

# Looking to the Future: Use of Smartphones & Beyond

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Vigilance and Risk Management of Medicines

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Use of smartphones & social media

What does this mean for pharmacovigilance

Introducing WEB-RADR

Looking ahead.....

# Evolution of Computers



What is a personal computer?

Hand held multi-functional devices are used for work, rest and play: Phone; text; camera; gaming; internet; social

A smartphone is a personal computer

Social media is always on and integrated

# Evolution of the Mobile Phone



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

# Mobile Apps



- Around 1M apps available for download
- Around 6,000 health related apps for clinicians and patients
- NHS has its own app store

The screenshot shows the NHS choices health apps library website. At the top, there's a header with the NHS logo, the text 'choices health apps library', a 'Share' button, and a search bar. Below the header is a navigation bar with links: Home, Conditions, Healthy living, Health information, Social care, Developers, and About. The main content area has a large heading 'Safe and trusted apps to help you manage your health' and a welcome message 'Welcome to the Health Apps Library'. Below this, there are three bullet points: 'Discover apps to help you manage your health', 'Reviewed by the NHS to ensure they are clinically safe', and 'Rated by you and the health care community'. The 'Latest apps' section displays six app icons with their names and categories: CF MedCare (Condition tracker), MouseTrack (Communications aids), Minimal Pair Pack (Communications aids), iReminisce (Communications aids), iRelief (Fitness), and iDialysis (Diabetes).

**NHS choices health apps library** Share  Search

Home Conditions Healthy living Health information Social care Developers About

**Safe and trusted** apps to help you manage your health

Welcome to the Health Apps Library

- Discover apps to help you manage your health
- Reviewed by the NHS to ensure they are clinically safe
- Rated by you and the health care community

**Latest apps**

| App Icon | App Name          | Category            |
|----------|-------------------|---------------------|
|          | CF MedCare        | Condition tracker   |
|          | MouseTrack        | Communications aids |
|          | Minimal Pair Pack | Communications aids |
|          | iReminisce        | Communications aids |
|          | iRelief           | Fitness             |
|          | iDialysis         | Diabetes            |

# Social Media



- 1.4BN Facebook users
- 680M on mobile devices
- 48% log in every day
- 31.5M users in the UK
- 25-34 Year olds are biggest group

# Questions for Pharmacovigilance



- How can we make best use of these new technologies to enhance PV?
- Can the use of social media be harnessed to support our activities?
- What are the legal & ethical implications?
- What are our obligations (industry & regulators)
- Is it all just noise?



