

Implementing the National Information Infrastructure

ODUG

Comment on Twitter #UKNII

22-July-2014

Scope of the NII Review

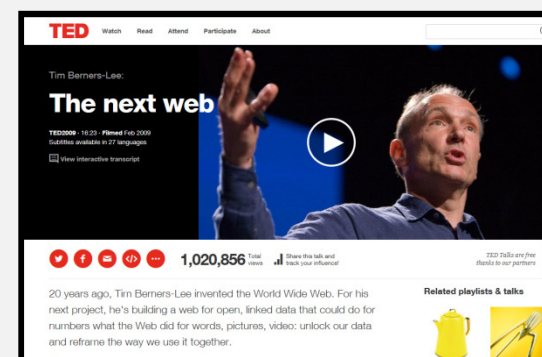
The NII is intended to ‘contain the data held by the government which is **likely to have the broadest and most significant economic impact if made available and accessible outside of government**’.

The current NII on data.gov.uk lists 233 datasets, of which 66 are unpublished. The criteria for selecting these 233 datasets are not clear and many datasets which are fundamental to a NII are not listed. For those datasets which are identified there is no indication as to the priority for their release.

Our approach

- We have **outlined a basic structure of what we should know**, rather than a reflection of the data *currently* available. This structure covers the requirements for transparency, economic growth, social good and the underlying connector information.
- We have **demonstrated the value of the NII** for the wider public benefit as well as the needs of specific personas.
- The next step is to identify **what data is actually available as either open or closed data – particularly the core reference data**.
- We will set out **proposed priorities for future open data releases** of what the NII should contain and proposed sector priorities based on a demand-led open data approach.
- Finally we will make **suggestions for future improvements** to the NII. Metadata and other **quality standards are important**, and will be identified along with any other data publication requirements (use of core identifiers, minimum publication standards etc.).

The economic potential of open NII data sources



["Linked data could do for numbers what the Web did for words"](#) (Berners-Lee)

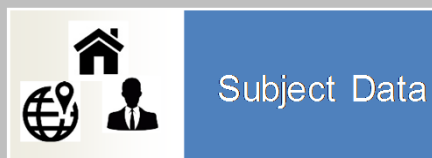
Defining a National Information Infrastructure

- Defining Infrastructure: *“The basic facilities, services and installations needed for the functioning of a community or society.”*
- Defining the Information Infrastructure: *“the core data assets describing this physical and digital infrastructure”*

CORE NII DATA

The No1 priority at heart of the NII to unlock economic potential

1. Data has unique identifiers necessary to reliably use, manage and monitor the subjects as well as enable connections to the other related data
2. Accuracy and quality must be maintained by the data controller to an appropriate level (ODI certificate standard level as a minimum)



Subject Data

The People, Organisations, Locations, Assets, Publications (eg legislation), Products and Services



Metadata

Business Definitions, Technical Definitions and Quality Characteristics



Reference Data

Fundamental common reference data eg classification data, temporal and geographical data

- Data should be open by default, and only closed where there are data privacy or security constraints
- Can be maintained by public organisations (eg Local Authorities) or private sector (eg Transport Operators)

RELATED DATA TYPES

Potential for future NII data once core in place



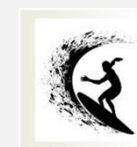
Event / Transaction Data

Data captured about an event or transaction eg hospital visit, train journey, property sale. Captures new relationships between entities.



Performance Information

Aggregated information and reports illustrating KPIs eg operational MI, spending/ fiscal data or national statistics



