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AMIS
Acute Myocardial
Infarction
in Switzerland

AMIS Plus

The Future of AMIS Plus

Giovanni B. Pedrazzini

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AMIS Plus 25th Anniversary

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AMIS Plus Symposium
Friday, 2 June 2023
Kreuz Bern Modern City Hotel, Zeughausgasse 41, 3011 Berne

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**Is there a future need for a prospective registry
on myocardial infarction in Switzerland?**

If yes, which one?



THE HISTORICAL MISSION

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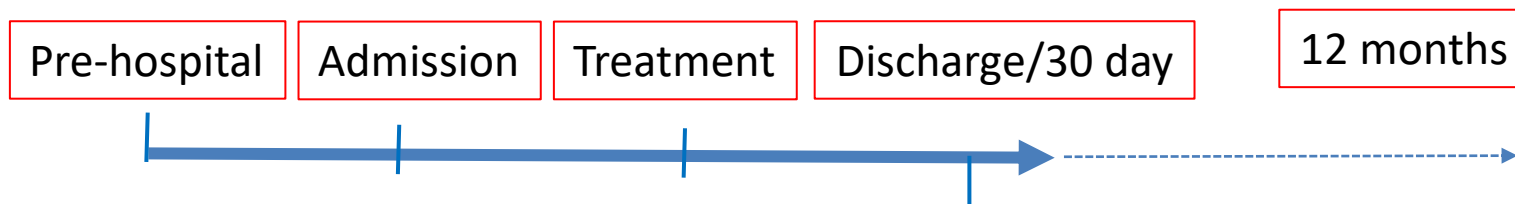


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AMIS Plus - National Registry of Acute Myocardial Infarction in Switzerland

The AMIS Plus national registry collects and analyzes data on patients with acute myocardial infarction in Switzerland in the **pre-admission, hospital and follow-up phases**. Emphasis is placed on the evaluation of **risk factors, diagnostics, urgent therapy strategies and treatment**.

AMIS Plus data are important for **quality assurance, assessing guidelines, improving compliance with guidelines in clinical practice**, verifying whether results of randomized clinical trials are translatable into everyday clinical practice, investigating patient groups not extensively studied in large randomized trials and improving therapeutic strategies.



THE HISTORICAL MISSION

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AMIS Plus - National Registry of Acute Myocardial Infarction in Switzerland

- 70'000 pts
- 15'000 FU
- > 380 variables

- Great improvement in the process-of-care
- Swiss «Chain» of myocardial infarction
- Essential epidemiological data
- Detailed analysis of treatment success and efficacy
- Identification of the best clinical Outcome
- Score calculation

AN IMMENSE CONTRIBUTION FOR THE MEDICAL COMMUNITY AND FOR OUR COUNTRY

- 94 publications
- 140 abstracts

HAS AMIS+ COMPLETED HIS HISTORICAL MISSION?



2000



PROBABLY YES



2023

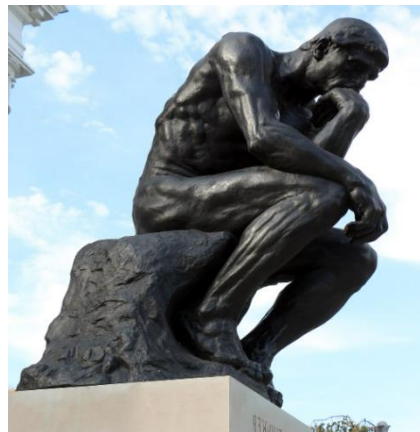
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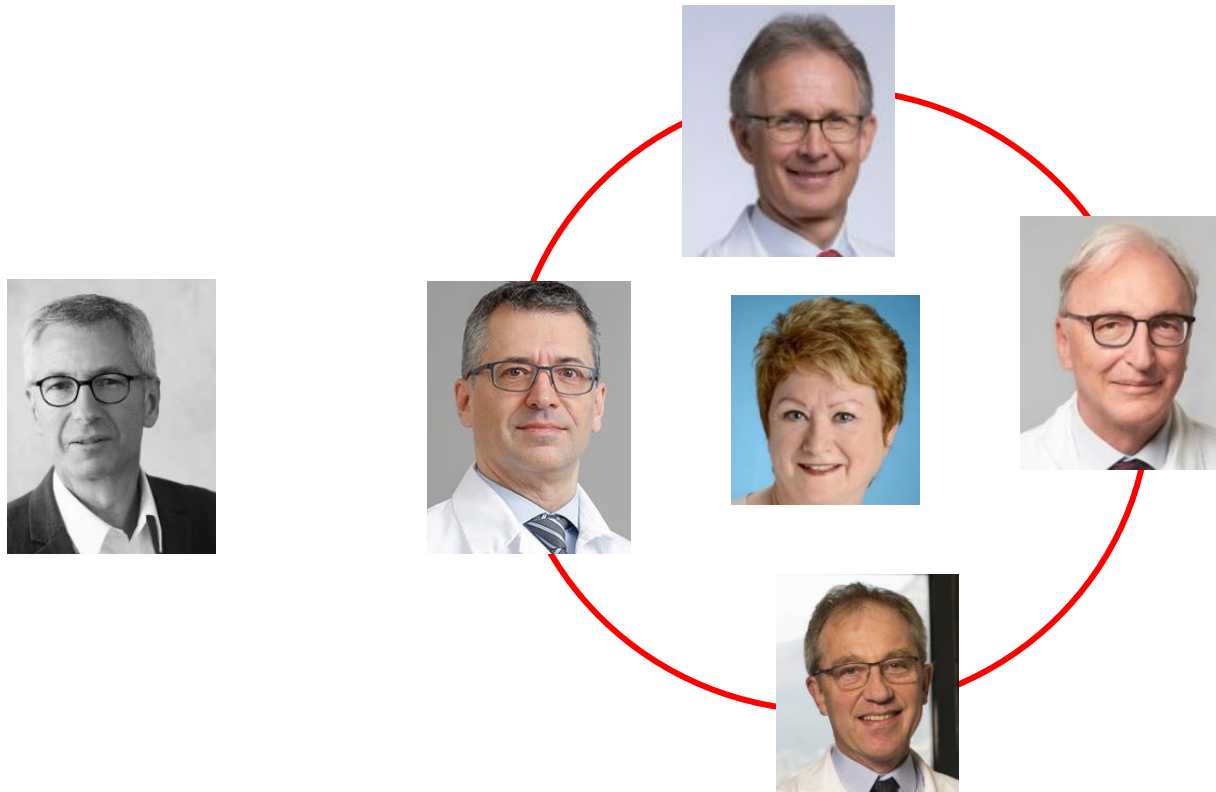


