RECON

Challenges and opportunities in outbreak analytics

Thibaut Jombart

22-23 March 2018

Imperial College London
MRC Centre for Outbreak Analysis and Modelling

Thanks to:

Amrish Baidjoe

Julie Middleton

James Hayward

Rich FitzJohn

Neil Ferguson

Susannah Fisher

Zhian Kamvar

Dirk Schumacher

MRC Centre for Outbreak Analysis and Modelling

NHS National Institute for Health Research

Imperial College London

The R Epidemics Consortium

Lessons learnt from the Ebola response

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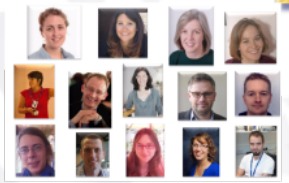
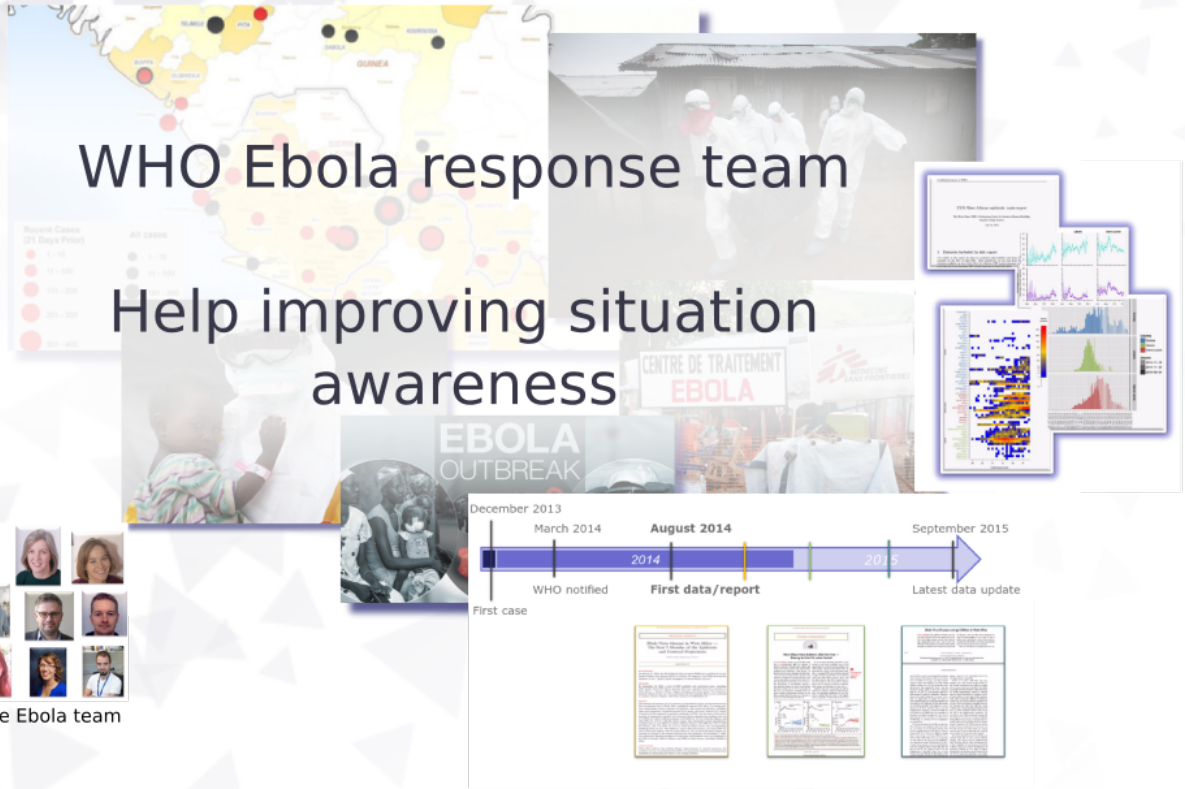


Imperial College Ebola team

Lessons learnt from the Ebola response



Imperial College Ebola team

Lessons learnt from the Ebola response

Most tools for outbreak response analysis were missing.

Informing the response in 'real time'?

Affected countries

data collection

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time (block = day)

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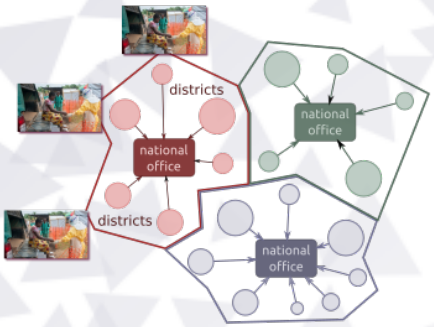

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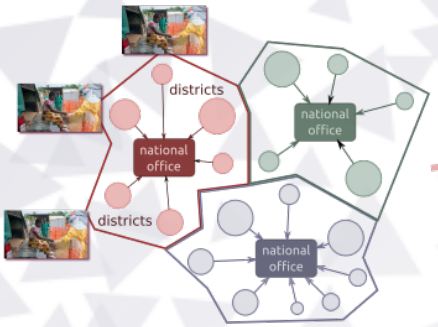

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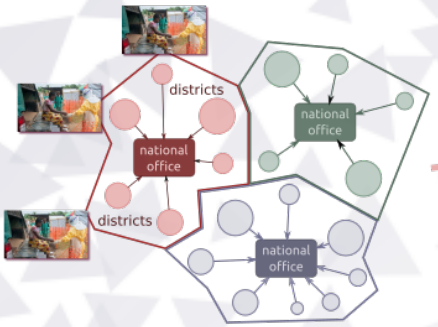

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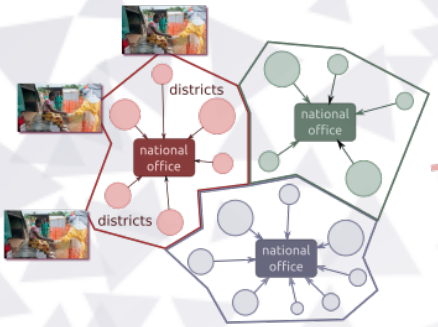