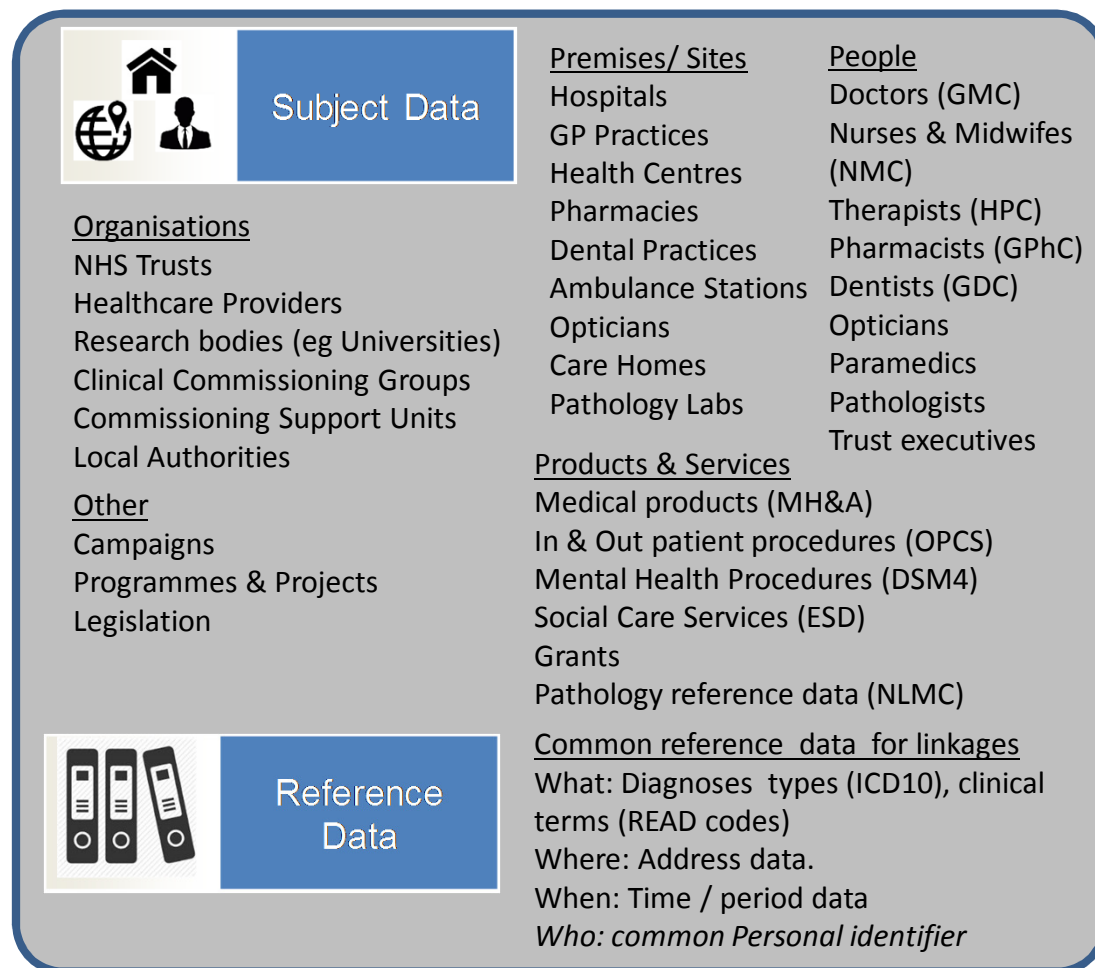
Big Data

In this context, raw data that can be used to improve the quality of a service eg social media content, sensor readings, web logs

