

IMI Digital Health Consultation

Harnessing Data from Social Media and to
Monitor the Safety of Medicines

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Epidemico, Ltd.

September 29, 2016 - Brussels

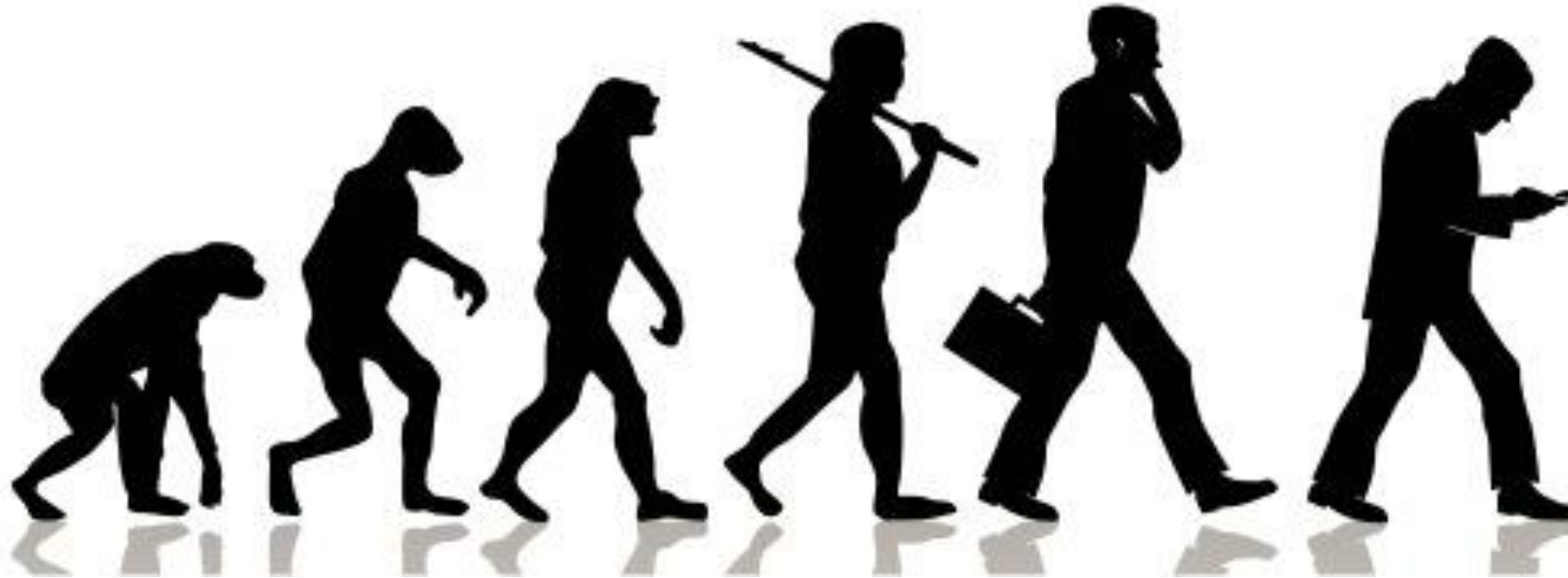


Background

Use of smartphones & social media



Evolution of technology

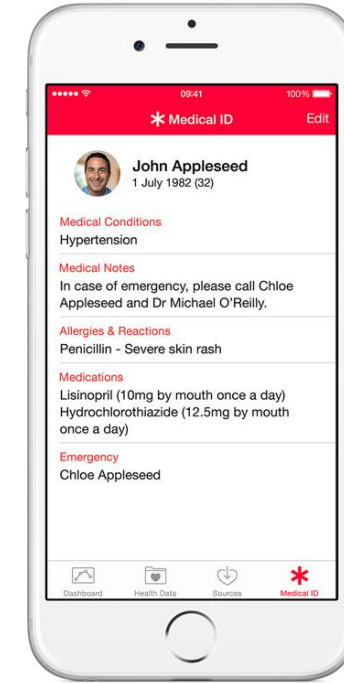


- What does personal computing look like in 2014?
- Personal and work devices have begun to merge together
- Handheld devices are more powerful than the desktop PCs of only a couple of years
- Social media is fully integrated and always on

Smartphones and mobile apps



- 1.75 billion smartphones in use worldwide
- 34.6 million in the UK
- 62% of UK adults and 53% of households have a smartphone (24% also have a tablet)