Innovative Medicines Initiative

IMI-GB-DEC-2013-13  
Annex 1

## **9th Call for Proposals 2013**

Innovative Medicines Initiative

Version 2

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# Consortium



epidemico

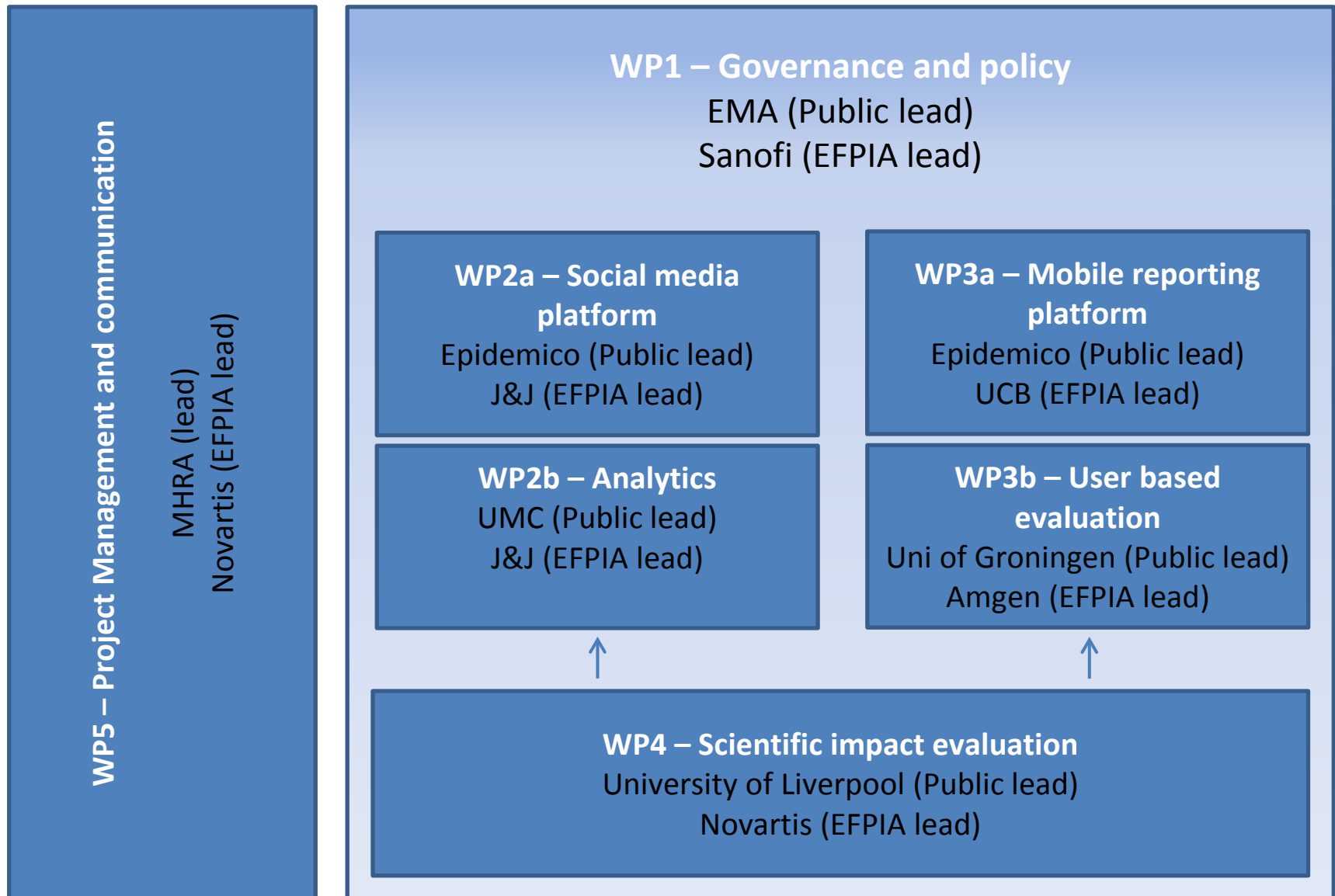


AMGEN®

EURORDIS  
Rare Diseases Europe



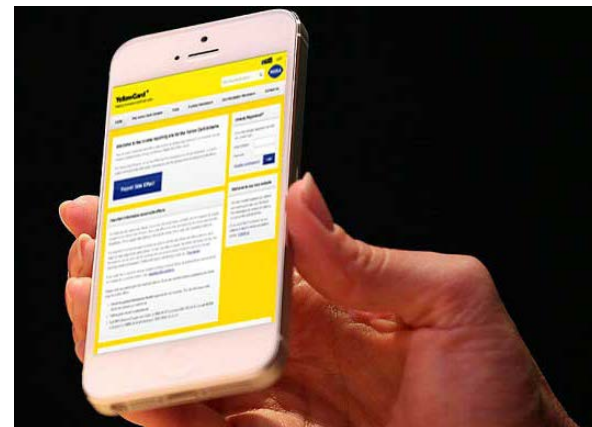
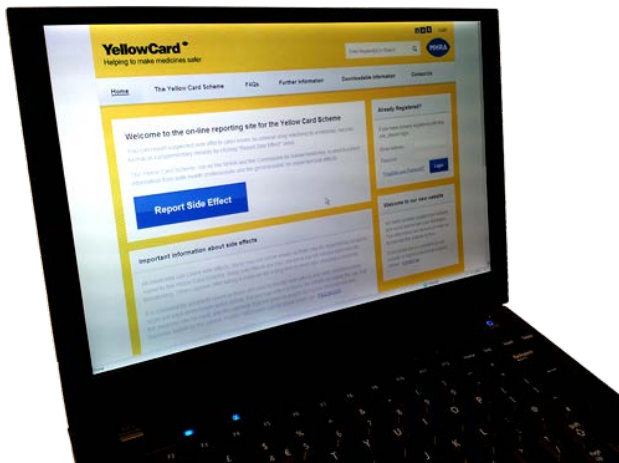
# Project setup