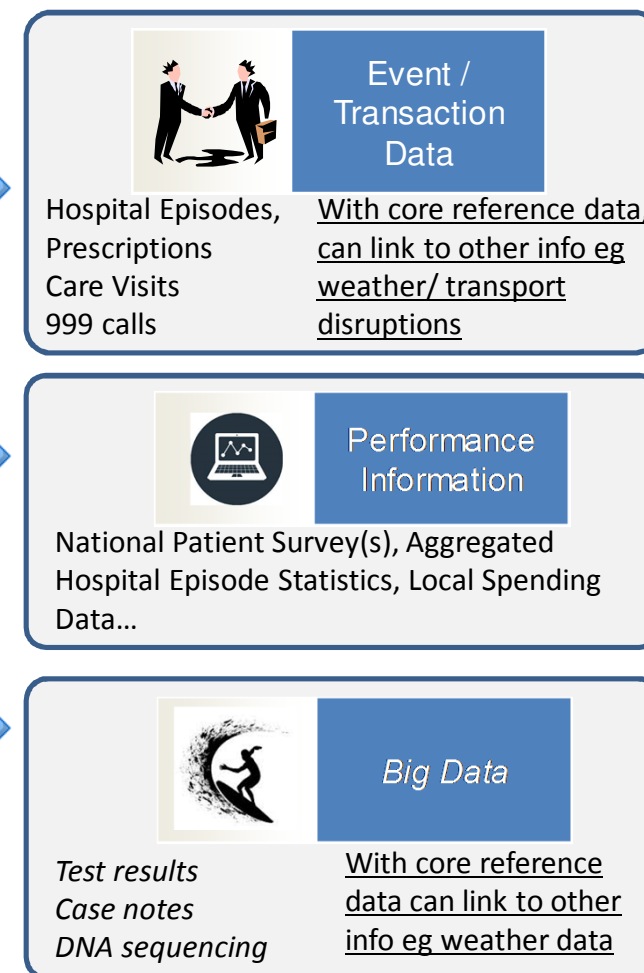
Illustrating this with Health

NOTE: Any identifiers for Open Data would not include personal identifiers, as Open Data would only be on an anonymised basis. This increases the importance of other non-personal identifiers e.g. location data to make links

CORE NII DATA



RELATED DATA TYPES



Basic Gap Analysis: Current Health data in the NII

There are currently 32 datasets in the NII under 'Health & Social Care', currently 3 fit the above definition of Core NII Data - see Clinical Commissioning Group reference data (locations, size), The Casemix Service (healthcare activity classifications) and National Library Medicine Catalogue (pathology reference data)

What aspects of society should be considered?

The current NII 'themes'

From the *NII narrative* on Gov.uk

- **Government Accountability & Democracy**
- **Global Development**
- **Crime & Justice**
- **Companies & Business Development**
- **Transport & Infrastructure**
- **Science & Research**
- **Energy & the Environment**
- **Health & Social Care**
- **Education**
- **Social Mobility & Welfare**
- **Society & Culture**
- **Other eg Defence, International Relations**

For comparison: **COFOG**

the UN's *Classification of the Functions of Government*

- **General Public Services** (eg legislative and executive, foreign aid)
- **Public Order and Safety** (eg police, fire, law, prisons)
- **Economic Affairs** (eg transport, communication, energy)
- **Environment Protection** (waste, pollution)
- **Housing and Community Amenities** (eg housing development, local amenities)
- **Health** (eg medical products, outpatient services, public health services)
- **Recreation, Culture and Religion** (eg broadcasting, publishing)
- **Education** (eg primary, secondary, tertiary)
- **Social protection** (eg family, children, unemployment)
- **Defence** (eg military and civil)

COFOG should be a guide as an independent, international standard but potentially customised for the UK. Consideration also of the ESD (Effective Services Delivery) toolkit for the Local Government sector.

“Big Thinking”: What will the NII lead to?

Leaps in Public Health



See Longitude Prize 2014 from NESTA
Discovering connections and patterns from health and environmental data in order to tackle public health priorities (such as antibiotic resistance)

Better Use of Public Services



Avoidable Contact
Using data to identify preventative services to deflect demand away from expensive, reactive public services (eg A&E visits, law enforcement)

Finding Economic Opportunities



Better Investment Decisions
For any location: find available land, get business rates, available grants, nearest rail and motorway networks, median property values, employment levels, median incomes, speed of planning applications

Social Enablement



Quality of Life Indicators
Having national and local benchmarks to promote greater accountability and self-determination among communities

Continuity Planning



Mitigating Disruptions
What happened before when there was weather and/or transport disruption and how do health, transport, utilities providers, local authorities and communities cope better next time?