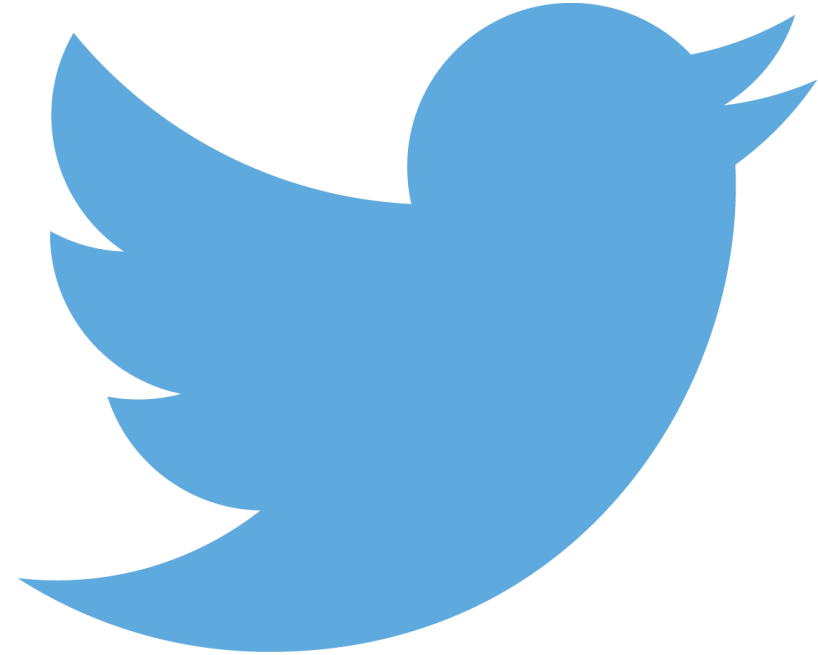


- 1.3 million apps available for android users (1.2 million for iOS)
- Around 6,000 health related apps
- NHS has its own app store

Social media



- 1.35 billion active Facebook users
- 680 million on mobile devices
- 48% log on every day
- 25-34 largest age group



- 284 million active Twitter users
- 80% active on mobile
- 500 million tweets per day worldwide