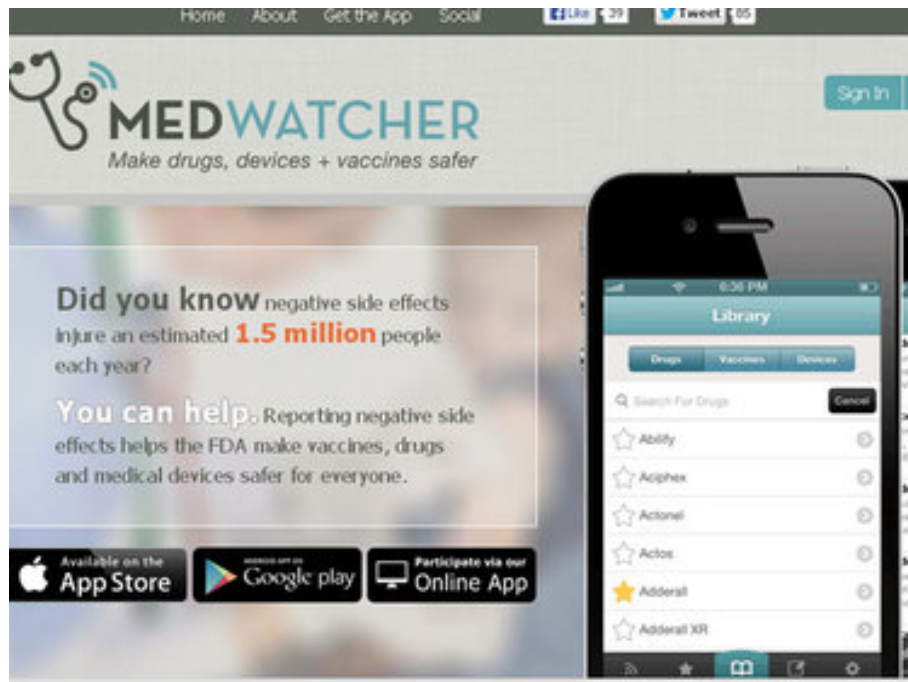


- New technology giving us tools to transform pharmacovigilance in the modern world
- Developing a policy framework to influence how they are used
- Using the best possible science to do this
- New tools everyone wants to use – patients, health professionals, industry and regulators

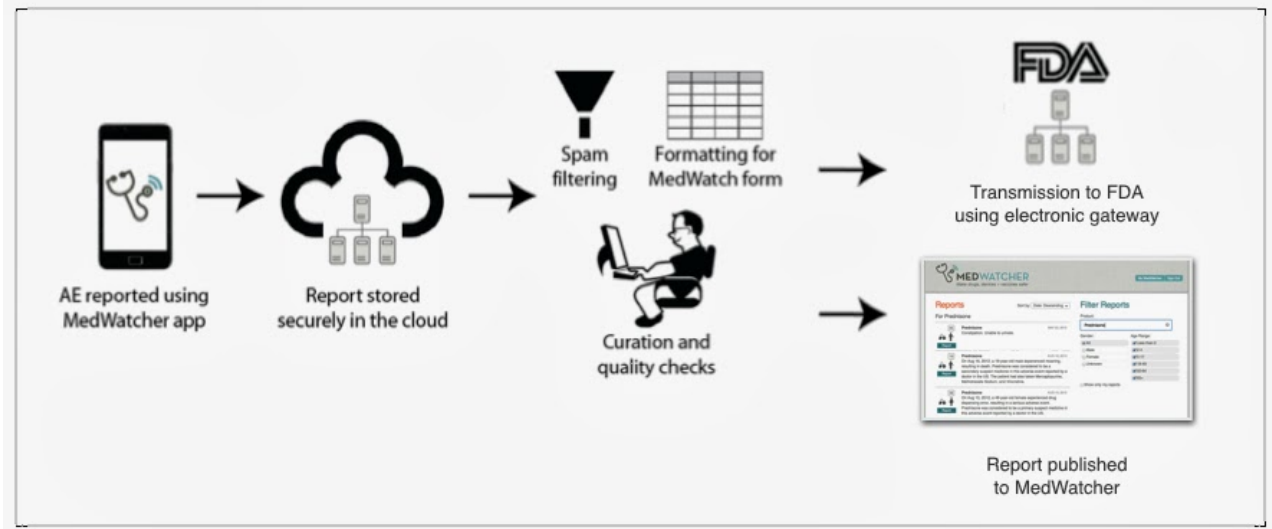
**Shaping the pharmacovigilance world  
of the future**