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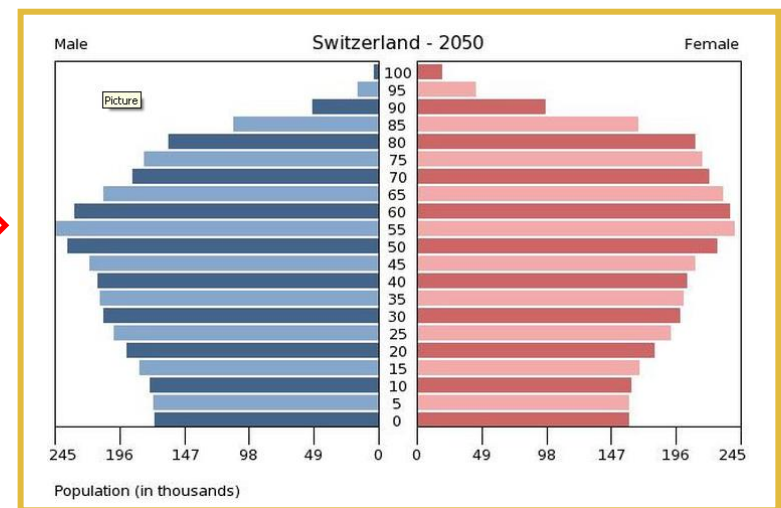
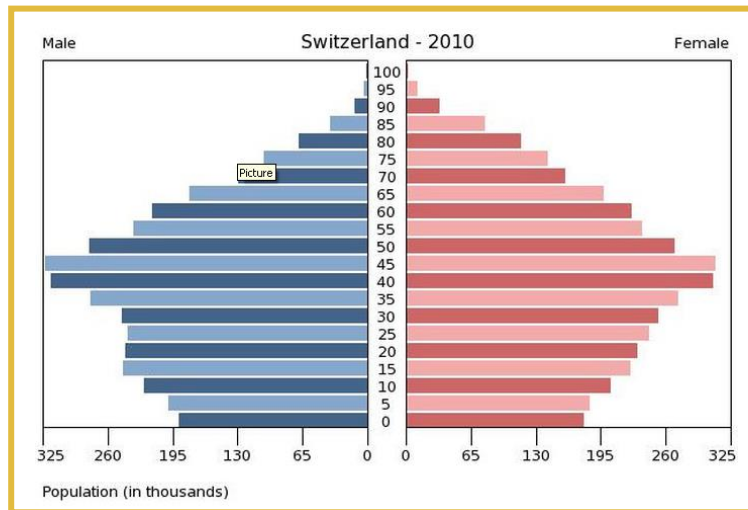


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POPULATION PROJECTION IN SWITZERLAND 2050



2010

2050

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PREDICTED SURVIVAL IN SWITZERLAND ACCORDING TO AGE

	1998	2008	2021
At birth			
Men	76.3	79.7	81.7
Women	82.5	84.4	85.4
At the age of 65			
Men	16.5	18.7	19.9
Women	20.6	22.0	22.7
At the age of 80			
Men	7.1	8.3	8.4
Women	9.1	10.0	10.1

Relative contribution of trends in myocardial infarction event rates and case fatality to declines in mortality: an international comparative study of 1·95 million events in 80·4 million people in four countries

Ximena Camacho, MMath[†] • Lee Nedkoff, PhD[‡] • F Lucy Wright, DPhil • Nhung Nghiem, PhD • Emmalin Buajitti, MPH • Raphael Goldacre, MSc • et al. [Show all authors](#) • [Show footnotes](#)

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MORTALITY AFTER MYOCARDIAL INFARCTION