Introducing WEB-RADR

- Organisation
- Social media mining
- Mobile App
- Ethics
- Policy



WEB-RADR Consortium



WEB-RADR aims

Web-Recognising Adverse Drug Reactions

Embracing new technologies

Both public and private partners involved

|

Reports via mobile app vs established reporting schemes

Algorithms and analytics

Develop a policy framework

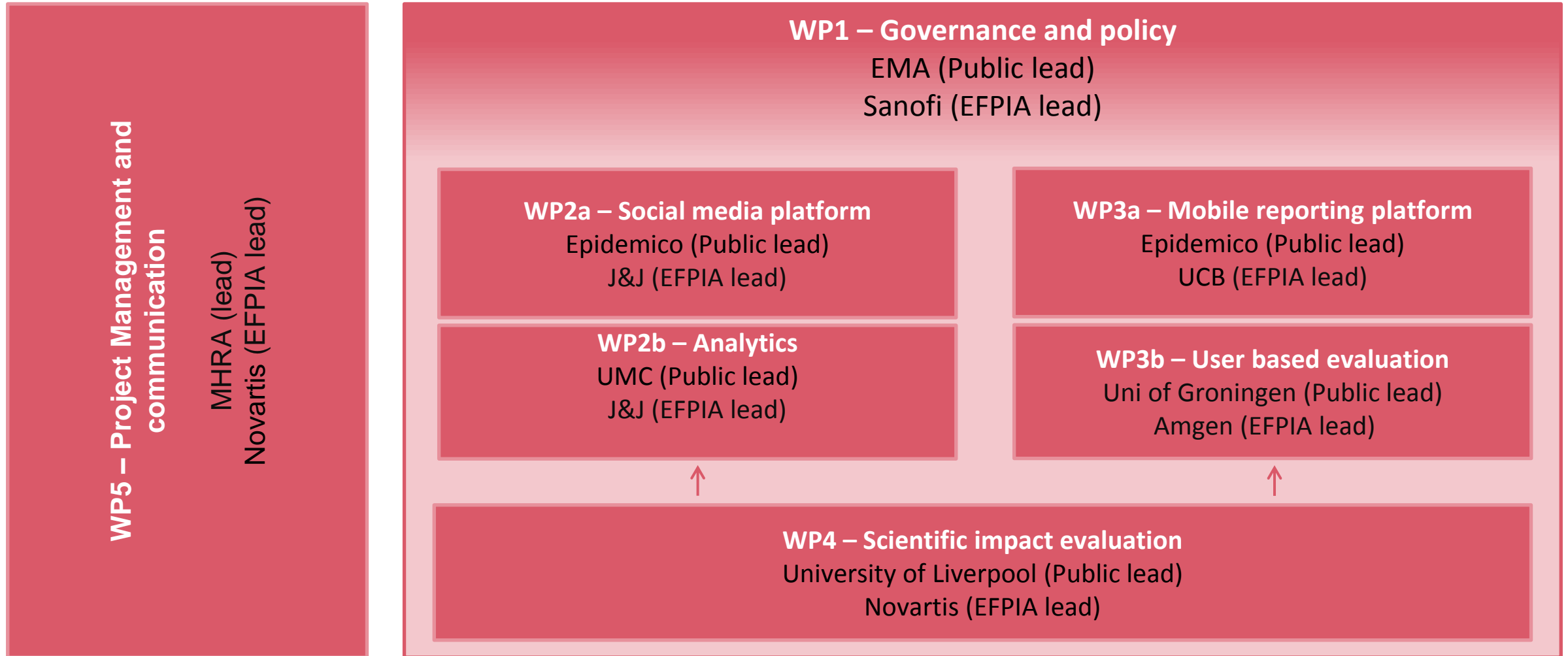
Reshape the pharmacovigilance world

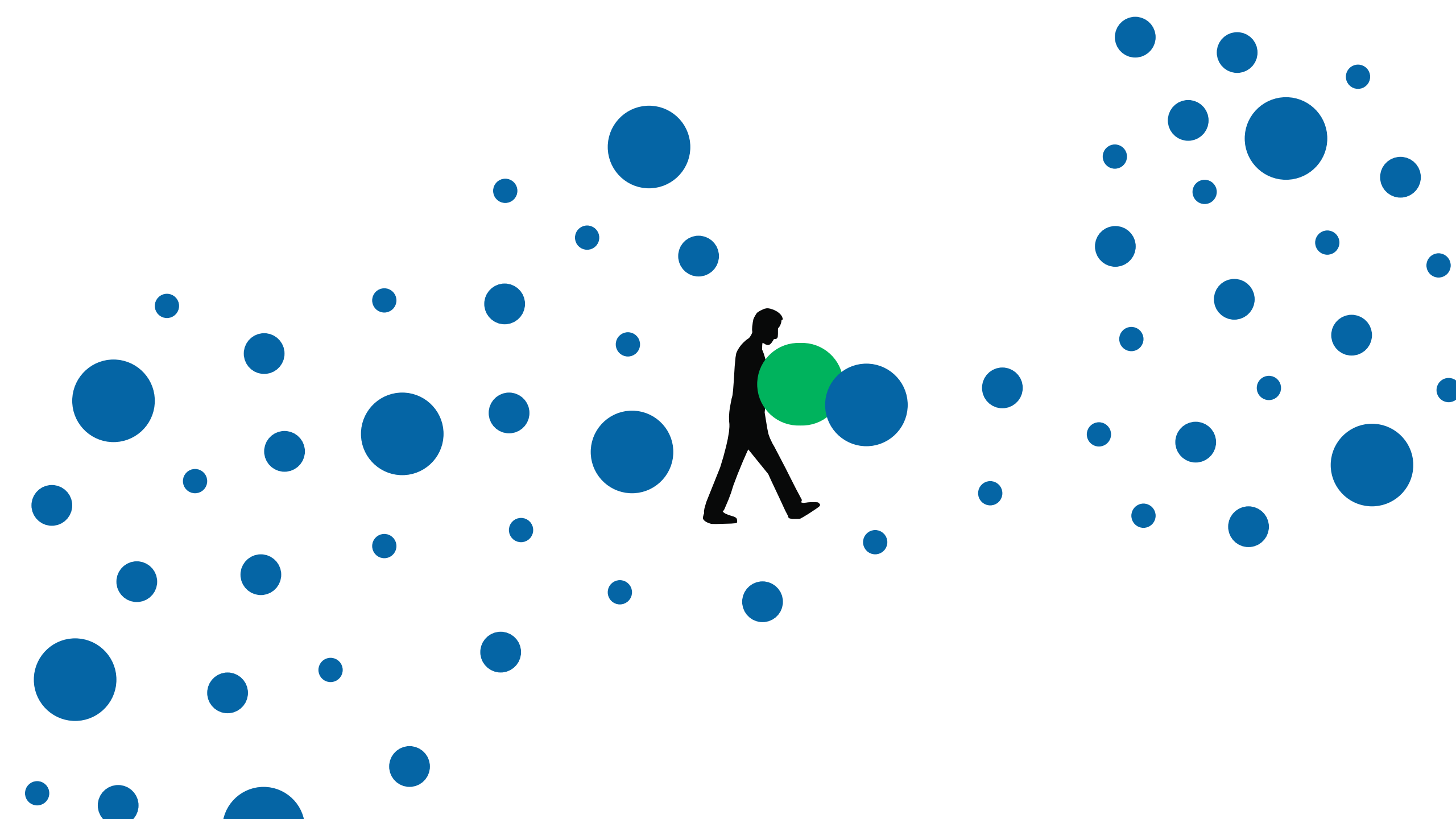
Our Vision

- New technology giving us tools to transform pharmacovigilance in the modern world
- Developing a policy framework to influence how they are used
- Using the best possible science to do this
- New tools everyone wants to use – patients, health professionals, industry and regulators