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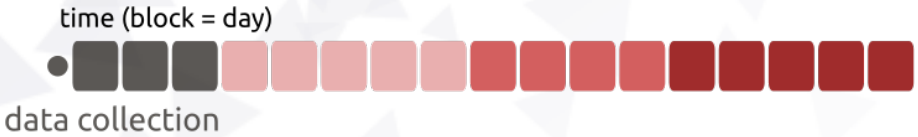

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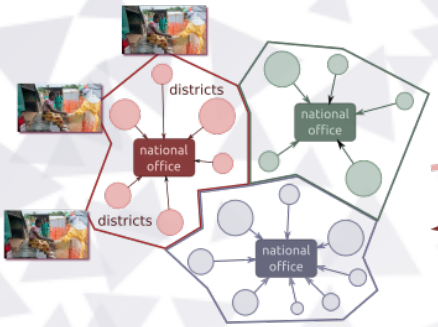

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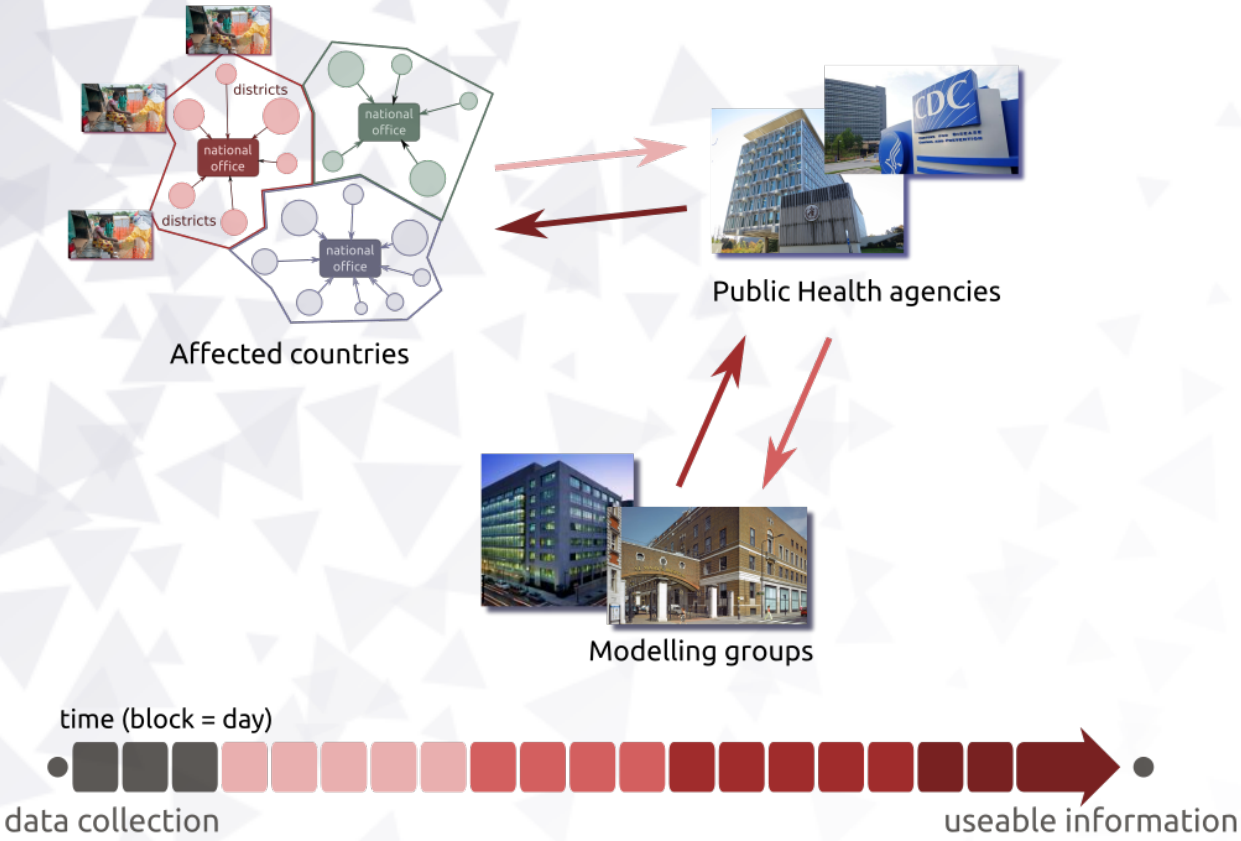

