

A DASHBOARD TO VISUALIZE COVERAGE, BENEFITS AND RISK OF VACCINES

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Brussels

ADVANCE Final Event, March 6 2019

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Vision

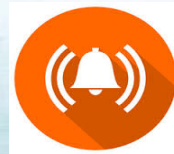


“Best evidence at the right time to support decision-making on vaccination in Europe.”

Mission

“To establish a system for rapid benefit-risk (B/R) assessment and monitoring of vaccines in the post market setting using a distributed network of European electronic health record databases”

Benefit-Risk monitoring



Triggers from:

- NRT Monitoring (\neq expected BR)
- Safety signal detection (unanticipated AE)
- Social listening (changing risk tolerance)

Clinical
development



**1. Benefit-Risk assessment
at the time of licensure**



**2. Identify key
parameters to
monitor**

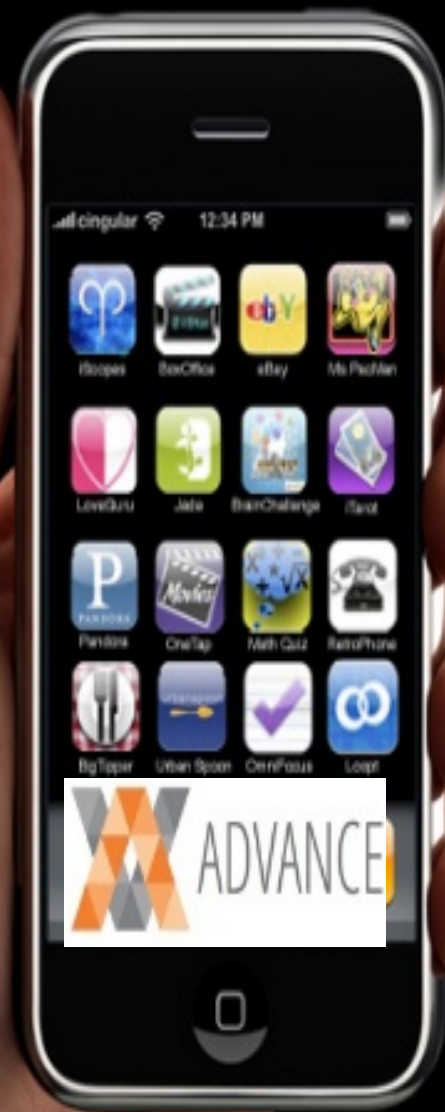


**3. Near-real
time monitoring**



**4. Update Benefit-
Risk assessment**

WE TOOK IT LITERALLY...





..and developed **interactive dashboards** for the near-real time monitoring of coverage, benefits and risks

- **Easy access** to the dashboard
- Data can be **seamlessly updated**
- **Interactive:** end-users can select age groups, doses, databases
- **Transparant communication** possible to multiple stakeholders

Concept first tested using simulated data, then using real world evidence

Prototype: Near real-time monitoring of the anticipated benefit-risk of vaccines post-marketing



Case study: Rotavirus vaccination in the UK (simulated data)

[About](#)
[Coverage](#)
[Risks](#)
[Benefits](#)
[BR - total population](#)

Width of moving windows (in weeks)

26

Baseline incidences (/10.000 person years)

