Box, LSE, 5 November 2015

Making Medicines Digital

Digital Economy
Transforming Business and Society

Delivering Digital Drugs

D^3

D3 Collaborators

London School of Economics and Political Science

Dr Tony Cornford - PI

Dr Jane Dickson - Research Officer

Dr Panos Kanavos

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Dr Will Venters

University of Leeds

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UCL

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UCL/Imperial College Healthcare NHS Trust

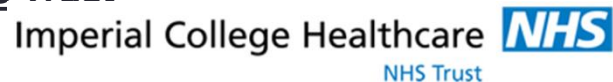Professor Bryony Dean Franklin,

Professor Ann Jacklin

Brunel University

Dr Amir Takian

Dr Simon Taylor

The Health Foundation

Professor Nick Barber

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Workshop Programme

Hashtag #D3LSE

http://digital-drugs.org

10.00: Registration.

10.10 Welcome: Structure and themes for the day, Tony Cornford

10.30 Session 1

> **Johanna Westbrook:** Connected Care; creating patient-oriented digitally supported health services
>
> **Rapporteur/Cartographer:** Valentina Lichtner

11.15 Coffee Break and Video Booth

11.35 Session 2

> **Theme:** *Digital Drugs as plans, policies and practices*
>
> **Speakers:** Yogini Jani (UCLH); Ann Slee (NHS England); Christian Nøhr (Aalborg U.)
>
> **Rapporteur/Cartographer:** Ralph Hibberd

12.20 Session 3

> **Jane Dickson** *'I am not a diabetic' (video)* followed by discussion

12.45 Lunch and Video Booth

14.00 Session 4

> **Theme:** *Patient Medicines*
>
> **Speakers:** Sara Garfield (ICHCT), Mary Darking (U. Brighton), Ben Marent (U. Brighton),
>
> **Rapporteur/Cartographer:** Ela Klecun and Jane Dickson

14.45 Session 5

Digitalization… starting point

"Simply put, digitalization refers to the **encoding** of analog information into a digital format and the possible **subsequent reconfigurations** of the socio-technical context of production and consumption of [..] product and services.

Digitization can happen at any of the three broad types of artifacts, physical objects, routines, representations."

Yoo, Y.: Digital Materiality and the Emergence of an Evolutionary Science of the Artificial. In: Leonardi, P., Nardi, B., Kallinikos, J. (eds.) Materiality and Organizing: Social Interaction in a Technological World, pp. 134-154. Oxford University Press, Oxford (2012)

How mHealth is changing the patient journey

pwc

Diagnosis

Digital technology is already carrying out some elements of diagnosis – for example, the Colorimetrix app turns a smartphone into a lab test reader for conditions such as kidney disease and diabetes. Digital also has a big role to play in communicating with patients about their diagnosis, and ensuring that all the professionals involved in their care are fully informed

Payment

Digital is making it easier for payors to be paid promptly – for example, in the US, the InstaMed Go app collects payment at each stage of treatment, whatever the location. It also helps patients to understand the financial implications of alternative approaches to treatment, and allows pharmaceutical companies to manage complex product pricing structures more easily

Maintenance

This is probably the area where mHealth can, and is having the biggest impact – there are a whole range of tools and technologies designed to ensure patients take their medication as prescribed, including Proteus' digital pill, Glowcap's electronic packaging, and app-based reminders like Mango Health, Dosecast and PillMonitor. This can both reduce waste and improve the results for patients, as well as improving profitability for the pharma industry. It can also collect data that will help everyone involved in the treatment process, through applications like Bosch Health Buddy

Awareness

Digital is a quick and effective way to give patients information about both their health and their care options. Pharma companies are using social media, and developers like Ayogo are using elements of game play to create interactive ways for multinationals such as Merck and Novartis to engage patients actively in their own wellbeing. Apps like HealthMedia can also provide a very efficient way for payors to collect and analyse the data they need to track and prevent disease

Treatment Decision

Better data leads to better decision-making, and digital can ensure that patients, health professionals and payors have access to the information they need to make the best choices. It's also simpler and more efficient, as apps like the NHS Shared Decision-Making tool have already proved. Pharma companies can also use apps like these to update and educate physicians about their drugs, and build greater brand loyalty as a result