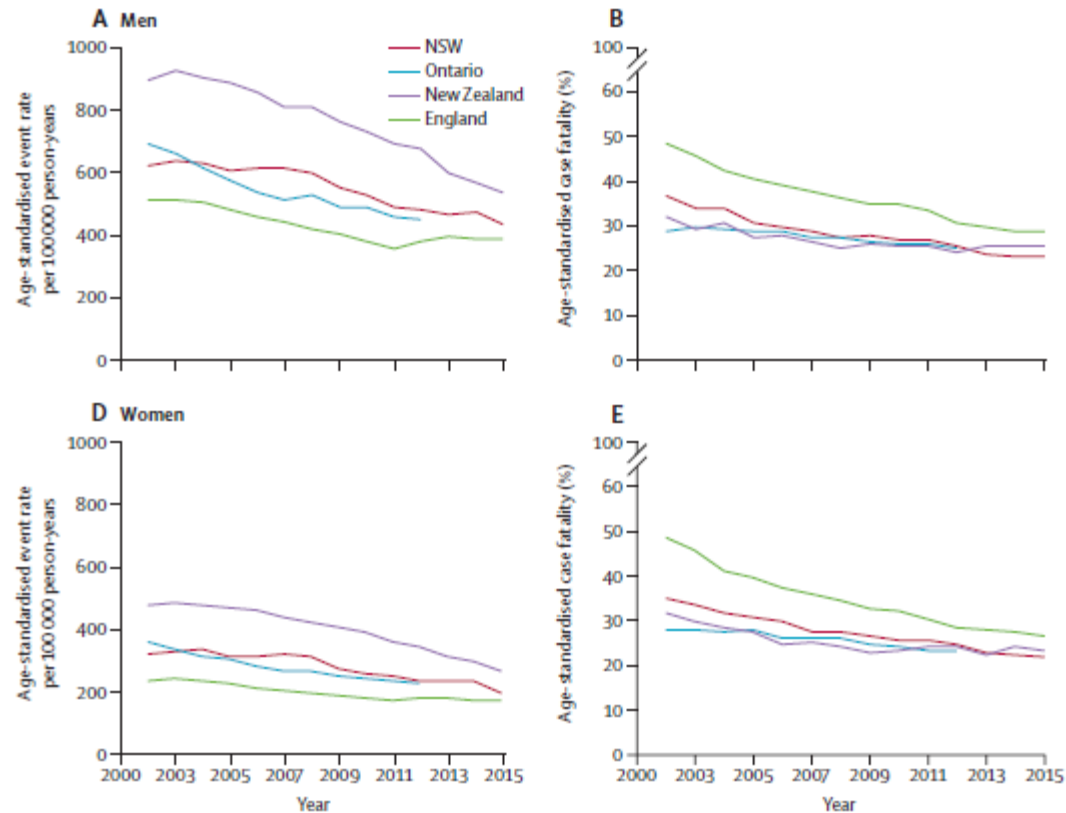


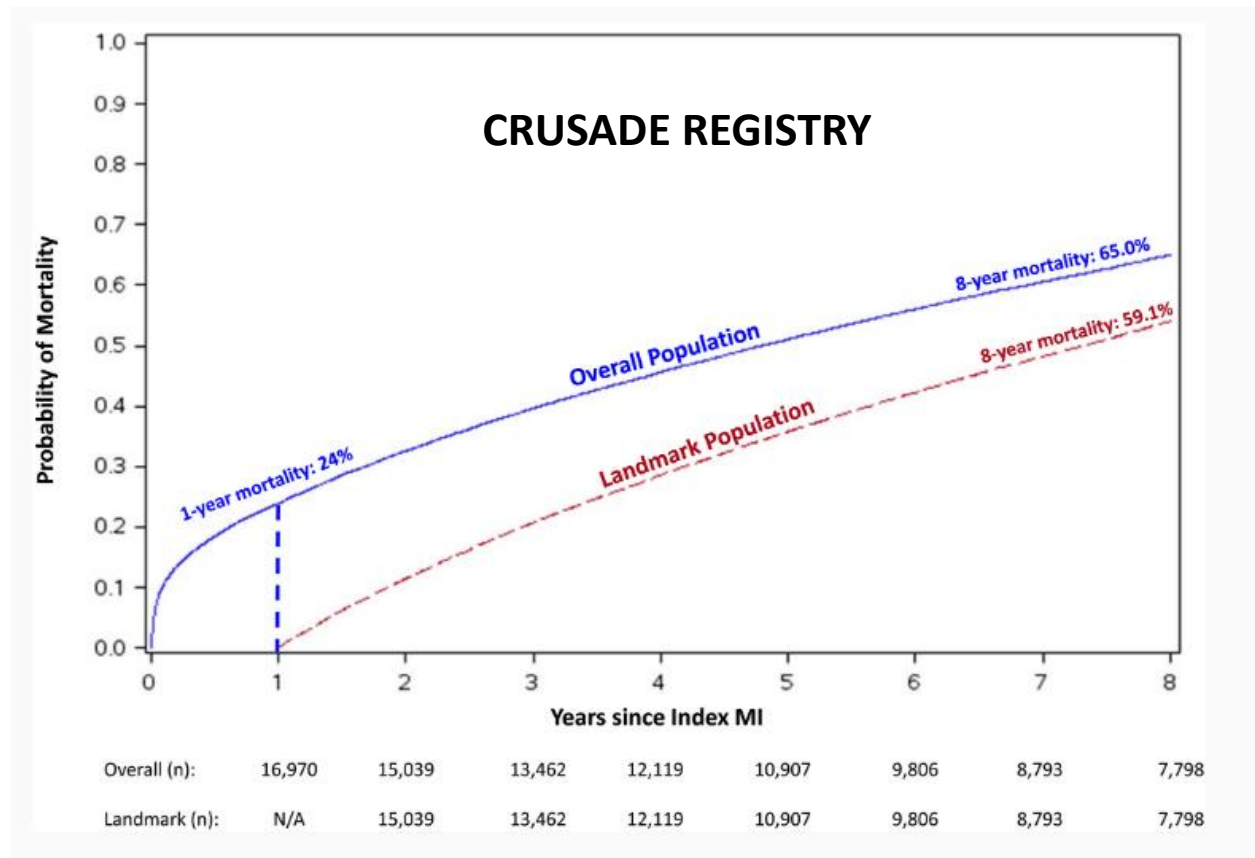
Figure 2 Annual age-standardised myocardial infarction event rates in men (A) and women (D), case fatality in men (B) and women (E), and mortality rates in men (C) and women (F) aged 30 years or older, 2002–15

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LONG TERM MORTALITY AFTER MYOCARDIAL INFARCTION



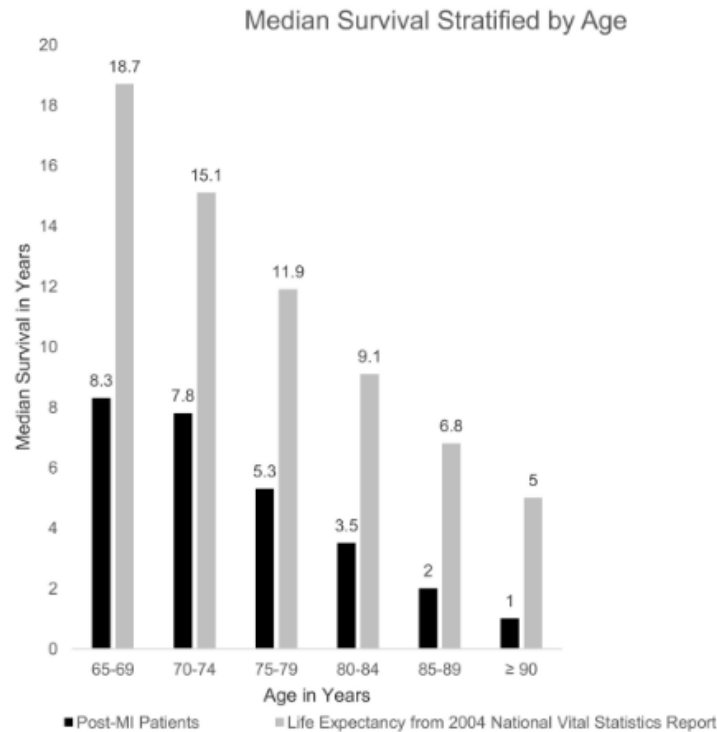
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LONG TERM MORTALITY AFTER MYOCARDIAL INFARCTION