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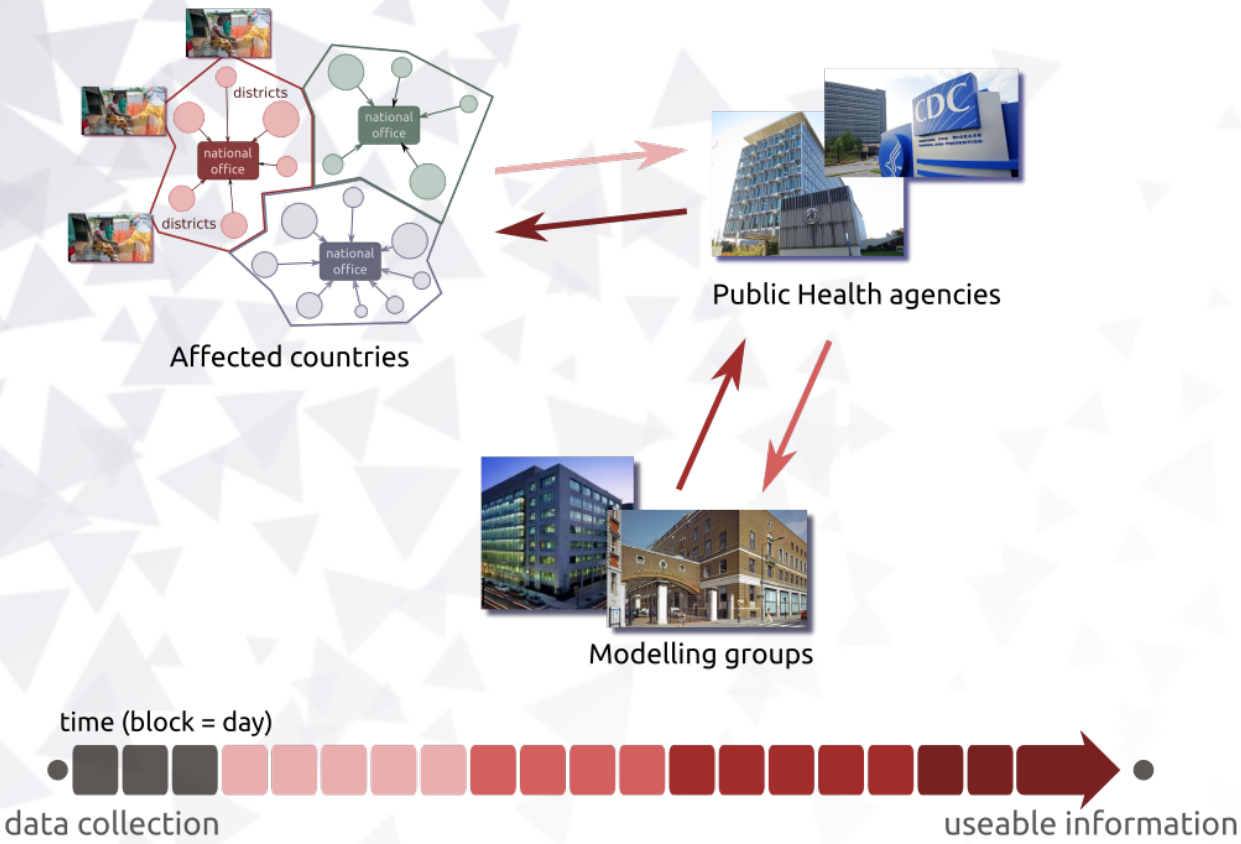

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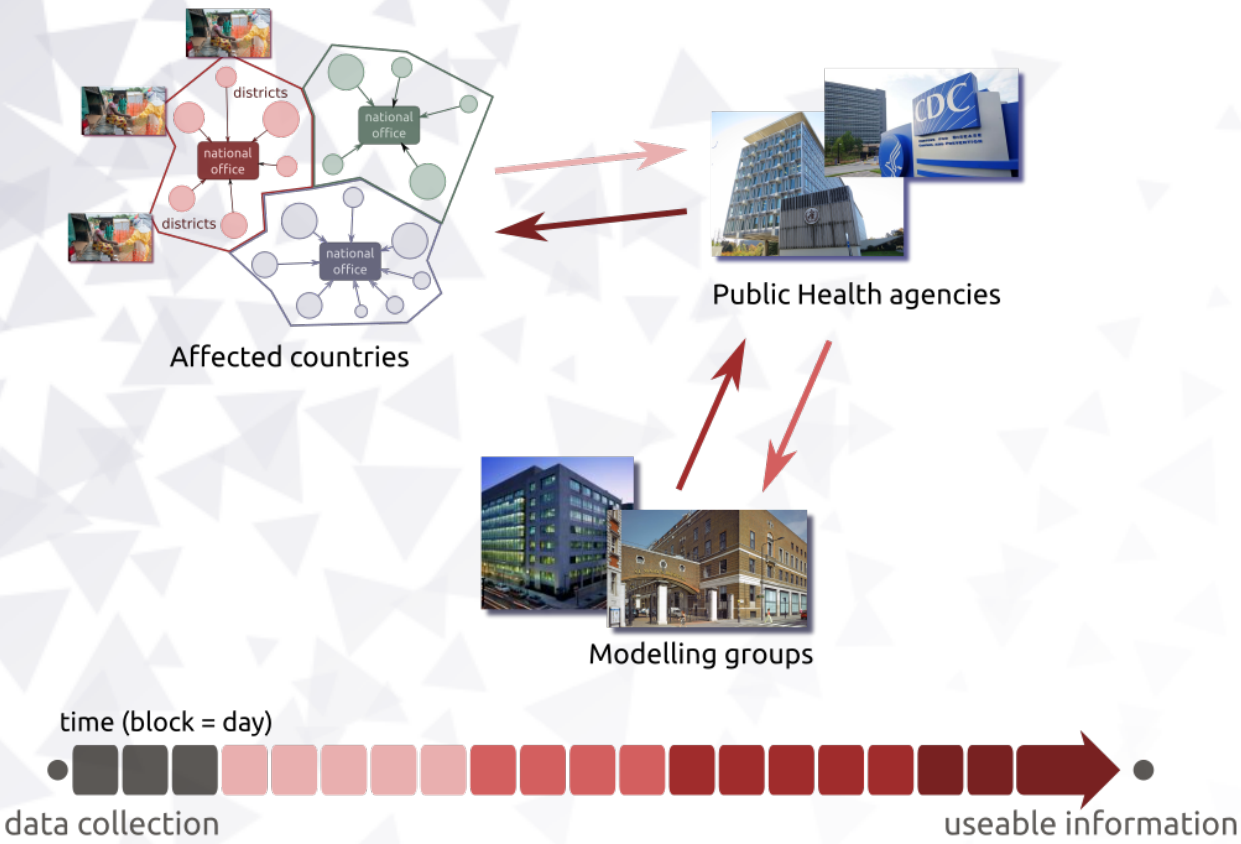

- good tools will shorten only some delays
- potential for embedding analysts in response teams
- two-way road: lots to learn from the field for analysts