# The Evolution of ADR reporting

A yellow paper form titled 'YellowCard' with the MHRA logo. It is a 'SUSPECTED ADVERSE DRUG REACTIONS' form. The form includes sections for 'PATIENT DETAILS', 'SUSPECTED DRUG(S)/VACCINE(S)', 'SUSPECTED REACTION(S)', 'OTHER DRUGS', and 'REPORTER DETAILS'. It contains various checkboxes and fields for recording drug information, reactions, and reporter information.



## How does the MedWatcher app work?



# The Future Patient Journey?



Search internet for medicine information and side effect – find Yellow Card information and directed to App store

Download App, scan package to auto populate, add other information, attach photos

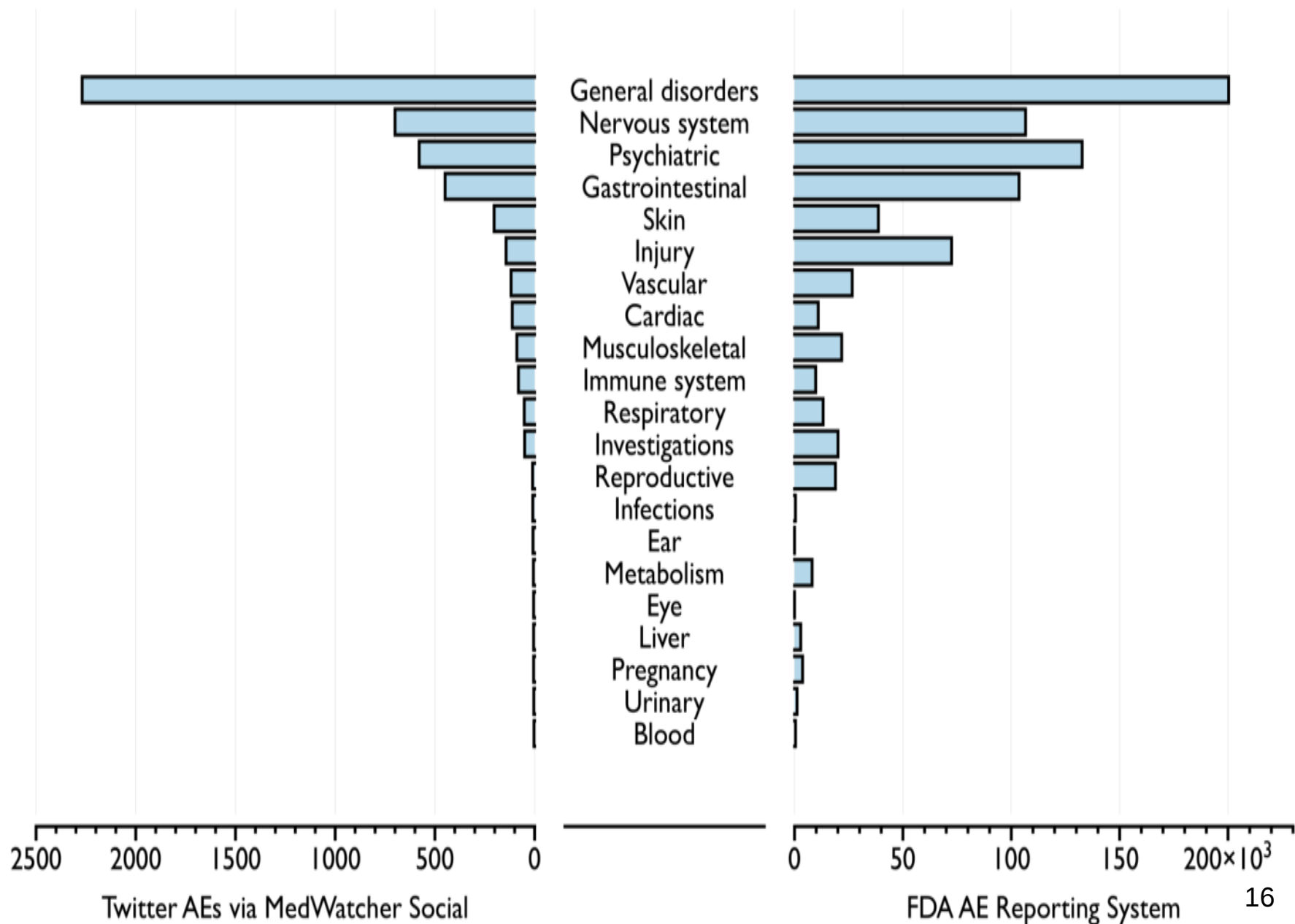
ADR report sent to MHRA in E2B format, forwarded to EMA, available to industry and WHO