CRUSADE REGISTRY



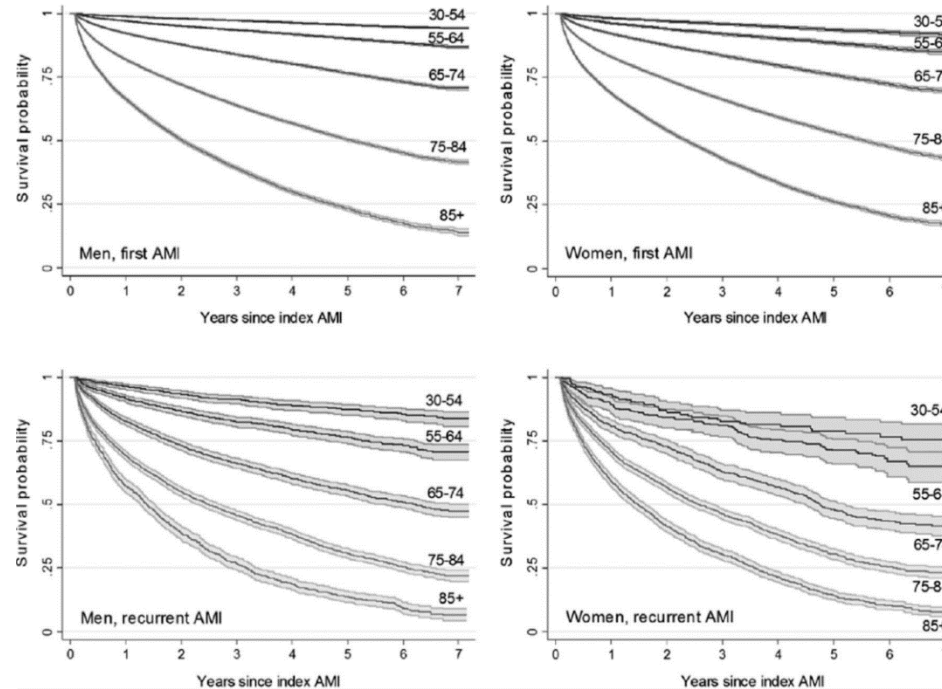
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MYOCARDIAL INFARCTION: A PROGRESSIVE DISEASE

UK 2004-2010



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WHY IS LONG TERM PATIENT'S SURVIVAL ESSENTIAL FOR A MODERN REGISTRY

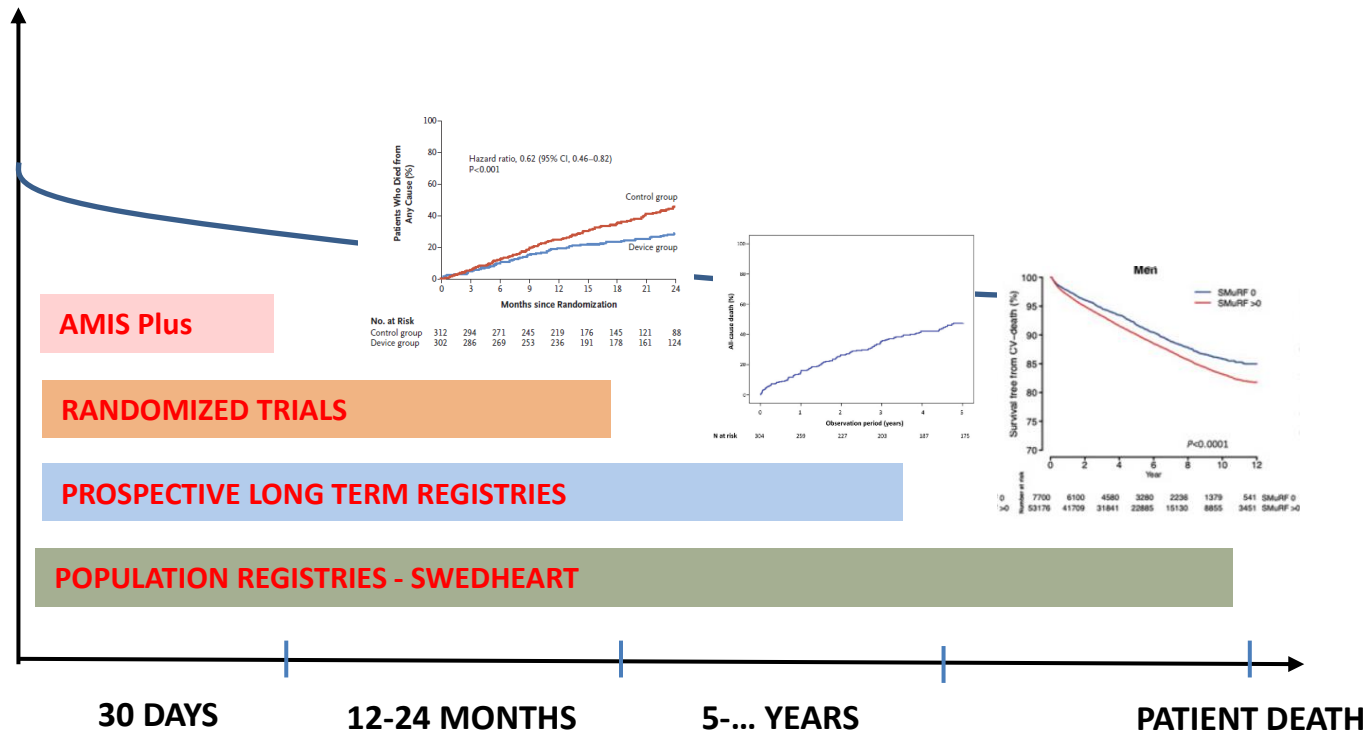
- Explore patient survival beyond the conventionally predicted time frame
- Allows predictive comparison with the general population, thus assessing the impact of treatment for different groups/subgroups
- Extends prediction of further potentially beneficial treatments (secondary prevention, lifestyle, long-term statins...) to the out-of-hospital period
- Can be linked to other national registers/databases (Network data)
- Provides a range of additional information that may be useful for the medical community but also for other stakeholders (health care system, politics, medical companies)