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Public Health

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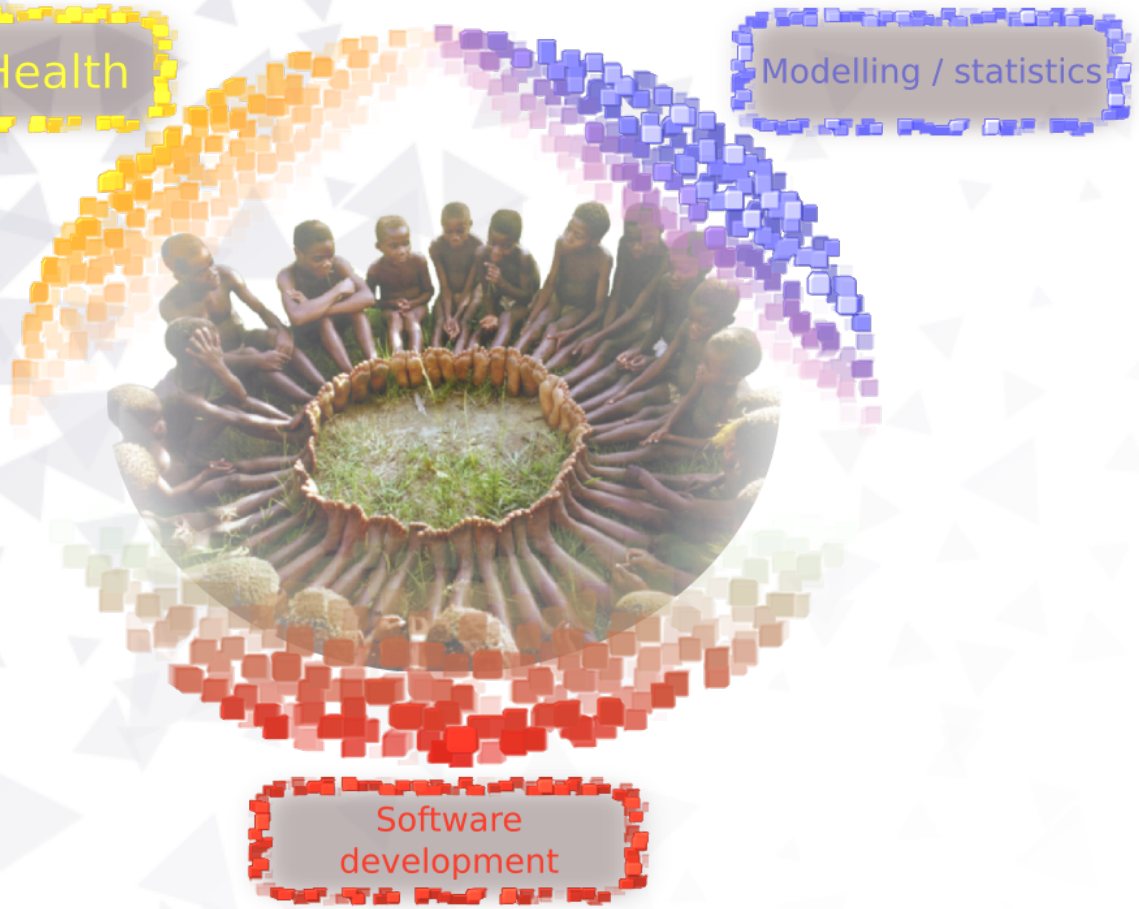

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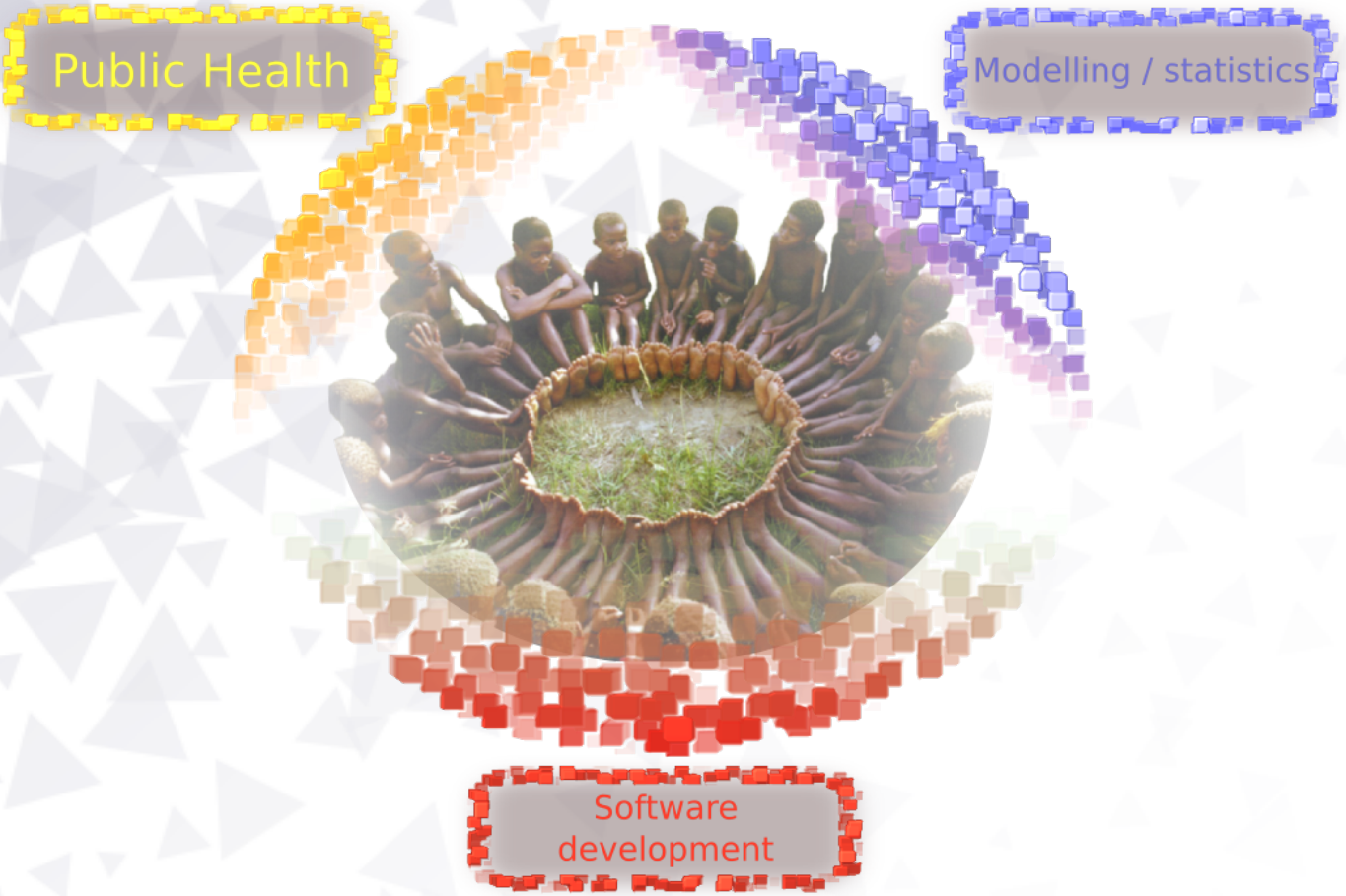

