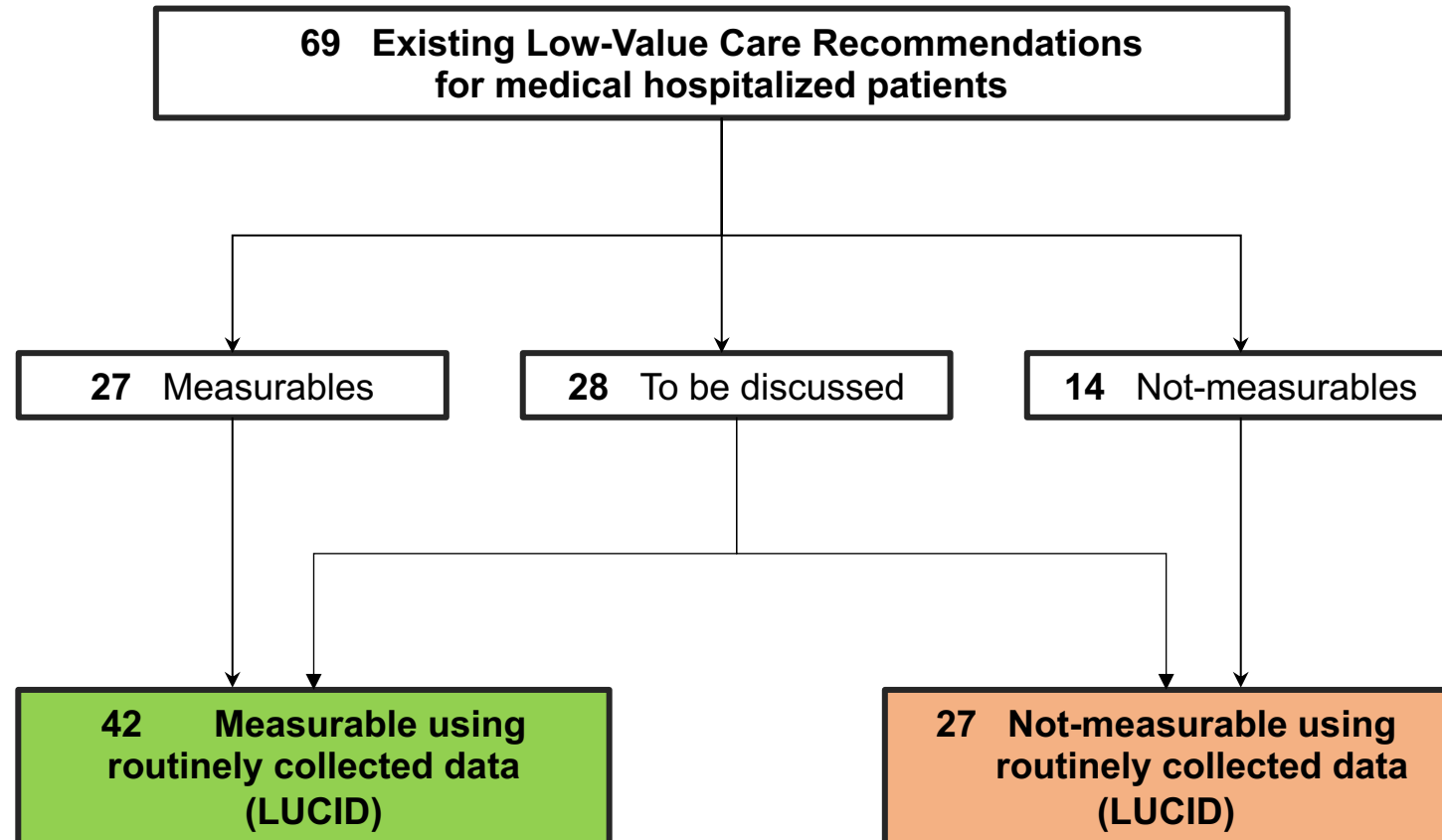
CREATION OF RESULTS AND SCIENCE WITH EXPERTS FROM HOSPITALS



Shared expertise between machine-learning experts

PopHealth lab develops research activities to inform public health surveillance & monitoring to help citizens, health stakeholders, clinicians, and policy makers take **data-informed and evidence-based decisions**