Connected Public Services



Better Service Design & Delivery
Better (more efficient and effective) service design and delivery helped by Tell Us Once-style information flows, reliable metrics and the resolution of gaps, overlaps and conflicts in data

The importance of Core Reference Data - the “Where”, “What” and “When” to make connections

Leaps in Public Health

See Longitude Prize 2014 from NESTA

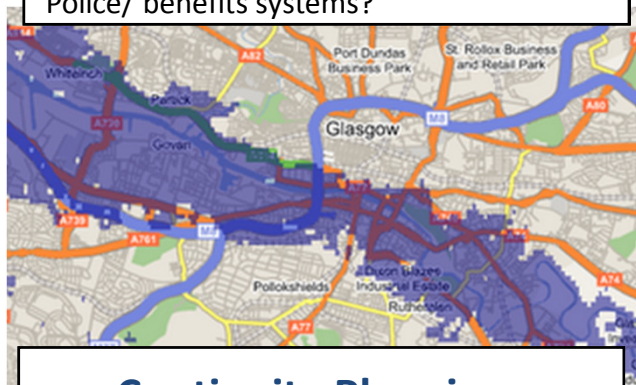
- Q. **What** has happened, **where** and **when**?
- Q. How does that compare to other areas?
- Q. What is distinctive about those **localities**?



Better Use of Public Services

Avoidable Contact

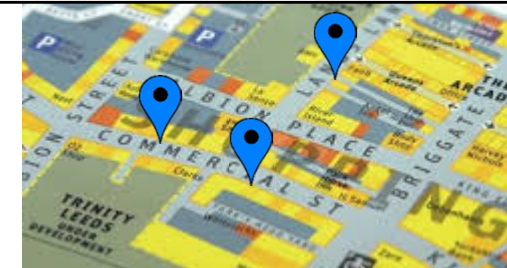
- Q. **Where** are services located?
- Q. **Where** are the exemplars of Education, Health, Employment services around the country and why?
- Q. What is the demand on the **local** A&E/ Police/ benefits systems?



Finding Economic Opportunities

Better Investment Decisions

- Q. **Where** is the available land for development?
- Q. What is the **proximity** to transport links, skilled workforces etc?
- Q. How successful have similar businesses, especially small local businesses been **here**?



Social Enablement

Quality of Life Indicators

- Q. **Where** are my local public services?
- Q. How does their **proximity** and our population/ demographic compare to other communities?
- Q. What combinations work best and **where**? Can we replicate them?

Continuity Planning

Mitigating Disruptions

- Q. **What** happened, **where** and **when**?
- E.g.: Which *roads/addresses* are prone to flooding? *Where* are accident blackspots?
- Q. **Where** are the local services and supplies?
- Q. **Where** should services be better located and configured?

Connected Public Services

Better Customer Service

- Q. How can we be sure we are talking about the same **place/ location** between different organisations?
- Q. Who owns the single record of truth?

Who needs the NII and why?



Sarah
(and family)

As a Citizen

- I need to know **how** and **where** I can get **access to Government services** (for Education, Health, Justice, Travel etc)
- I need aggregated information on operational **performance** and **financial spending** so I can hold elected officials **accountable**

Connected Public Services

I want to be remembered

Social Enablement

I want choice and participation



Laura

As a Public Servant

- I need to understand and improve the design and quality of the services I provide
- I need to identify any cost or risk opportunities to the citizens I serve

Better Use of Public Services

We want to deliver value for money

Continuity Planning

We are learning the lessons



Steve

As an Entrepreneur

- I need facts so I can identify a business opportunity to offer services **better, faster or cheaper**
- I want to offer services that are either social (about people and their interests), mobile (location based), or save people time

Finding Economic Opportunities

I know where there is demand for my business



Tony

As a Data Business Owner

- I need reliable, consistent sources of open, free data. Ideally via APIs with published SLAs. I can combine this data with customer, consumer or my own data to build a strong business proposition that delivers value to my users.

Finding Economic Opportunities

I can create high value data products



Rita

As a Researcher

- I need raw data that I can link so I can identify efficiencies across the organisations and services used by my customer groups

Leaps in Public Health

I'm improving the lives of those with dementia

Social Enablement

I want to innovate

Join the debate – feedback@ Twitter #UKNII

- Views on Health Core NII Data as set out here?
- Thoughts on Core NII Data for other sectors?
- Which Core Reference Datasets will unlock the most value?
- What does the Government need to do?
- Other Big Questions open data can help answer?
- Who else needs the NII?
- The quality characteristics /service levels required for viable business consumption of open data?
- How can we better measure the benefits of open data?
- Other thoughts and feedback?