How do we bring these people together?

From a hack to a pack

Hackout 3, summer 2016, Berkeley

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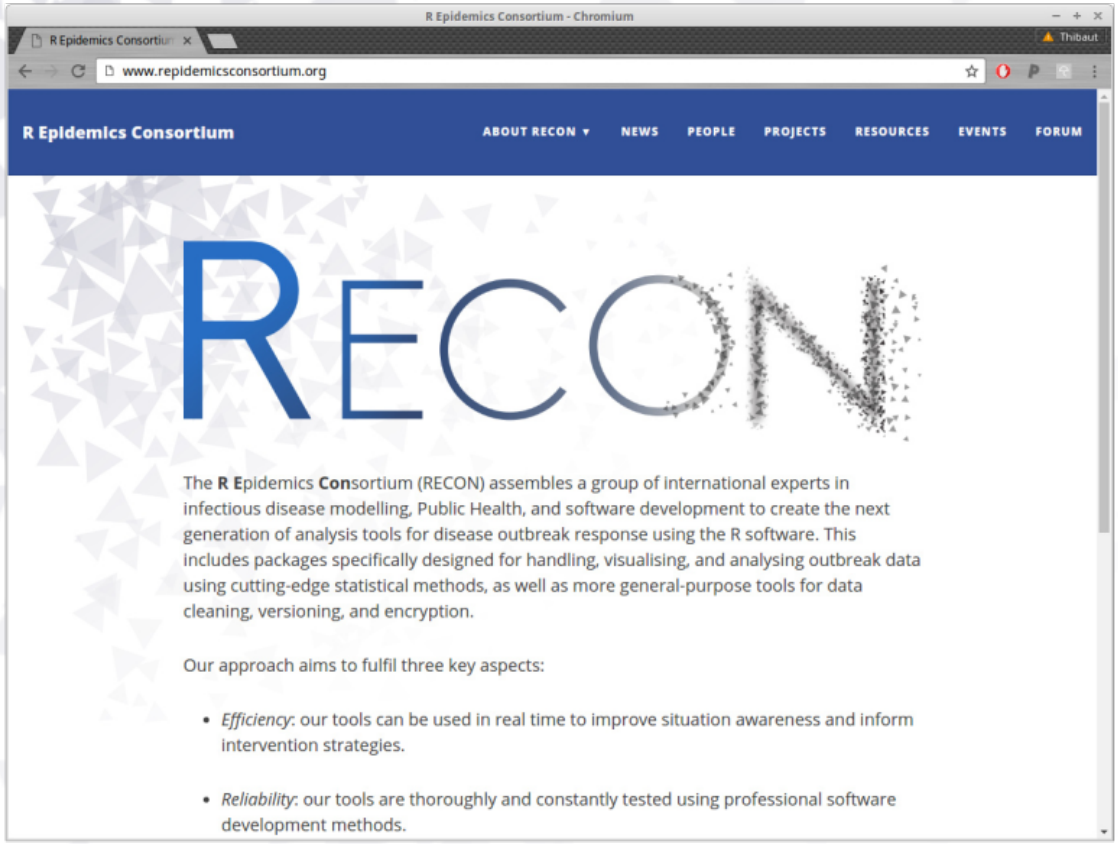
RECON

[The R Epidemics Consortium]

From a hack to a pack

RECON: the R Epidemics Consortium

A taskforce to build a new generation of outbreak response tools in R.



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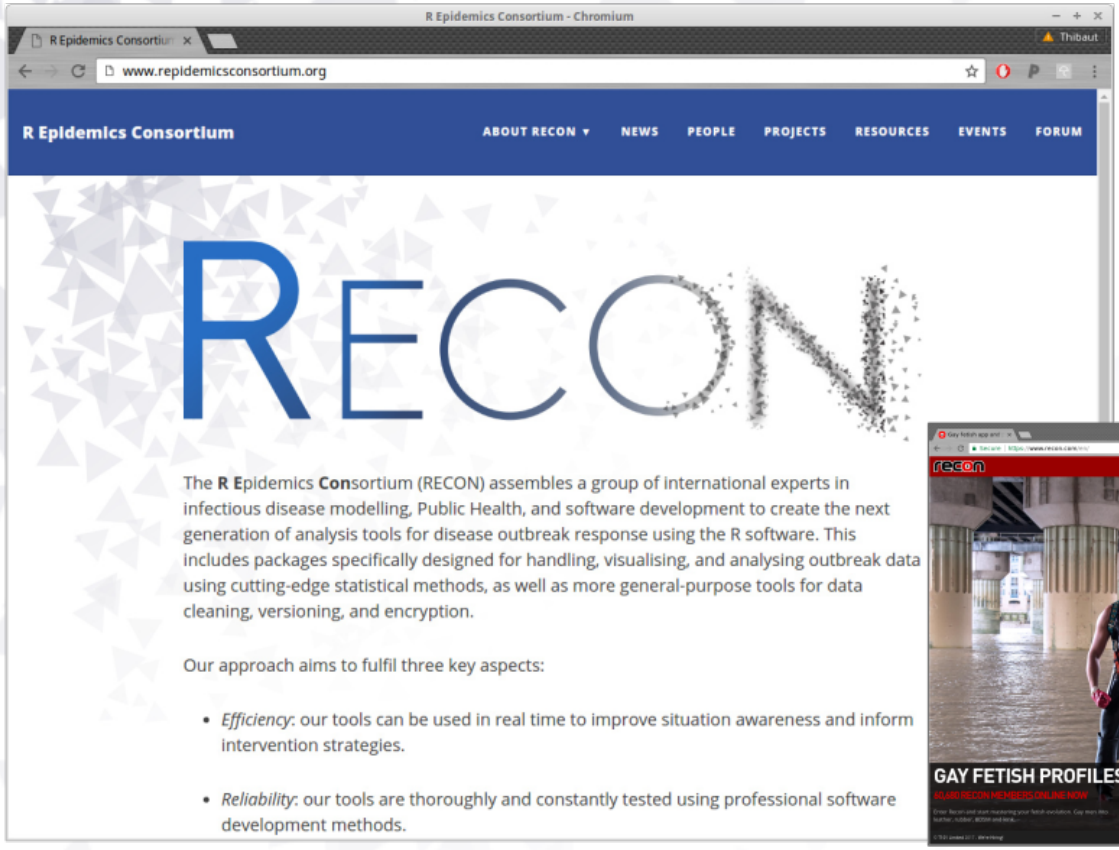