Shaping the pharmacovigilance world of the future

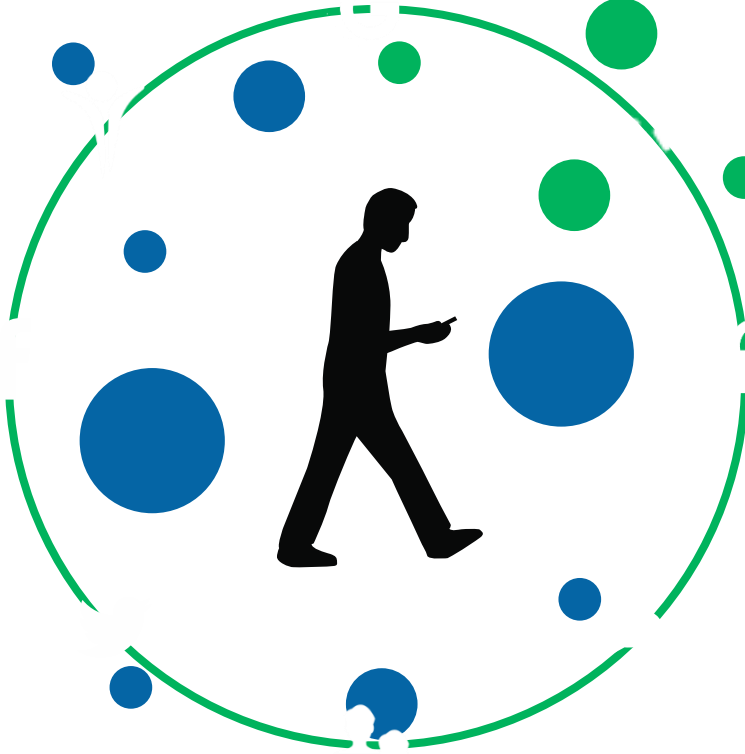
Project setup





Acquire

Collect unstructured data from social media APIs, third-party authorized resellers, and automated scraping.



Process

Data are passed through a series of apps, emerging as meaningful bits of information.



geo-tag



de-identify



detect
benefits



detect
adverse
events



detect
sentiment



language
translation



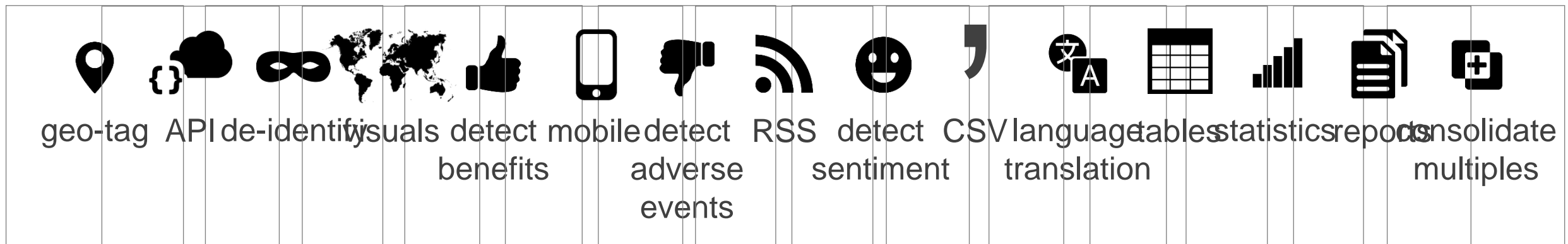
statistics



consolidate
multiples

Export

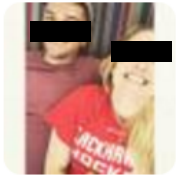
Relevant data are passed to another series of apps in preparation for human interpretation and analysis.



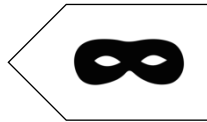
Export

Relevant data are passed to another series of apps in preparation for human interpretation and analysis.





S [redacted]
@[redacted]