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ABOUT LONG-TERM MORTALITY



The longer the survival (lower the mortality) of a specific treatment, the more difficult it will be to assess its survival benefit

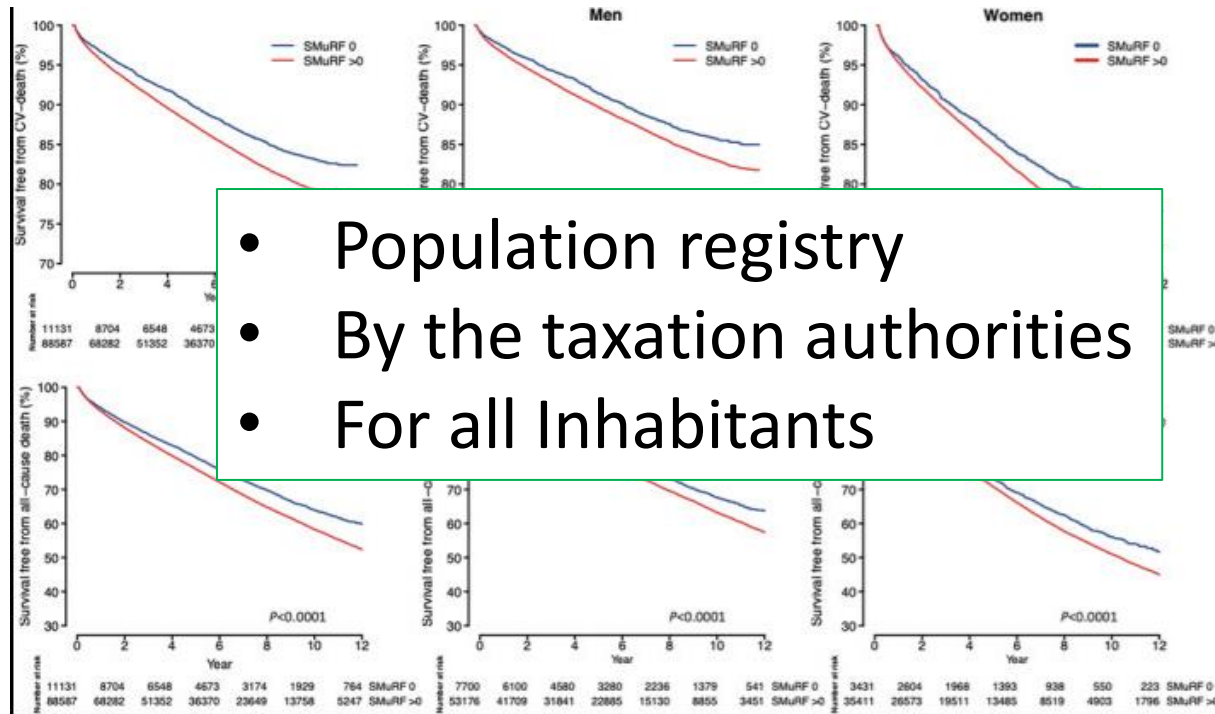
Mortality and Cardiovascular Outcomes in Patients Presenting With Non-ST Elevation Myocardial Infarction Despite No Standard Modifiable Risk Factors: Results From the SWEDHEART Registry

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THE EXEMPLE OF THE SWEDHEART REGISTRY



- Population registry
- By the taxation authorities
- For all Inhabitants



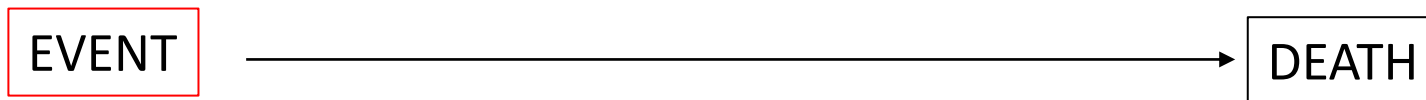
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WHAT ABOUT SWITZERLAND? CAN WE REPLICATE THE SWEDISH MODEL?