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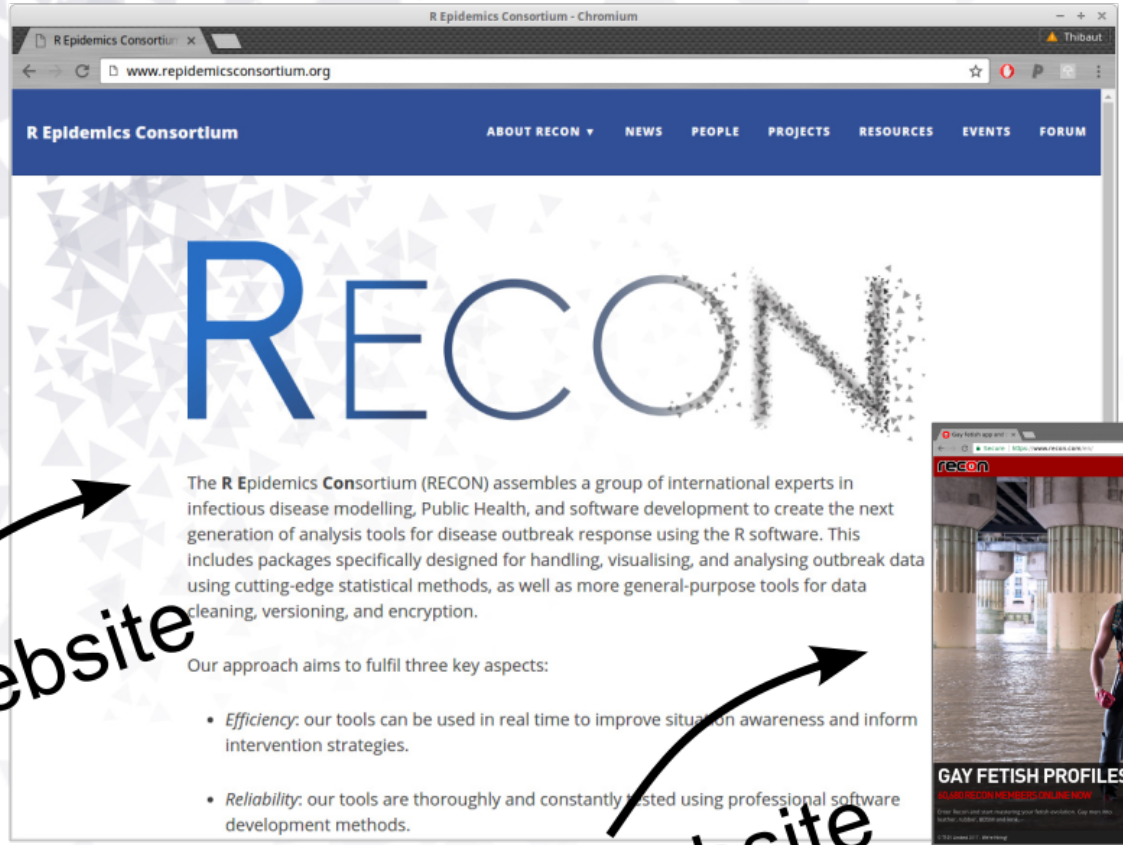

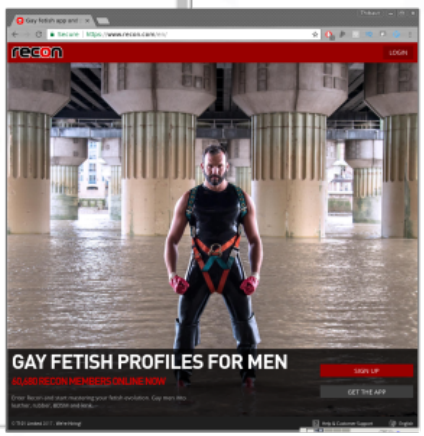

Our website

Not our website
(but I'm sure they're nice and friendly)

In a nutshell

RECON

www.repidemicsconsortium.org

- started 6th September 2016
- ~70 members
- 20 countries, > 40 institutions
- ~ 9 packages released, 15 under development
- public forum, blog, online resources