Fulfilment

Digital apps are making it easier for patients to receive their prescriptions, as well as helping them understand how best to take them. Pharma companies are also using digital to manage their inventory more efficiently, especially by integrating mobile with innovations like smart pill technology or using QR codes to track and authenticate inventory along the supply chain
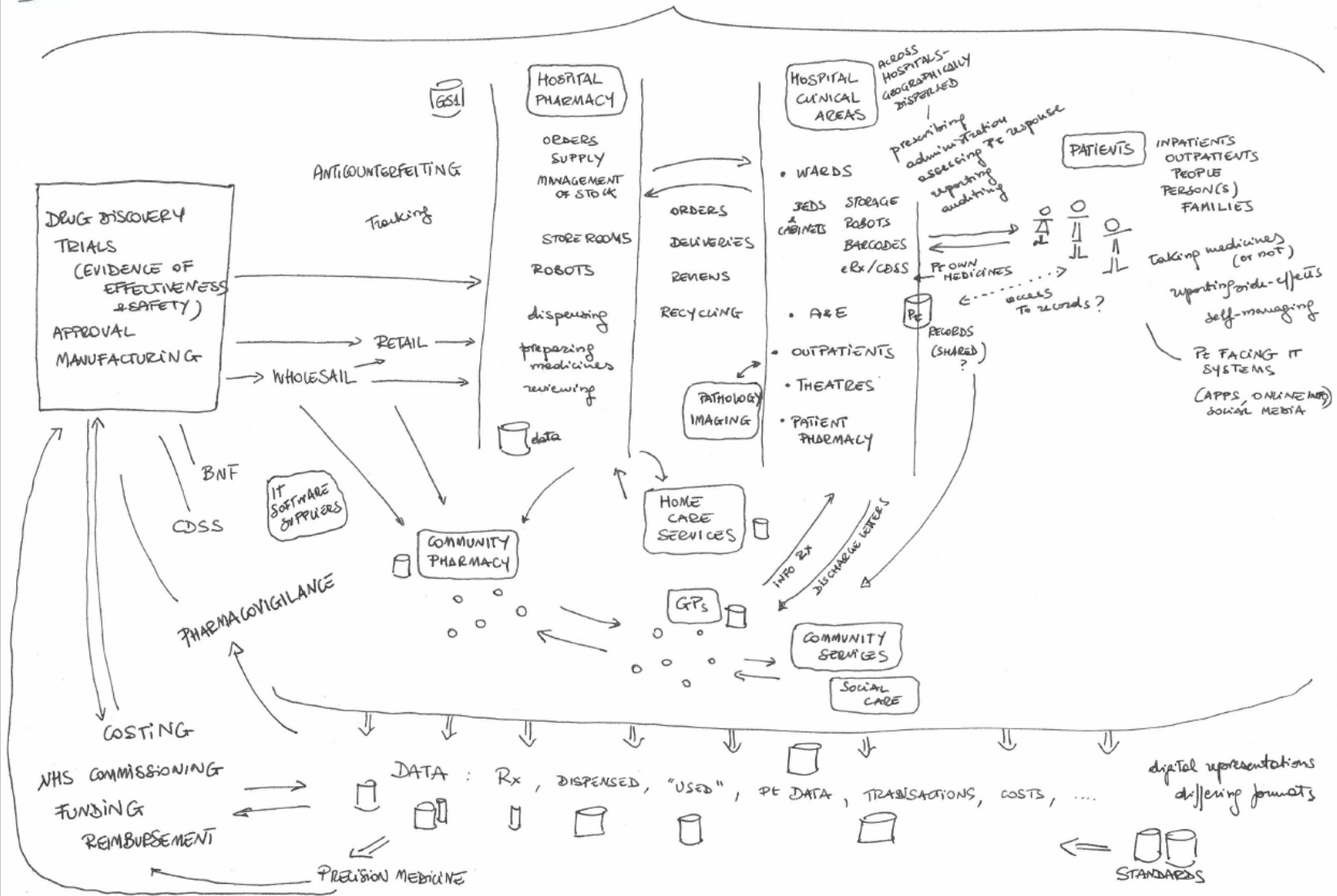
Themes for the day…

Following the drug. Re-centring our interest on the 'thing' as material object and as digital traces (representations), or as combined in some new hybrid _digital materiality_ or _assemblage_.

Tracing the _becoming_. Describing the journey, the locations, mutations, or the life-cycle, of a drug from factory gate through the health care system and on as active data traces. We focus in particular on the drug (a **_digital hybrid_**) arriving in, and passing through, healthcare institutions and being used by patients.

Analysis by '_episodes_'. Identifying the times and places where a drug is digitalised (encodings, decodings), and where agency (_digital agency_) fractures or migrates.

Drawing a _map_: Representing the journey and its episodes to connect up what might otherwise be left fragmented or isolated.

Video Booth…

Q.1 What is your name and your particular **interest in digital drugs** as researcher or practitioner ?

Q2. In the *{area/areas}* you are interested in **what happens** as or when *{things | activities | work processes |decision making | products and services}* become underpinned by or entangled with digital technologies and data resources?

   Q2-a *Follow up question* – **Where** does this occur and on **what scale**?

   Q2-b *Follow up question* – How would you describe the overall **consequence**? Can you **give it a name** e.g. control, precision, efficiency, coordination, choice……

Q3. What are the most **important or potentially helpful** research questions that you see emerging as we use more digitalised drugs and medicines in health care?

Q3-b Follow up question – How would finding some answers to these question be useful or **make a contribution**?