ONGOING EVALUATION BY ETHICAL COMITTEE
ONGOING DISCUSSION WITH AMIS HOSPITALS



AMIS

Epidemiology, Biostatistics
and Prevention Institute
UZH

Federal Statistical Office



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

AHV NUMBER EXTRACTABLE FROM
PATIENT'S HOSPITAL DATA

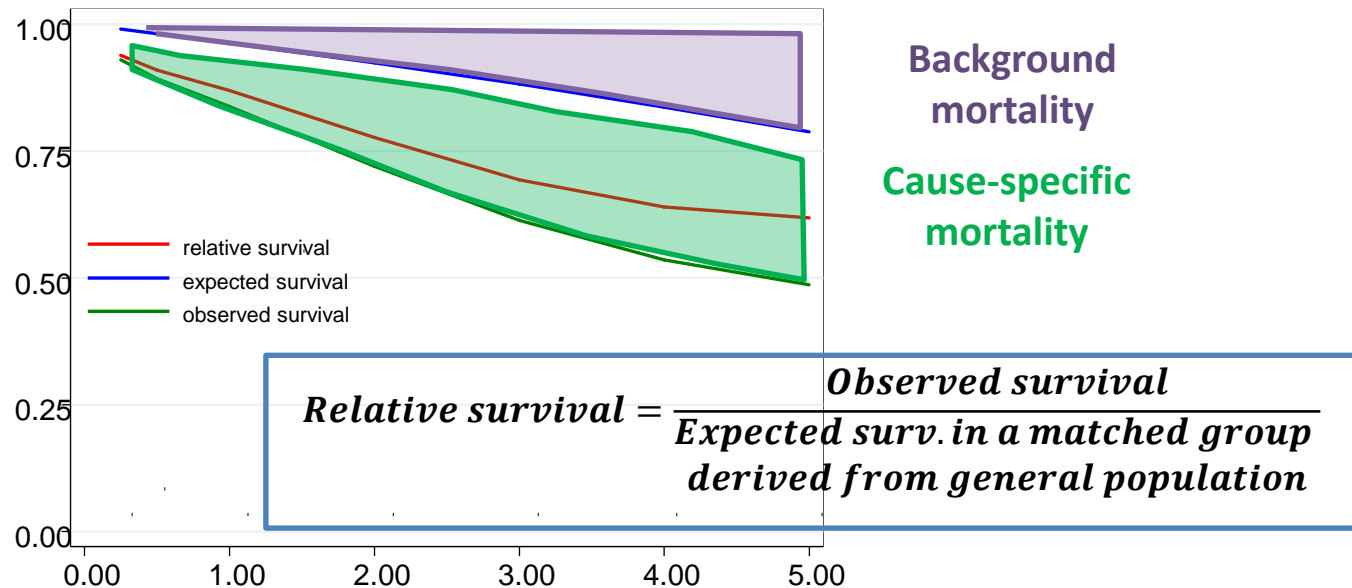
DATA
ANALYSIS

SINCE 2010 ALL DATA INCLUDE
THE AHV NR



ABOUT SURVIVAL

THE CONCEPT VALUE OF RELATIVE SURVIVAL



Relative survival:

1. estimates a **cause-specific (MI specific) survival estimates** even when detailed data from death certificates are not available.
2. quantifies the impact of a specific disease/treatment (Primary PCI, long term DAPT, PCSK9 inhibitors,...) on **patient's predicted life expectancy**.