Follow



Albuterol has me feeling all sorts of dizzy and weak this morning 🥵 😊

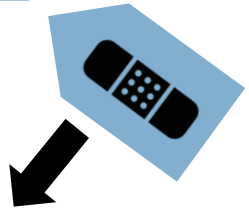


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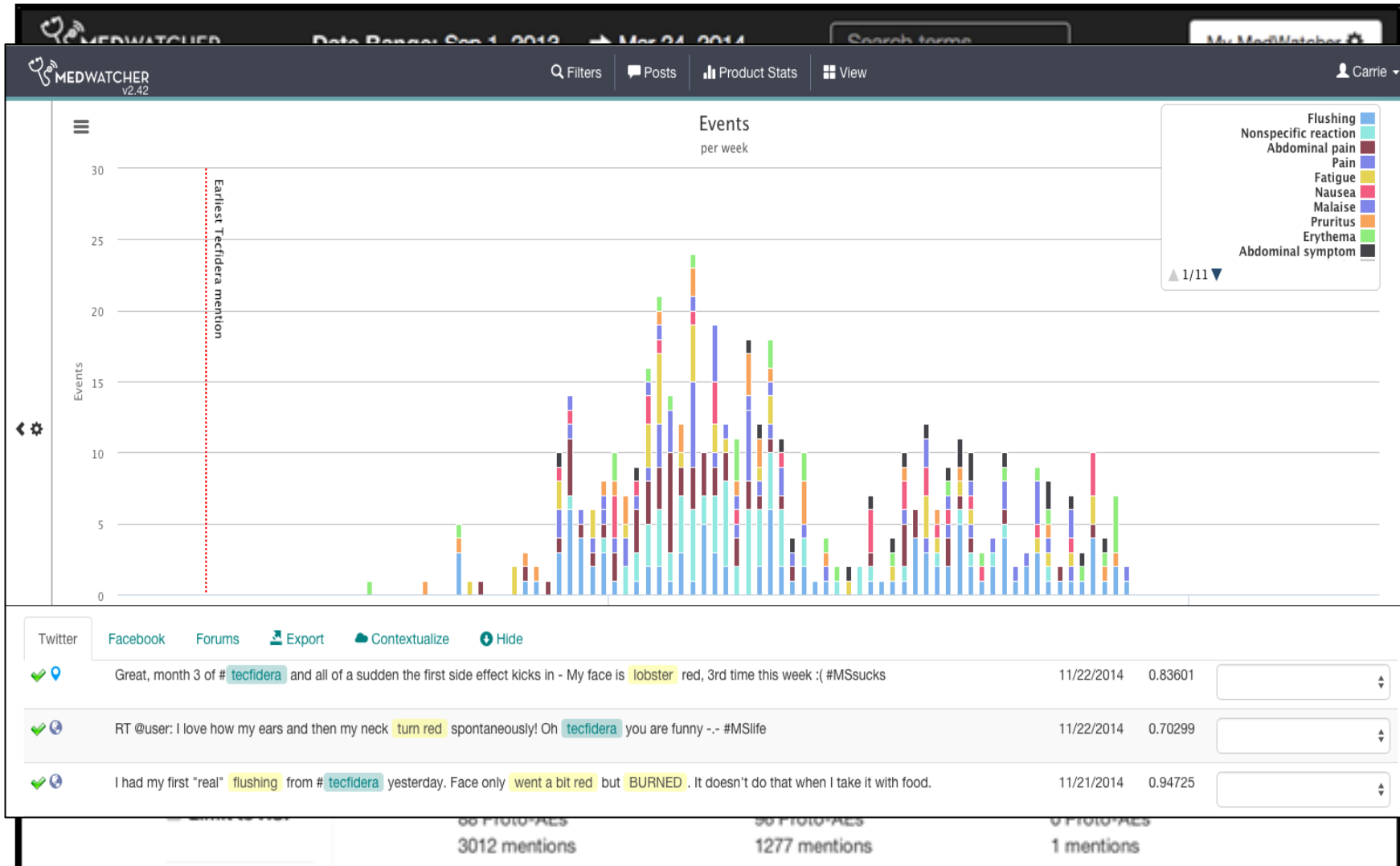


Asthenia
MedDRA: 10003549

Dizziness
MedDRA: 10013573



Signal analysis in social media?



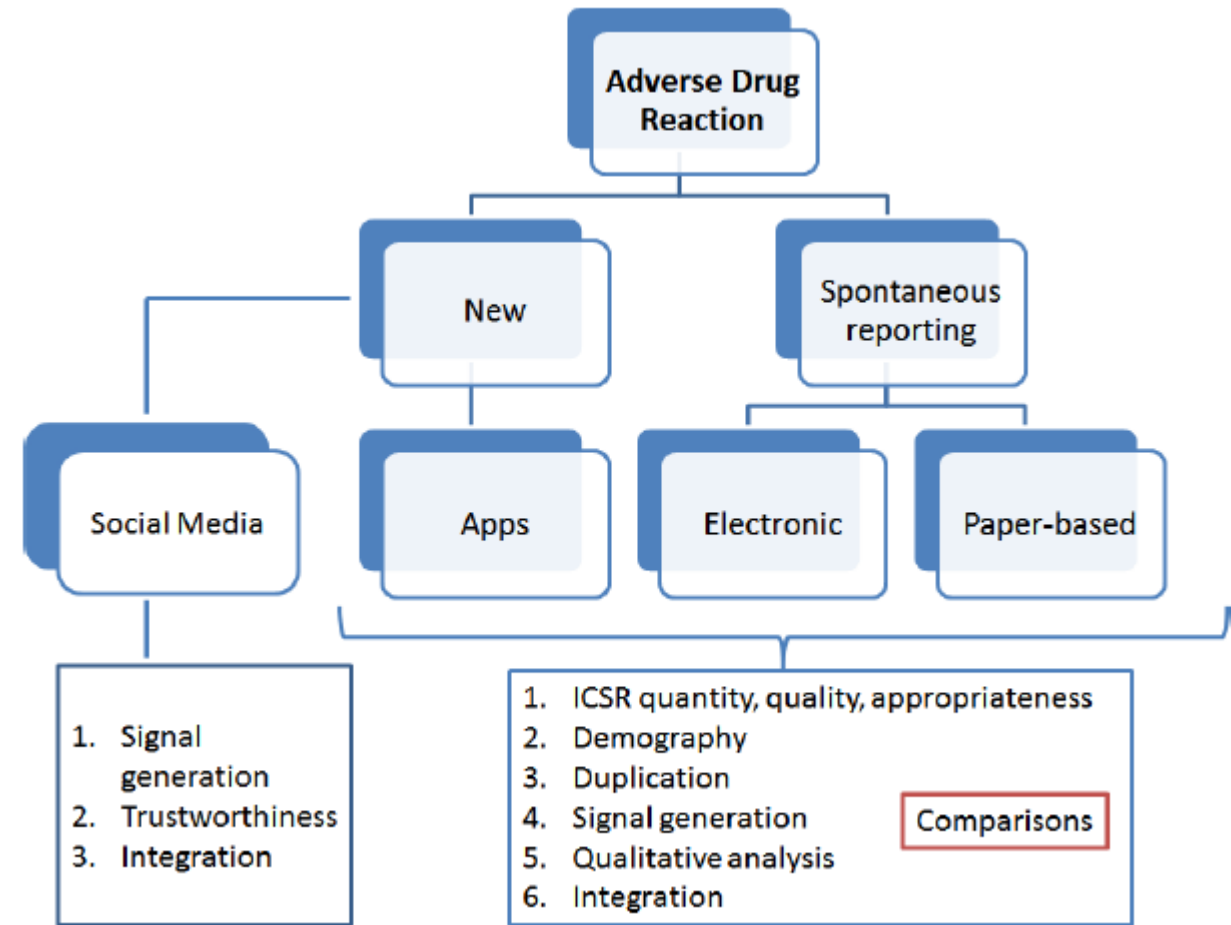
- Case recognition?
- Signal detection?
- Signal strengthening?
- Duplicate detection?