AGE GP Visits

280

AGE Hospital Admissions

44

Vaccine Effectiveness

AGE GP Visits

0.6

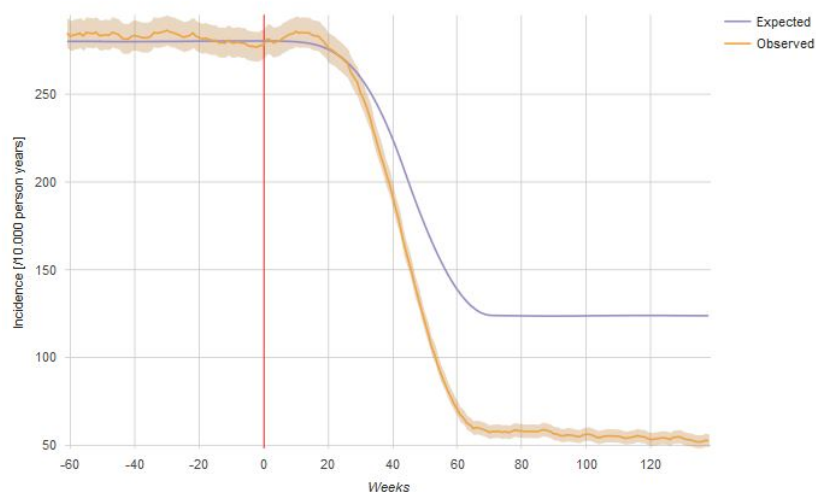
AGE Hospital Admissions

0.6

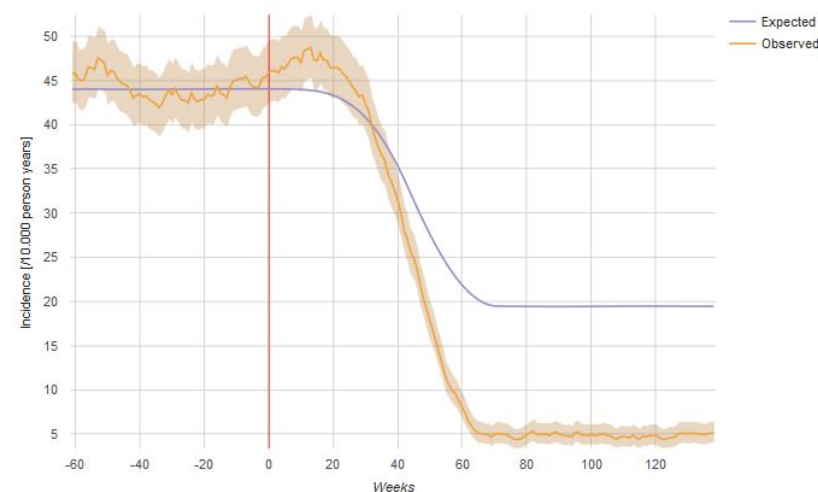
Figure: Running incidence rate (/ 10.000 person years) of acute gastroenteritis (AGE), total population

B1. GP Visits

B2. Hospital Admissions



Incidence rate per 10.000 person years [95% CI] of AGE GP visits in total population with a lookback period specified above.



Incidence rate per 10.000 person years [95% CI] of AGE hospital admissions in total population with a lookback period specified above.

Prototype: Near real-time monitoring of the anticipated benefit-risk of vaccines post-marketing

Case study: Rotavirus vaccination in the UK (simulated data)

About Coverage Risks Benefits BR - total population

Figure: Benefit-Risk of rota-virus vaccination, total population (observed benefits)