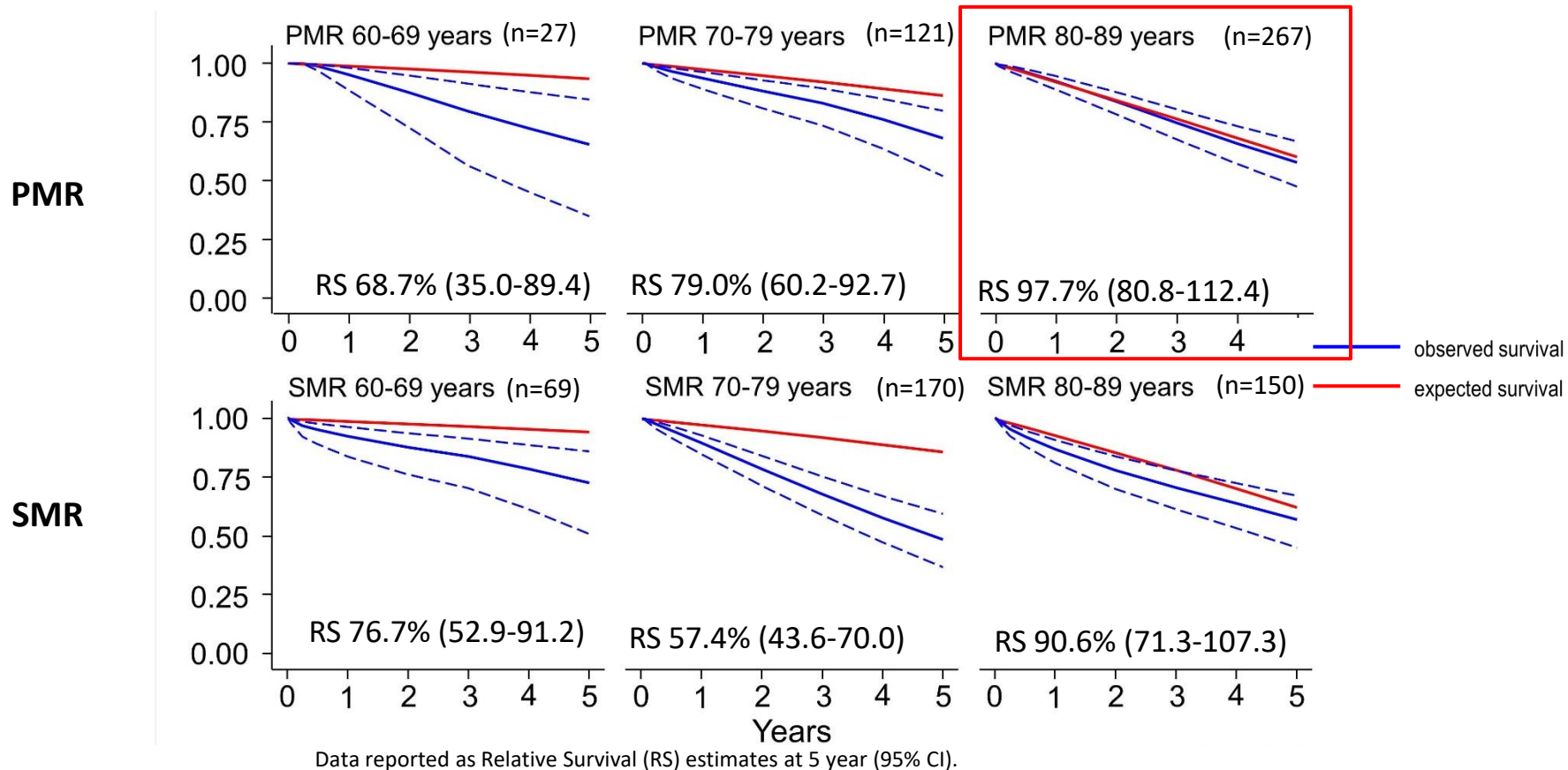
MITRA SWISS

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THE EXAMPLE OF THE NATIONAL REGISTER ON THE MITRACLIP



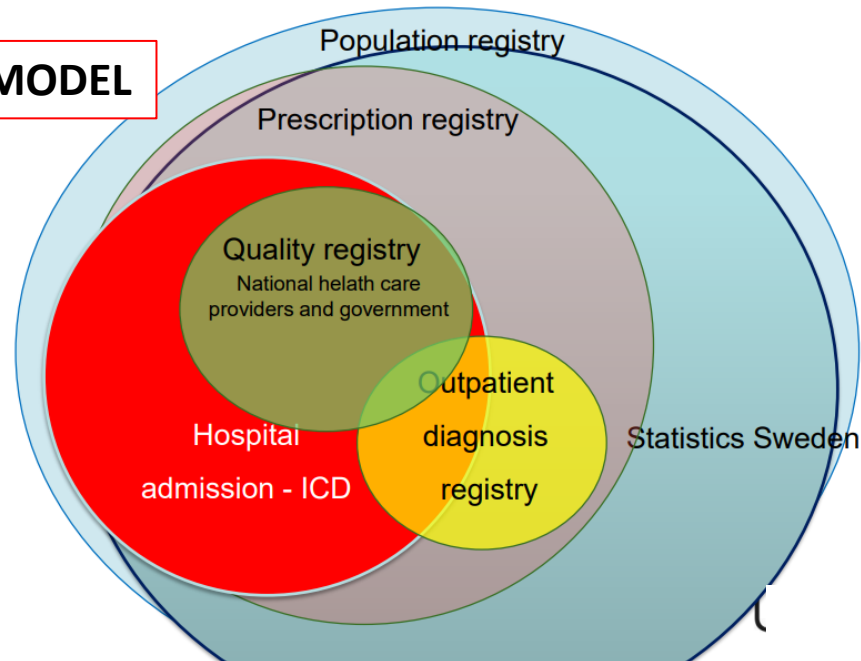
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THE DREAM OF AN INTEGRATED NATIONAL MYOCARDIAL INFARCTION DATA NETWORK

THE SWEDHEART MODEL



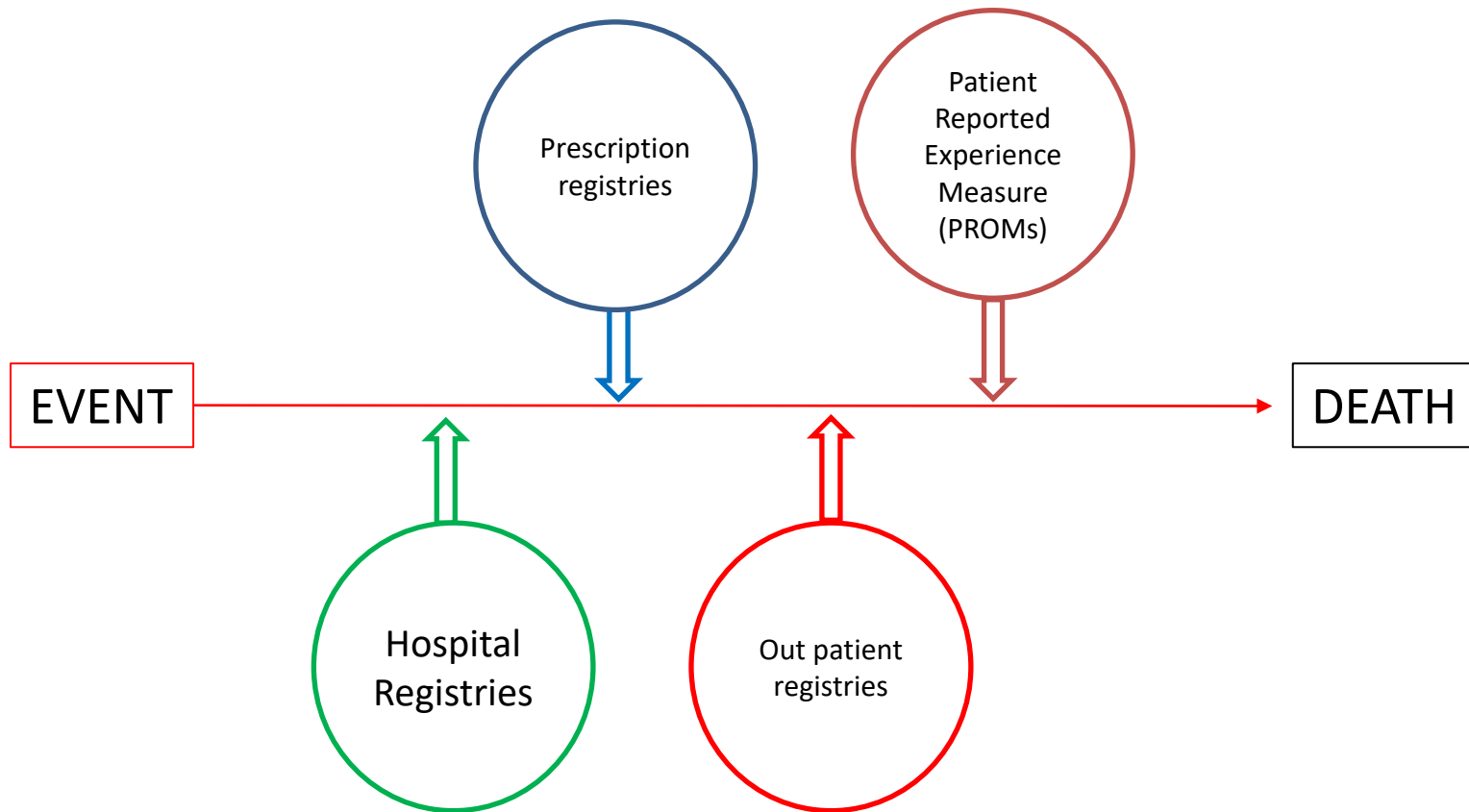


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A GREAT POTENTIAL AHEAD OF US