RECON packages

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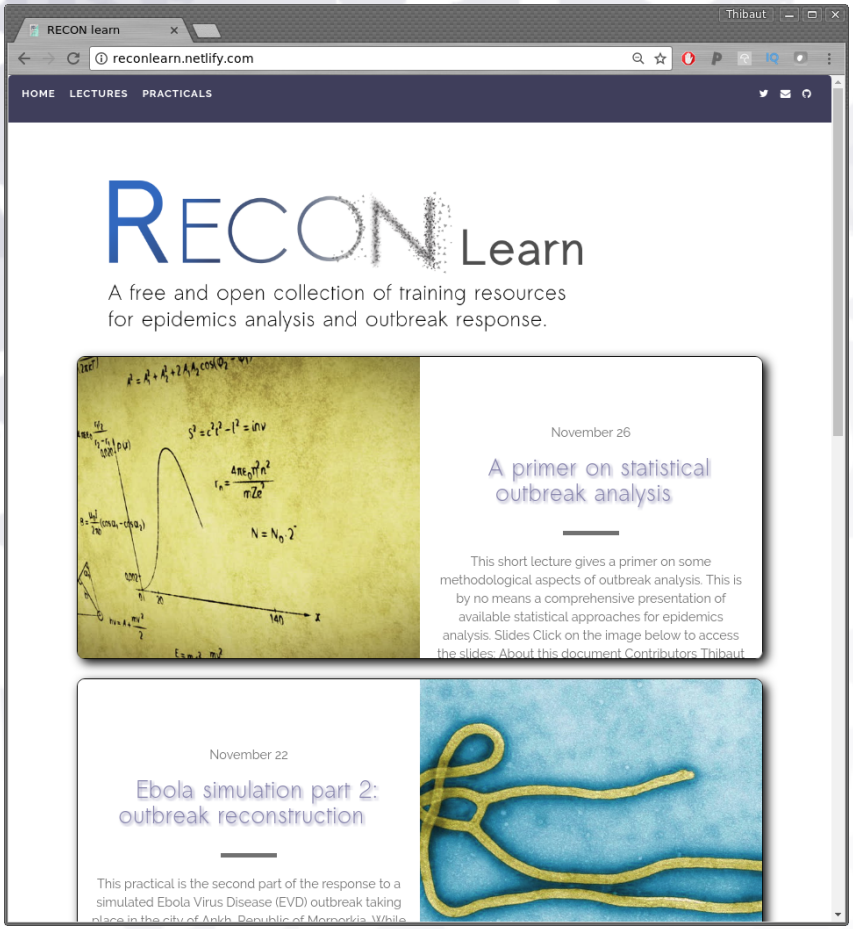
- planned (?): automated reports, mapping, outbreak simulators

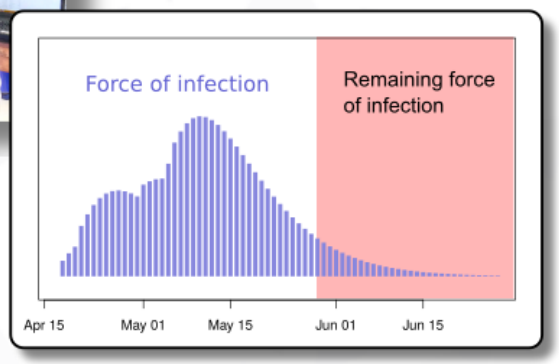
RECON learn: training resources for epidemics analysis



reconlearn.netlify.com

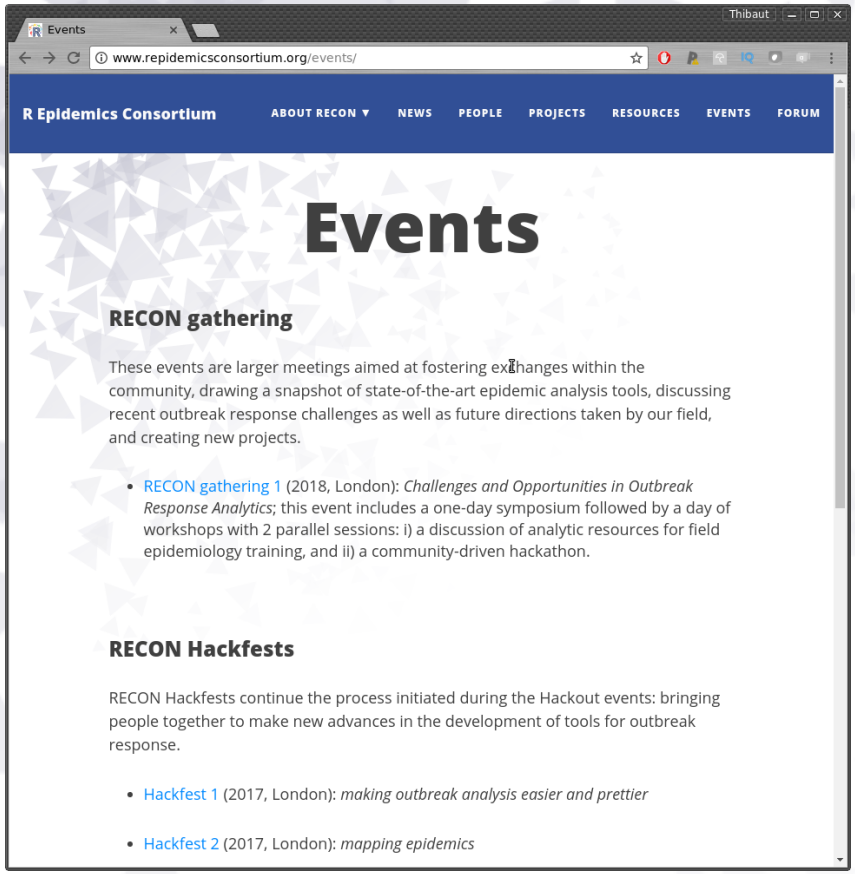
- repository for free, open training material
- lectures, practicals, case studies, code gists
- emphasis on community contributions
- podcast: Rtips on YouTube

Supporting outbreak response in the field: Ebola outbreak in Likati (DRC) 2017



- Ebola outbreak April-May 2017
  - small scale (8 confirmed / probable cases)
    - challenging settings: remote, rural area (jungle), poor WASH
      - statistical analysis part of sitrep, discouraged scaling up