Scientific Impact evaluation

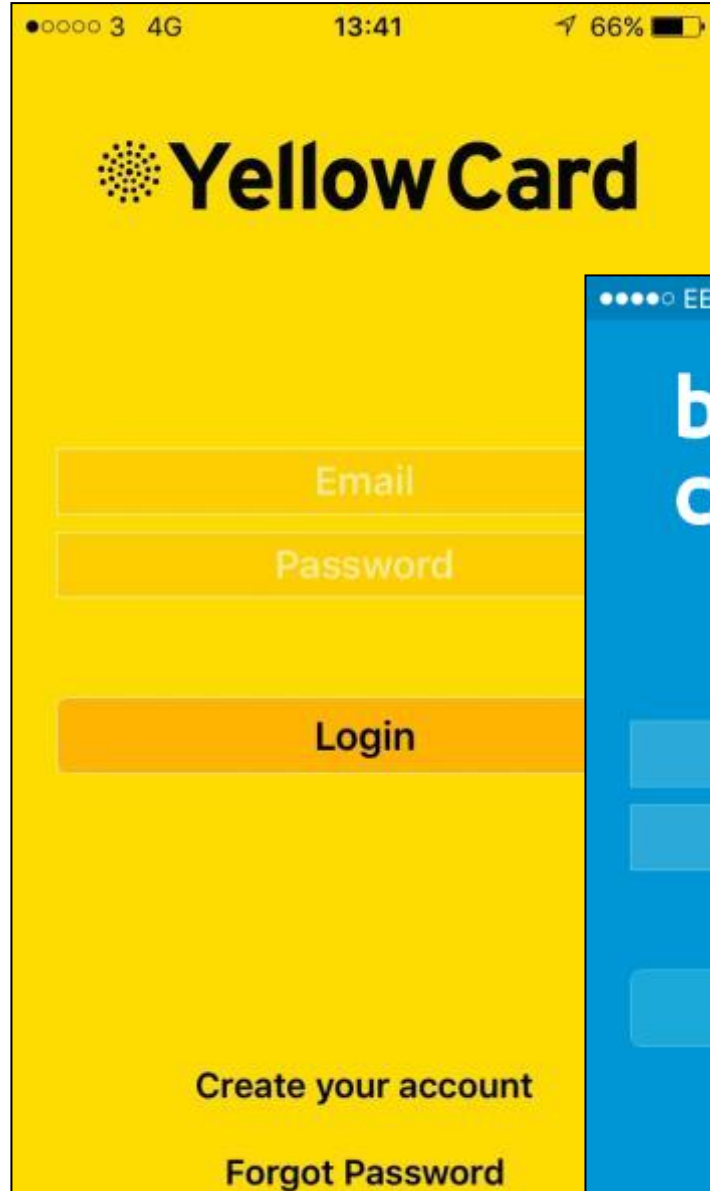
Essential Aim:

To determine whether novel media applications (apps and social media) add value to existing pharmacovigilance methodologies

- Add information to the established safety profile of a medicine
- Enable earlier detection of new signals
- Reveal new patterns or trends in reporting
- Provide a means for geo-pharmacovigilance