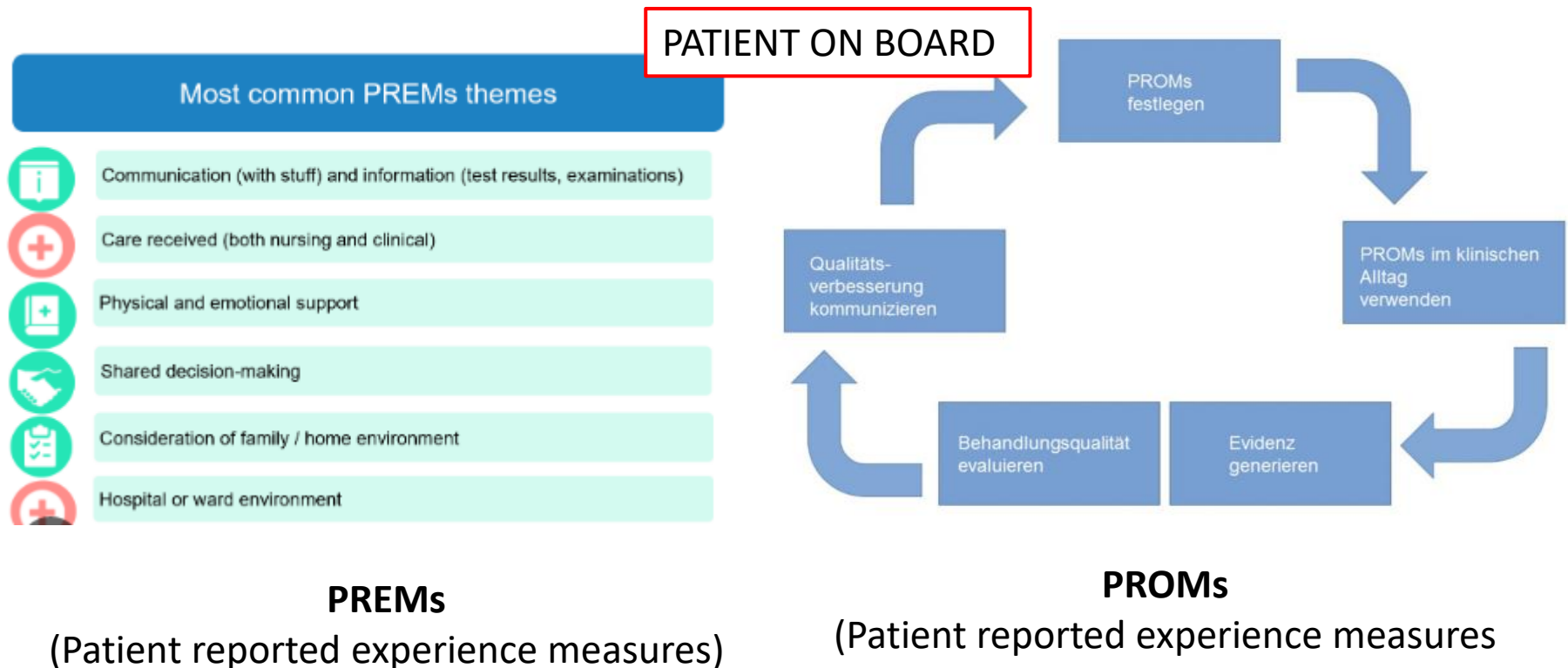
NATIONAL NETWORK OF INTEGRATED DATA

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A GREAT POTENTIAL AHEAD OF US



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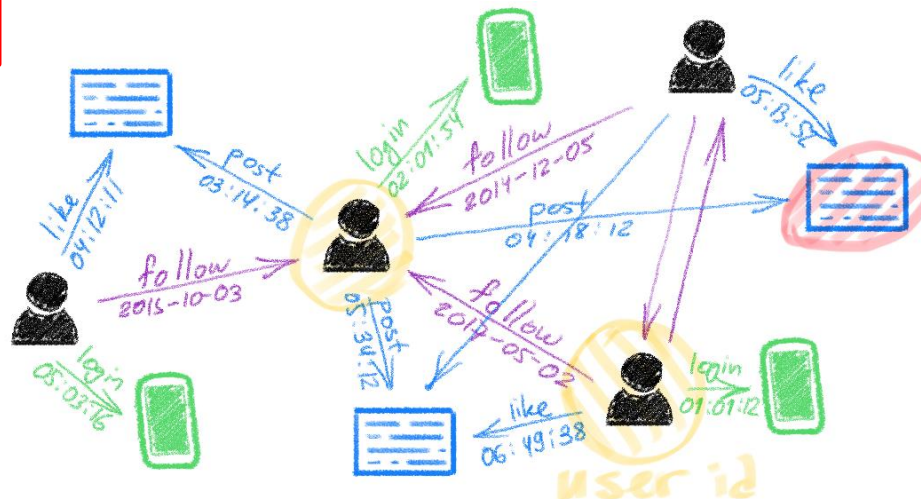


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A GREAT POTENTIAL AHEAD OF US

- 70'000 pts
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- > 380 variables

ARTIFICIAL INTELLIGENCE ANALYSIS



Patient attributes are rich and
Heterogeneous (signal, numeric, categoric)
Graph clustering
Transfer graphs to other populations

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In conclusion....

- The AMIS Plus Registry has rendered an immense service to the community but, in this form, it has probably completed his historical mission
- We strongly believe that there is still a need for a prospective registry on myocardial infarction but in a new form adapted to the current epidemiological necessities
- By linking our data with those of the Federal Statistical Office, we can create the fertile ground for building an integrated network with high potential for analysis that meets the needs of the medical community (mortality, relative mortality, treatment effectiveness), the health care system (quality and health cost analysis), industry (relative effectiveness of various therapeutic measures), and numerous other stakeholders.

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TEAM MENTALITY LIKE THE ALL BLACKS

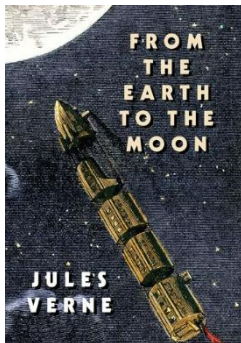
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In conclusion....

**Is there a future need for a prospective registry
on myocardial infarction in Switzerland?**



YES, DEFINITELY



***WELCOME ABOARD OUR NEW JOURNEY INTO
THE FUTURE***