Width of moving windows (in weeks) for benefits

28

Weights for Benefit-Risk

Intussusception

50

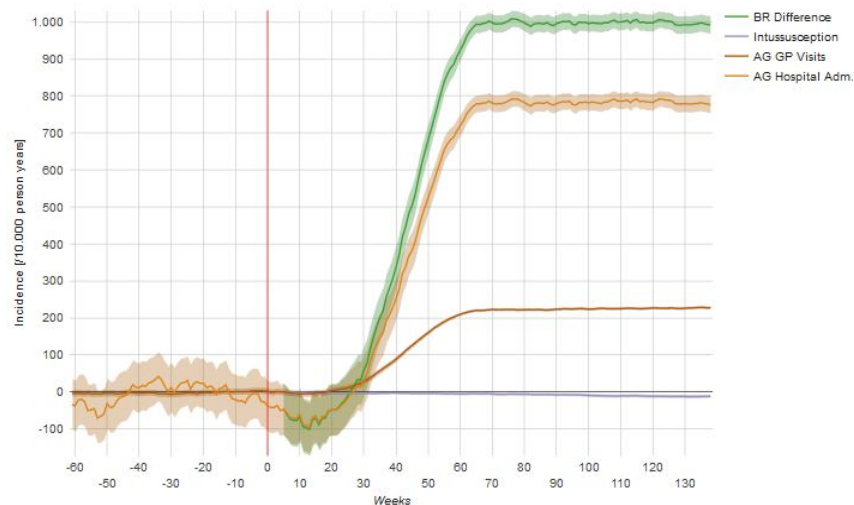
AGE GP Visits

1

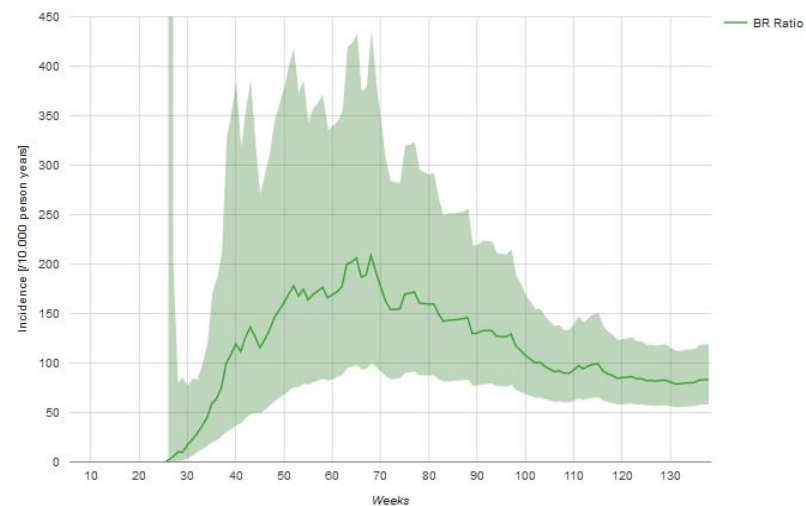
AGE Hospital Admissions

20

BRT1. Benefit - Risk Difference



BRT2. Benefit - Risk Ratio





Multi-stakeholder **end-user feedback** collected

- 👍 • Dashboard very much appreciated...
- 👍 • Visualizations very much liked...
- ❓ • Concerns about the composite BR measures, selection of weights
- ❓ • Concerns regarding data availability for NRT monitoring



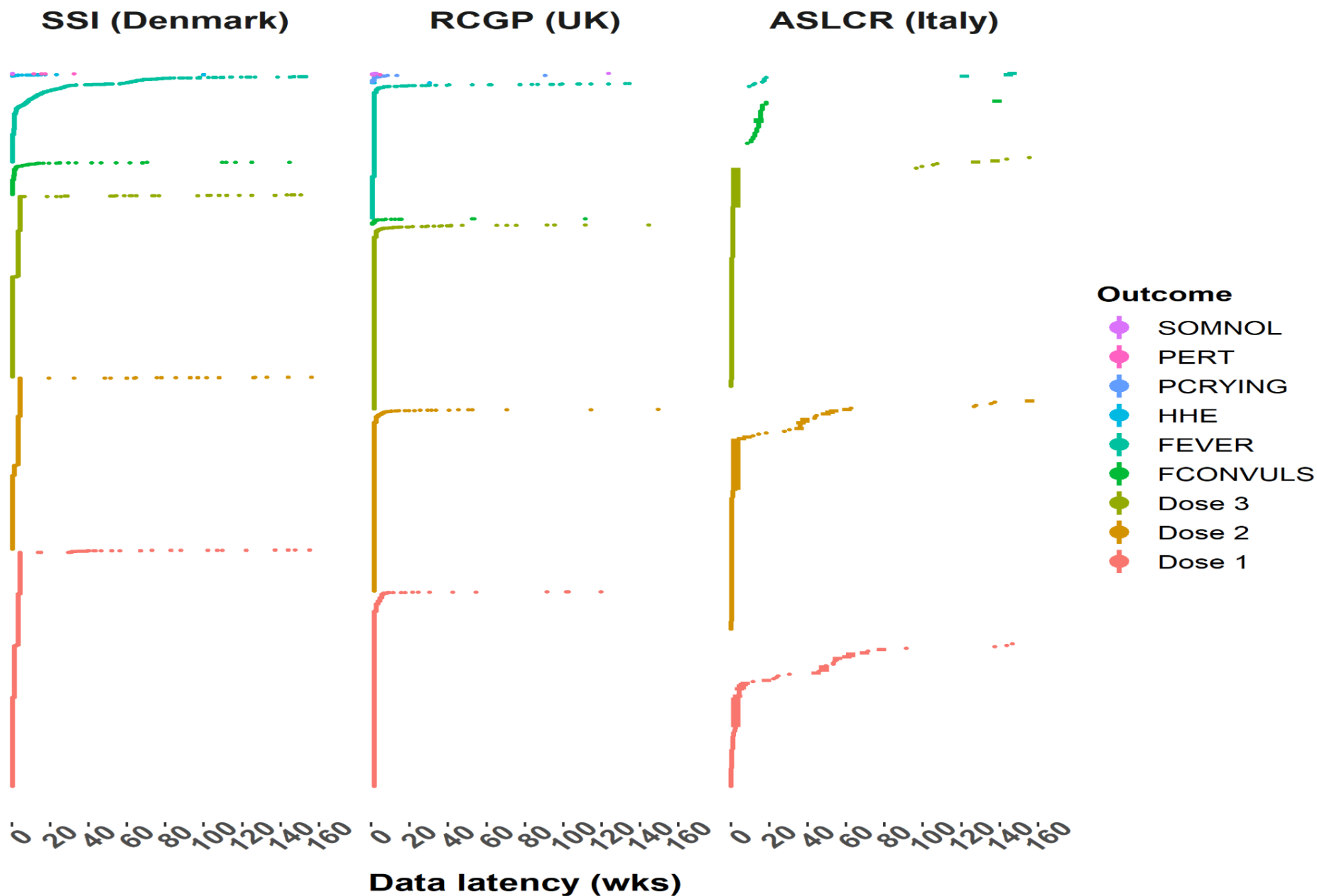
Proof-of-concept study on **near-real time monitoring** using **electronic healthcare databases**:

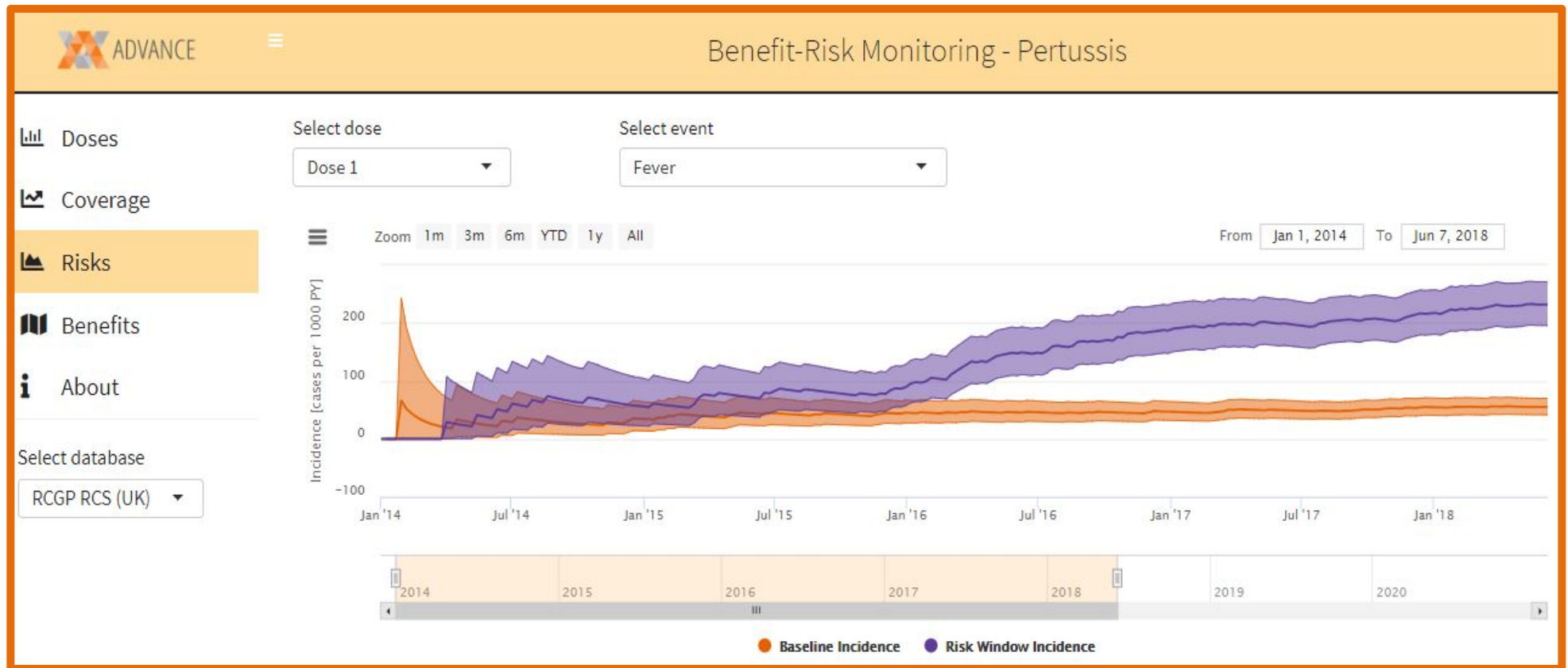
- Continuation of POC1 studies
- **Dynamic cohort study** (N = 5) with 3-month period of near-real time monitoring providing +/- weekly data extracts (N = 3)
- **Data latencies**
- **Interactive dashboard**



ADVANCE

REAL NEAR-REAL TIME... DATA LATENCIES





<http://apps.p-95.com/pertussis-dev/>



DREAM
TEAM



DREAM
TEAM

THANKS

VISIT THE BOOTHS OVER LUNCH!!!