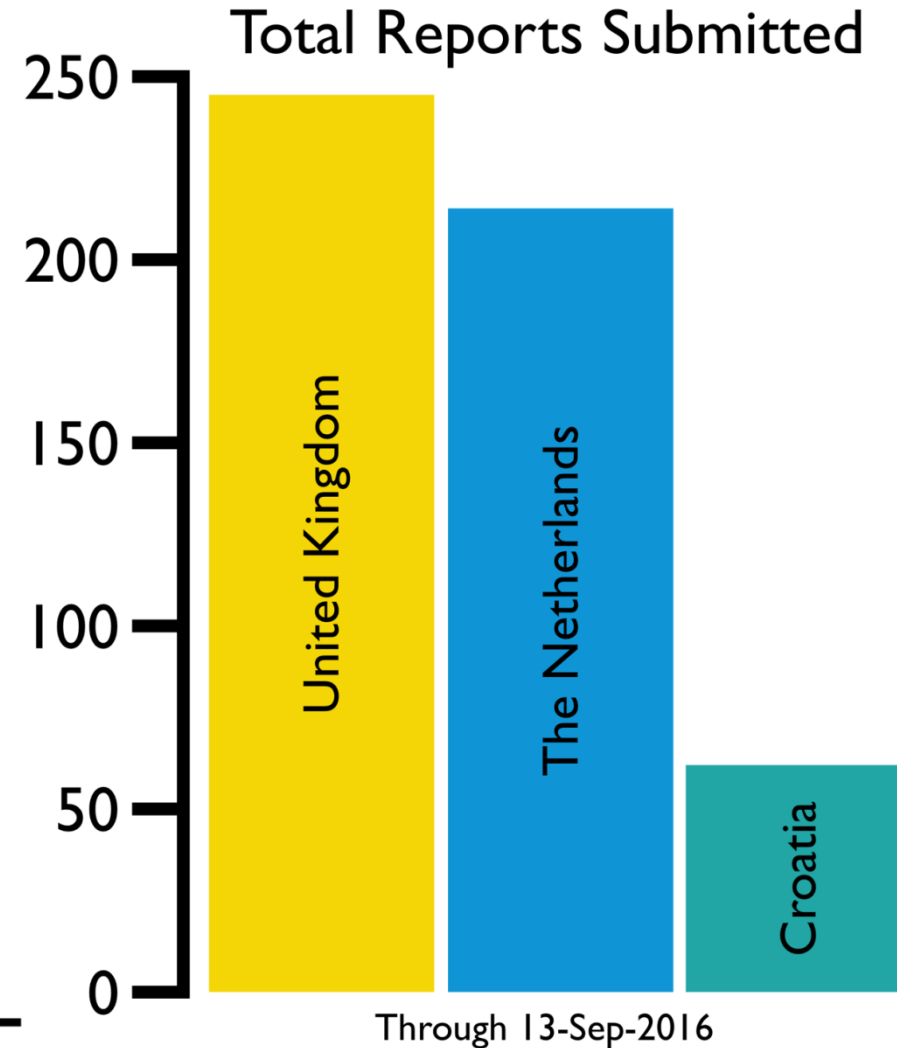
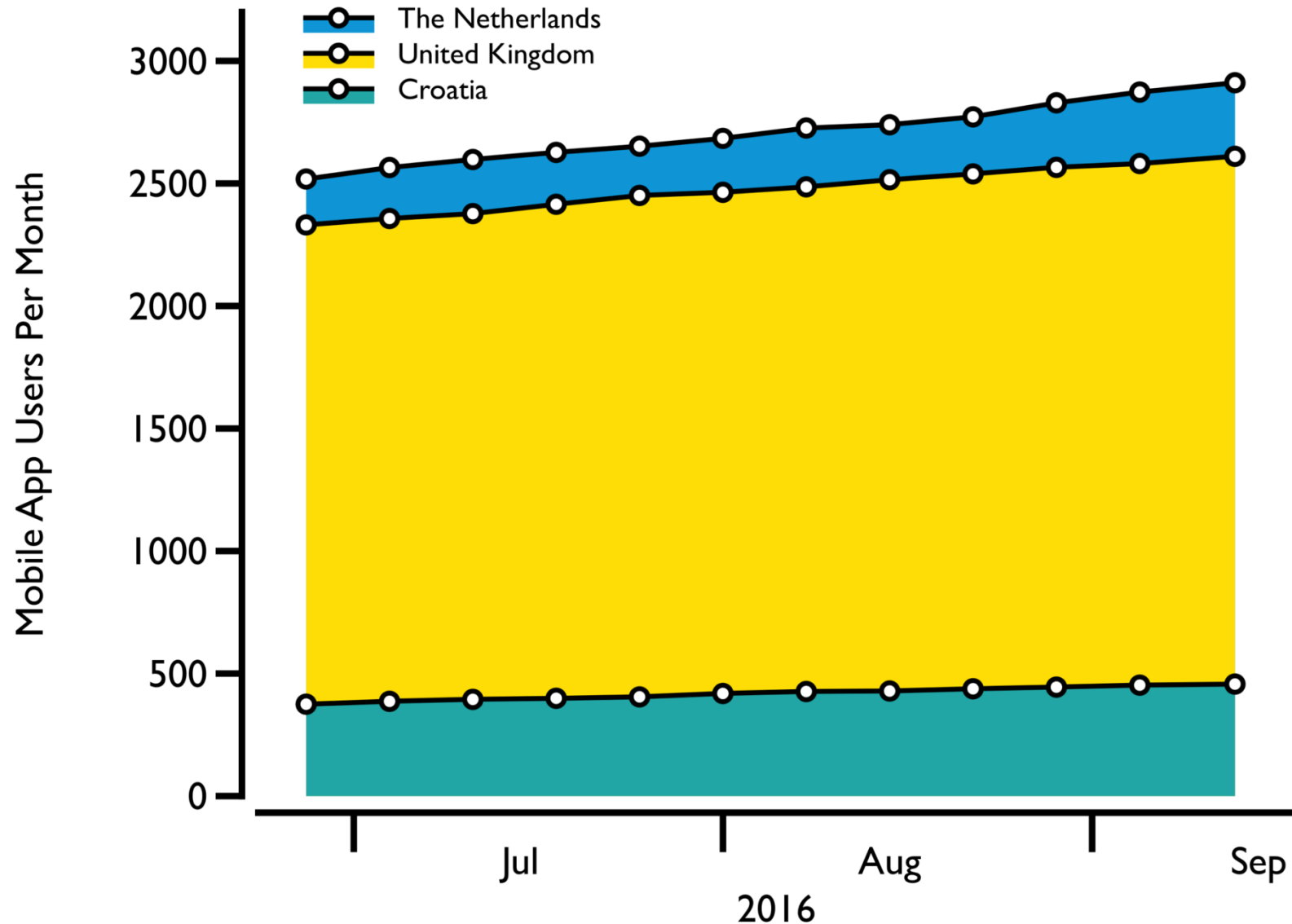