Patient receives advice, information on medicine, directed to PIL, DAP, other important safety information

Patient can register for updates on medicine so future alerts are received directly to phone

|                                                                                                                                                                                                                 |            |                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------|
| <b>prednisone</b> sucks and turns me into a scared little baby I watched the intro to AHS Asylum and now I'm <b>freaked out</b>                                                                                 | 12/15/2013 | <input type="checkbox"/> |
| <b>Prednisone</b> + <b>breathing</b> treatment = me <b>still awake</b> ! ☐                                                                                                                                      | 12/15/2013 | <input type="checkbox"/> |
| This <b>prednisone</b> is f***** my emotions up                                                                                                                                                                 | 12/15/2013 | <input type="checkbox"/> |
| I'm really <b>mad</b> that they put me on <b>Prednisone</b>                                                                                                                                                     | 12/15/2013 | <input type="checkbox"/> |
| I am pleased to announce that my face is no longer <b>swollen</b> #allergies #hydroxyzine # <b>prednisone</b> # <b>swollen</b> #3weekslater                                                                     | 12/15/2013 | <input type="checkbox"/> |
| In other news, I am <b>STARVING</b> . Stupid <b>Prednisone</b> . But at least I can have an apple instead of leftover cake. #fb                                                                                 | 12/15/2013 | <input type="checkbox"/> |
| @user omg when I was on <b>prednisone</b> I ate *all the things* and <b>gained</b> 20lbs in one month. Be careful! And feel better.                                                                             | 12/15/2013 | <input type="checkbox"/> |
| @user class="symptom-class" id="tag130" title="symptom - Psychiatric - Irritability">CrankyAmy Yeeeeeep. <b>Prednisone</b> . Are you saying it's <b>RAGE</b> + THE EVIL <b>MUNCHIES</b> ? Because that is FOUL. | 12/15/2013 | <input type="checkbox"/> |
| Oh <b>prednisone</b> , my lungs thank you, but my nerves, head and <b>stomach</b> would appreciate a speedy exit.                                                                                               | 12/14/2013 | <input type="checkbox"/> |
| Careful on pronunciation. RT @user me: I don't like <b>prednisone</b> ; it makes me full of <b>rage</b> . dr.: Would you rather be full of puss?                                                                | 12/14/2013 | <input type="checkbox"/> |
| Apparently <b>prednisone</b> makes you really <b>b*****</b> . Sorry to all innocent bystanders.                                                                                                                 | 12/14/2013 | <input type="checkbox"/> |
| So I am apparently a walking <b>infection</b> . me: I don't like taking <b>prednisone</b> ; it makes me full of <b>rage</b> . dr.: Would you rather be full of puss?                                            | 12/14/2013 | <input type="checkbox"/> |
| <b>prednisone</b> and <b>fever</b> => <a href="http://t.co/Td7fRRRnTa">http://t.co/Td7fRRRnTa</a>                                                                                                               | 12/14/2013 | <input type="checkbox"/> |
| Loving this one Linda ~ Perfect picture to describe the <b>hunger</b> when on <b>Prednisone</b> ! You rocked this! <a href="http://t.co/SkZTLWWQ4y">http://t.co/SkZTLWWQ4y</a>                                  | 12/14/2013 | <input type="checkbox"/> |
| Thanks to the doc who put me on 5x the normal dose of <b>prednisone</b> I <b>can't stop</b> <b>throwing up</b> and I <b>feel like c***</b> #asthamproblems                                                      | 12/14/2013 | <input type="checkbox"/> |
| 50 mg of <b>prednisone</b> <b>doesn't even help</b> that much, that 10 mg was crucial :((                                                                                                                       | 12/14/2013 | <input type="checkbox"/> |
| @user class="symptom-class" id="tag118" title="symptom - Gastrointestinal - Crohn's Disease">Crohns My surgeon said I was a mess.I had no <b>fever</b> because I was on <b>prednisone</b> .                     | 12/14/2013 | <input type="checkbox"/> |
| HELLO THERE, <b>SWOLLEN</b> <b>PREDNISONE</b> <b>MOON-FACE</b> . NICE TO HAVE YOU BACK.                                                                                                                         | 12/13/2013 | <input type="checkbox"/> |
| I hate <b>prednisone</b> !!!! I just wanna eat everything..... ☐☐                                                                                                                                               | 12/13/2013 | <input type="checkbox"/> |