SELECTION OF INDICATORS WITH MEDICAL EXPERTS



PUBLICATION OF INDICATORS AND FIRST RESULTS EXPECTED FOR 2024



RESEARCH STUDIES ALREADY PLANNED / DESIGNED

MAIN PROJECT ON LOW VALUE CARE

- Frequency, trends and consequences of Low Value Care in medical hospitalized patients
- Results are expected for 2024

PRIVACY-PRESERVING METHODS COMPARISONS

- Characterization and comparison of federated privacy-preserving methods suited for biomedical data analysis in stimulated environment using Lighthouse project on Low value Care

LOS

- Development of an ML model for prediction of Length of stay (LoS) for medical inpatients

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LOS

- **Development of an ML model for prediction of Length of stay (LoS) for medical inpatients**

THIRD PARTY USE (www.lucid-nds.ch)

- Several requests received
- Mainly in the field of infectious disease and antibiotic monitoring

https://sphn.ch/network/projects/project-page_nds_lucid/

Contact News Funding Ongoing projects Grant Documents DTUA Documents English ▾

Search www.sphn.ch



Menu ▾

Lay summary

Click [here](#) to download the lay summary of LUCID.

Data requests to LUCID

For researchers who want to apply for LUCID data, please download manager Tommaso Guffi by clicking the contact button below.

Contact

Research Project Submission– LUCID National Data Stream

Please ensure that all sections are completed before submitting your research project.

Date of submission: _____

Decision of the LUCID Executive Board: _____

1. INTRODUCTION

1.1 TITLE [A brief, descriptive title that summarizes the main focus of the research project]

1.2 SUBTITLE [Project Subtitle]

1.3 AREA

- ☐ Research
- ☐ Quality Monitoring

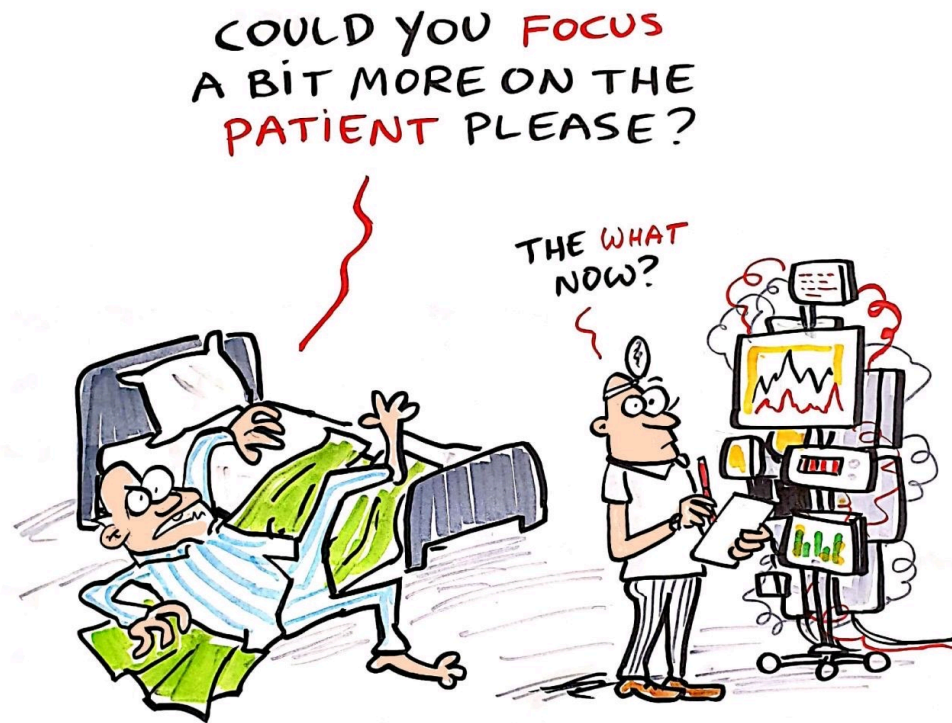
1.4 ETHICS

- ☐ Project submitted and accepted: _____ (EC number)
- ☐ Project to be submitted
- ☐ Waiver obtained (add a proof in the Annex)