Apps Launched



- Package under development for other MS by the end of the project
- Considering how utility of the tools might be expanded through APIs
- Evidence based evolution of tools

App Uptake and Reports Received



Value

Patient evaluation

- Patient focused studies to understand barriers and facilitators to the use of the app
- Most value in the news feeds and data streams that we can make available

Scientific Value

- Initial view indicates that the data are equivalent value to traditional data
- Quality & Value under formal evaluation but already contributing to signal detection



Meet patients
where they're at

Protect their
privacy

Give them easy to-
use tools

Legal & Ethical considerations

Ethics can only be considered when the legal position is clear



- Public data only?
 - Aggregated private data available as well
- Do people understand how their data can be used?
 - Consent vs responsibility
- When to engage?
 - Responsibility as an HCP vs lack of knowledge about the individuals circumstances

Policy

Objectives

- Develop a policy framework spanning all WEB-RADR WPs with recommendations to support further GVP development
- Focus on usage of mobile devices and social media in the context of the EU medicines and phv legislation for the purpose of:
 - Reporting
 - Monitoring and early detection of signals
 - Communication and interaction with healthcare professionals, patients and carers
- Areas to be addressed include ADRs, quality defects, medication errors, off-label use, misuse, abuse, overdose, occupational exposure and pregnancy exposure for medicines incl. delivery devices

Key Topics

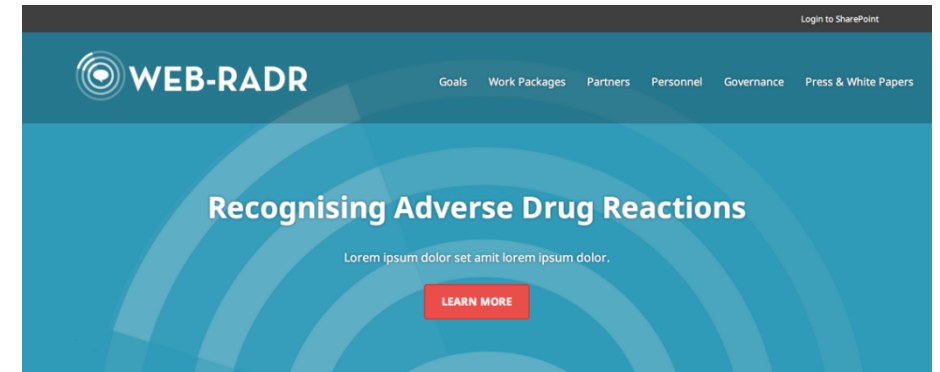
1. Assessment of stakeholder needs and challenges
2. Provision of advice and guidance on all phv aspects to promote harmonisation and consistency across all WPs
3. Assessment of personal data protection requirements and ethical and societal aspects for the purpose of phv and public health protection
4. Development of a policy framework with recommendations towards utilisation of the new WEB-RADR technologies and methods
5. Development of recommendations to assist stakeholder communications by regulators, public health organisations and pharmaceutical and biotechnology companies to inform and alert on safety and public health issues

Thank you. Questions?

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NEWS

Post number 3
November 10, 2014

Significant progress on WP1
November 10, 2014

Sample news
November 10, 2014



The WEB-RADR project is supported by the Innovative Medicines Initiative Joint Undertaking (IMI JU) under grant agreement n° [xxxxxx], resources of which are composed of financial contribution from the European Union's Seventh Framework Programme (FP7/2007-2013) and EFPIA companies' in kind contribution.

QUESTIONS OR COMMENTS?

Please send us questions or comments via our [feedback form](#)