# All Medical Products



[Home](#) / [Product Search](#) / prednisone

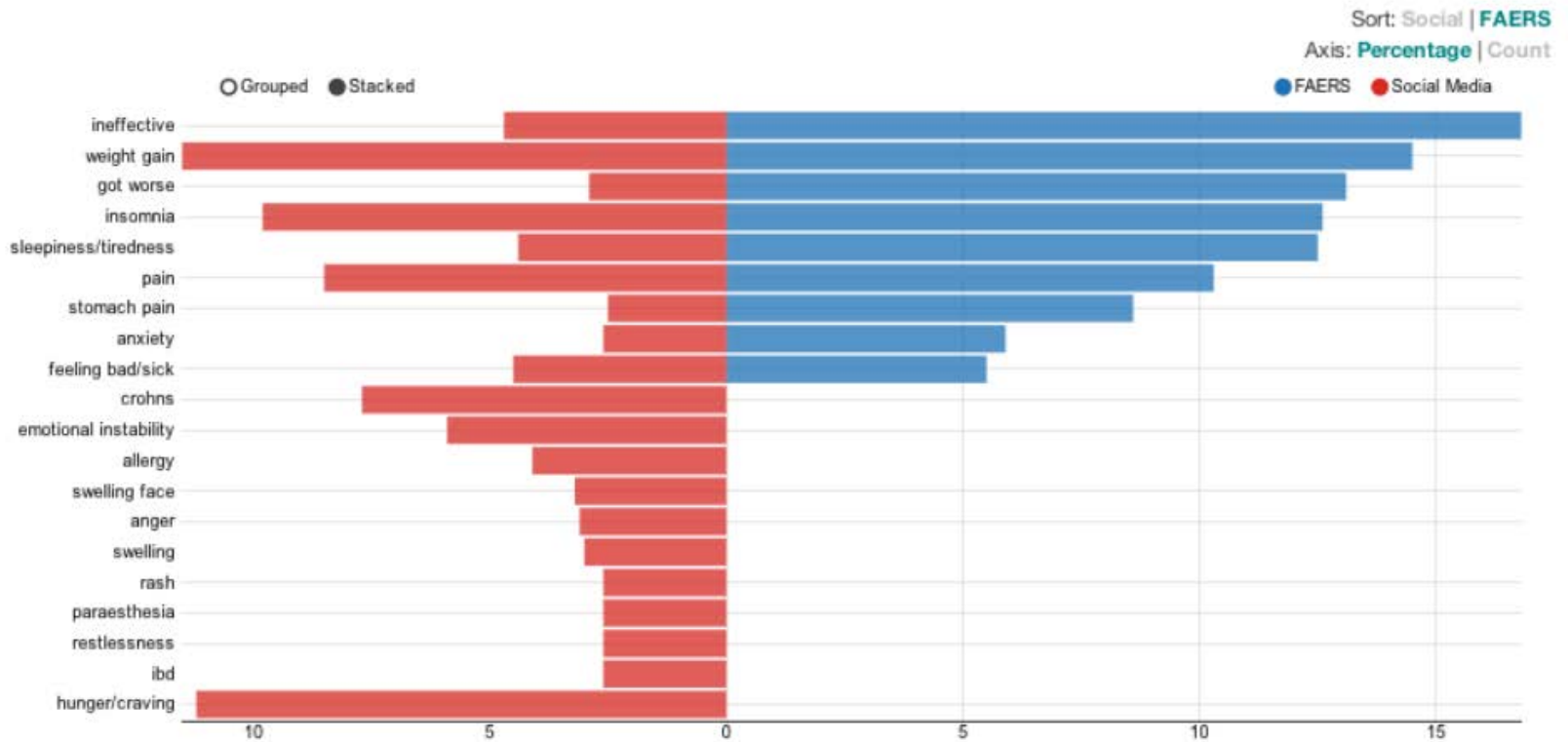
# prednisone

Date Range: Sep 1, 2013 - Oct 31, 2013

Sources: [Twitter](#) [Facebook](#) [MedWatcher](#) [Forums](#)

MedDRA Class: [All](#)

## Social Media vs. FAERS



# The Future Patient Journey?



Patients posts on social media about a side effect to a medicine

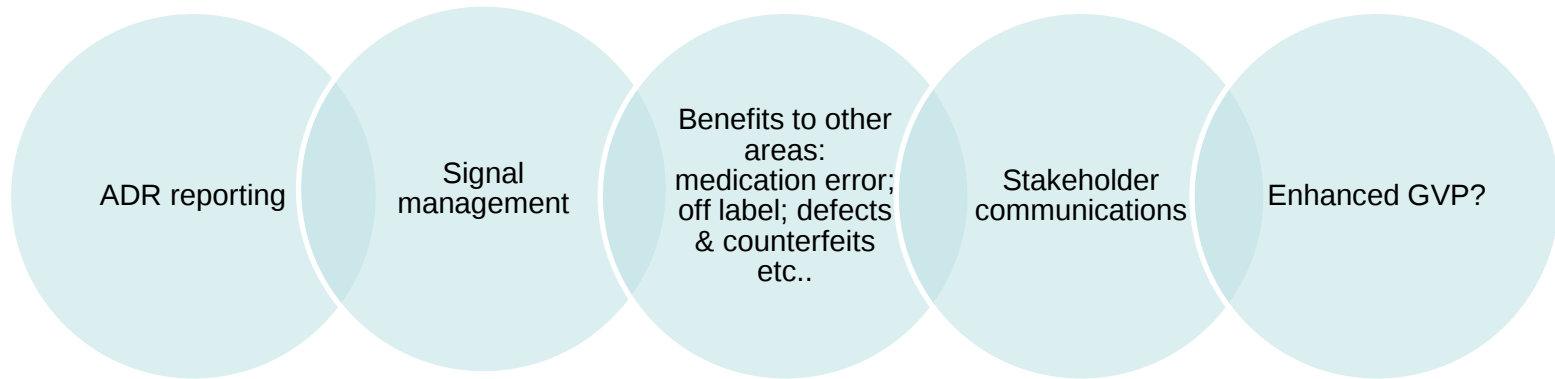
WEB-RADR social media screening identifies this as a possible ADR

All similar posts are identified – marked as “labelled” or “unlabelled”  
PRRs determined

Information used to support signal detection?  
Or signal validation?  
Or signal assessment?

What is the role of the patient beyond the tweet/post.  
Do we engage or not?

# Policy Need



- New technologies offer new possibilities for pharmacovigilance
- Traditional ADR reporting and signal management methods are changing
- WEB-RADR seeks to investigate, develop tools and recommend policy
- Watch this space.....