1.5 ADMINISTRATIVE INFORMATION AND NAME OF INVESTIGATORS



LAST BUT NOT LEAST



WHAT **MATTERS** ?

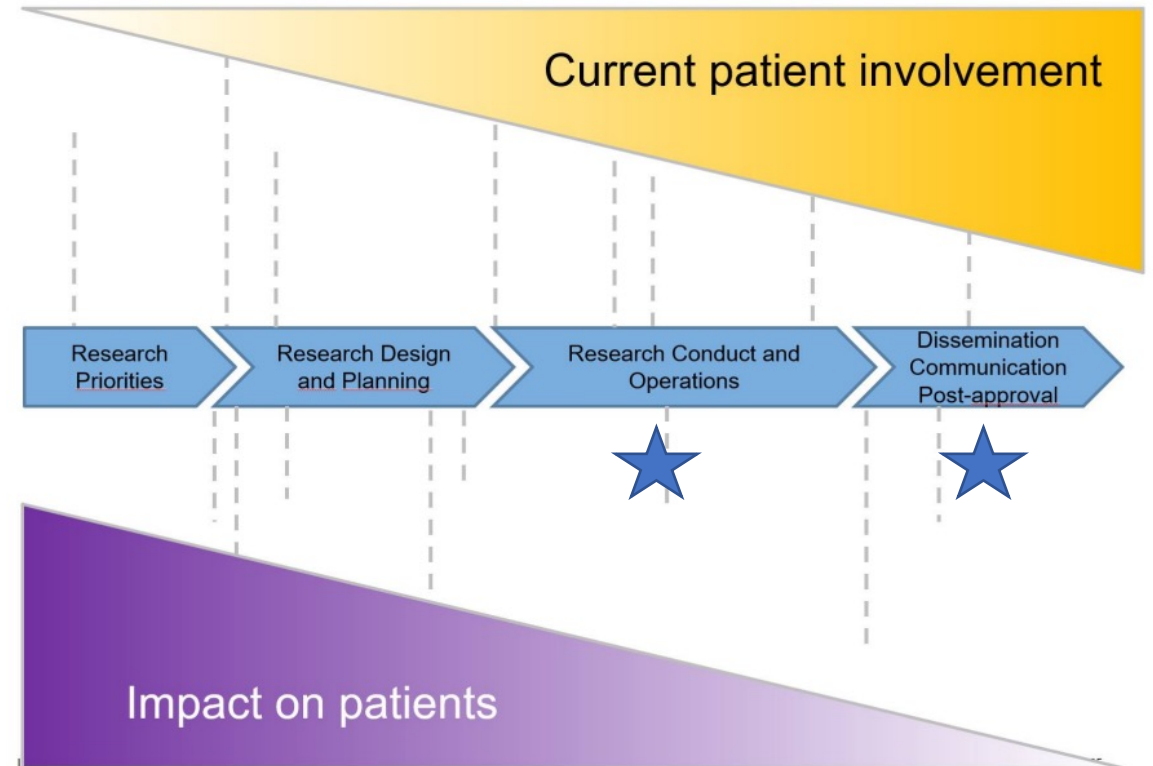
PPI CONTRIBUTORS LUCID

Benefits

- Adapt research to patients/public needs and visions
- Promote public trust in results

In LUCID

- PPI contributor in executive board and regular meetings
- Revision of protocols
- Lay summary and vulgarization of results



THANK YOU FOR ATTENTION !

BACK SLIDES

DATA REQUESTS / GOVERNANCE