RECON events



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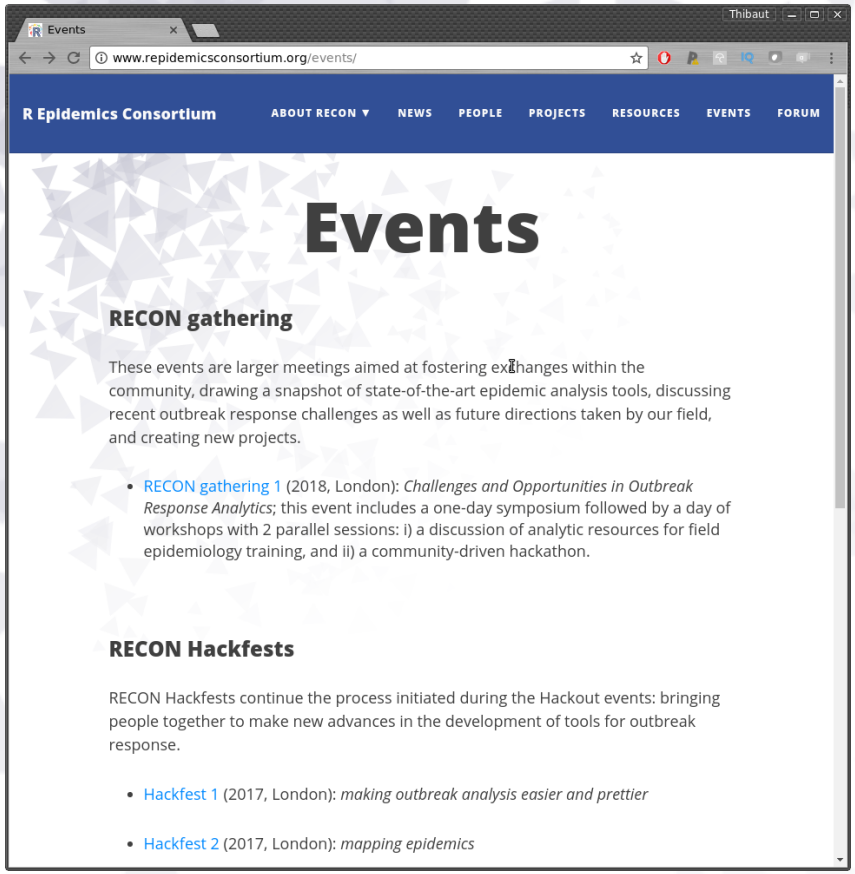

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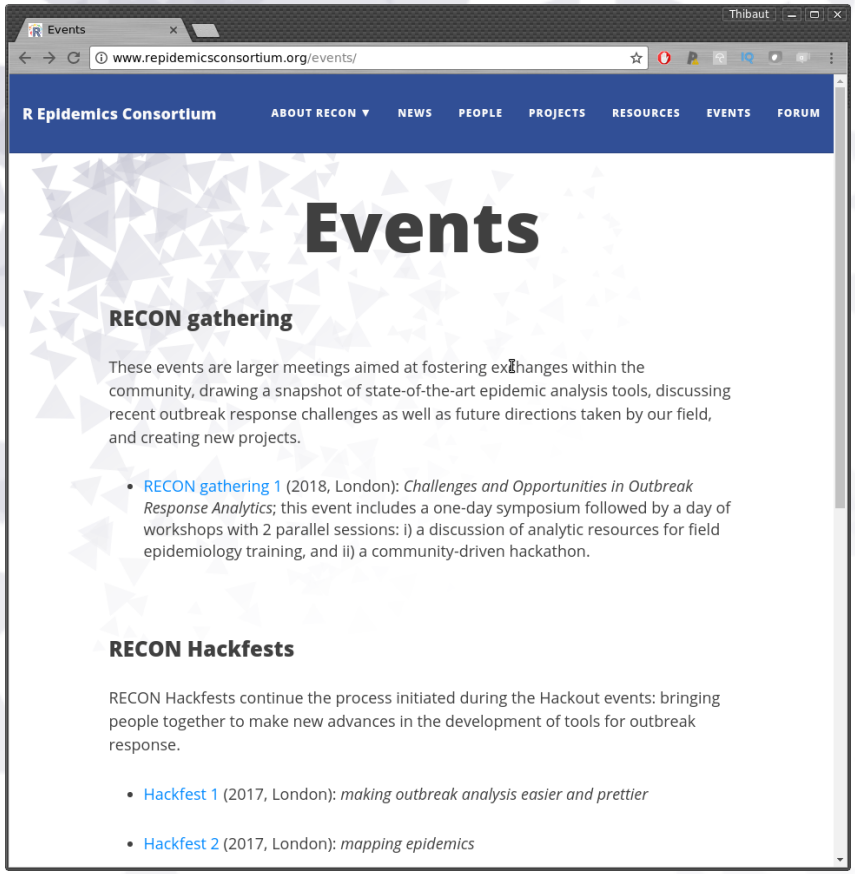

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- larger meetings: here and now!

This meeting

This morning

Session 1. Outbreak response in the field

- Recent outbreak responses
- What are the questions, the constraints, and the challenges?
- Technical needs, methodological problems

This afternoon (1/2)

Session 2. Data analytics and modelling for outbreak response

- Statistics and modelling for informing outbreak response
- How to increase situation awareness?
- Potential and limitations

This afternoon (2/2)

Session 3. Looking ahead: new initiatives in outbreak response

- Impact of new technologies (e.g. DNA sequencing)
- Tomorrow's toolbox for field epidemiology
- Working better together: multidisciplinary response teams

Tomorrow

Parallel session 4a. Training and tools development: reflection and perspectives

- Current state of analytics in field epidemiology training
- What are the gaps? How can we help filling them?

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Parallel session 4b. Community-driven hackathon for epidemics analysis

- Community-contributed project fair
- A few hours to generate pilot results
- Most promising projects will form our future RECON Hackfests

Making connections

Connecting questions and answers..

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Connecting questions and answers.. often relies on connecting the right people. Use this event to:

- meet people
- exchange experiences and viewpoints
- start new projects and collaborations