

Notes to accompany PowerPoint presentation

Slide 2

As you will have heard before, both from Guy and from us, data underpins the development of information which we use to turn into knowledge and insight with the ultimate aim of it supporting us to have impact. Today we will share some data stories to show you how we are developing and delivering our data strategy.

The stories illustrate work we are doing across all aspects of the data pyramid so it is useful to keep in mind while we are running through them.

Slide 3

Food Allergy has a significant impact on people's lives. It can result in death from anaphylaxis if allergic individuals consume foods with ingredients to which they have a severe allergy. Which is why it is important to highlight where there have been issues with labelling so that people can take appropriate action to keep themselves safe.

This is underpinned by access to information, through data, in a timely way.

Slide 4

As part of our open data initiative we started collating and publishing food recall / withdrawal information. A significant part of this was food allergen mislabelling information which resulted in food recalls and withdrawals.

And as a result one of our external data advocates suggested we might want to do this in real time, so that the data was more useful to those with most need to use it. Having looked at the feasibility of this and considered the impact on some of the organisations that use the data we embarked on a small project to develop a new API.

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This is an animated slide.

The API – Automated Programming Interface – means that when the Agency updates data on alerts this is automatically replicated as directed by users of the service. For the Agency this means that updating the dataset will result in a new food alert on our website. But that is just the start as the automation is available for all – users own information feeds will take the most recent data, the process would be automated.

This approach makes the data accessible for other users. So we anticipate that as the API matures we will see an increase in academic research into the data, linked data and understanding the consequences, we would also expect to see the development of more and new applications for individuals who live with food allergy and intolerance because of the ease of access of the data. In particular, data in real time as it is happening which will facilitate individuals with food allergy to act immediately, independent of the source of the trusted information.

Slide 6

Taking a user based approach we are already working with organisations that support those with food allergy and intolerance. Views of the community highlight the impact this could have for individuals who have to manage allergies and intolerance day in and day out.

Timing and efficiency from automation benefits organisations who use our data, increasing the reach and timeliness of information.

Slide 7

We have numerous social media channels. Every day we monitor and respond to people who engage with us through Facebook, twitter, Instagram and other channels. For example, whenever we engage on a specific topic the evaluation of the engagement routinely includes an assessment of the reach and impact as this plays out on social media. We routinely monitor business critical conversations and understand how these change when we have active engagement ongoing.

Our routine monitoring provides us with information about people and food. But generally this is all in the context of Agency generated content. We have been doing this for long enough for the communications team to understand reach and impact in relation to our content, including when we are actively engaging with consumers like we do in Food Safety week.

However, we want to also use social media for listening. Listening to the food and related content on social media channels so that this can inform our work not just in the context of engagement but also to support work on understanding e.g. who is impacted by specific policy changes, how views vary across socio-demographics and how we make best use of this information in future. There are significant analytical advantages to this approach including limiting unconscious bias and getting a real view of what is important to people and organisations. However, we also need a comprehensive overview of limitations.

Facebook continues to be the biggest platform – with about 1.8 billion worldwide users. And despite media reports suggesting otherwise, it continues to be the most popular platform across all age groups. But significantly, most growth in use is in relation to the older population. This, combined with the changes in data availability

have resulted in us investigating whether we are missing opportunities afforded by social media listening particularly in relation to Facebook.

But the case study we want to highlight today is analysis of raw drinking milk videos on you-tube.

Slide 8

We have been hosting a Post Doctoral researcher from the University of Sheffield on secondment. She has been looking at social media images and analysis. You may have seen this included in the CSA report in April.

Of course, where images have been driving content views for a number of years, there is increasing evidence that video is now also filling the space. And video content is much harder to analyse than flat images.

As part of her study Anne looked at how to code video content using Raw Drinking Milk videos from you-tube.

There were lots of interesting findings – a few of which are highlighted in these next two slides:

Overall, the absence of evidence is stark. The majority of videos cited no evidence to support the views presented.

Where there was evidence, this was sometimes opinion based and most often personal.

Slide 9

Another interesting facet of the research was who presented on the videos were constructed. The presenter was often a male authority figure when traditional approaches would suggest that food messaging is more likely to be acted upon when it is delivered by a female with a family.

These new insights are likely to be important for future messaging relating to food safety issues. The low resonance of Agency messaging in this work is particularly stark and suggests that there is benefit in considering a range of sources of evidence to inform our messaging.

Slide 10

Of course, a significant advantage of social media analytics over traditional surveys is the timeliness of response and removal of a variety of types of bias. Food and You – our flagship social research survey, wave 4 of which was published in March 2017, went into the field in April 2016. Clearly this type of methodology may be rigorous but is often far from timely. There is also some work to do in relation to representativeness, but we are looking to take opportunities where they afford

themselves. The particular issue in question is that while Food and You is representative, it achieves a 52% response rate. Whereas the high take up of social media within some demographic groups, such as young men, suggest that there may be areas where the two complement each other. Inevitably there will also be overlap and part of the challenge is to identify cost-effective solutions with confidence in the data. We have embarked on some further work with UCL to consider the different types of sample bias and how and whether these might be used to create a more complete view across a range of method types.

Where we do conduct face to face surveys, there is also scope to match this data with social media data. Of course, this will provide additional insight – at a level of detail that we have not had access to before. However, there are associated ethical issues that we are engaging with alongside our academic partners.

Slide 11

Of course, other organisations, including those producing food are engaging with new data technologies to drive their own business models. And a key part of Regulating our Future is considering how we use new types of data in a regulatory context. Some of these data sources, such as the Internet of Things, is now quite widely used by the food industry. An example is the way in which temperature sensors are deployed to monitor the temperature of refrigerators. Organisations deploying these types of sensor have access to data that they use from identifying whether a customer has left a fridge door open so they can make sure it is closed by a member of staff to working out service plans and equipment deployment and turnover.

While our role might not be to collect or have access to the data on a regular basis – we are talking about billions of rows of data a day so even if we were to get access we do not have the infrastructure to manage it routinely – we might want to help businesses use it effectively. We are looking at data standards around these types of technology so that we benefit from the investment that businesses are already making. Businesses working hard to ensure compliance may then be able to make decisions from a position where they are confident that the Regulator will take this evidence into account.

We are working in partnership with a company, IMS Evolve, who provides the tech solution in this space to some of the big UK retailers.

As well as sensors that are already deployed and functioning, there are lots of other possibilities that are still in development, from multi-spectral sensors for adulteration through to sensors used to detect contamination by Environmental Health Inspectors.

Slide 12

We have discussed our role as a standards setter in relation to new data tech, and this is something that we are doing at a quite fundamental level in relation to food types reference data. There are EU descriptions of tens of thousands of food types which we and others have to report against. Although these change infrequently, they do change and it is important for all kinds of reasons to be able to accurately describe a type of food. We are in the early stages of testing a linked data set that facilitates just that: routine use of standard definitions for all food. An example of this which might make it more understandable is the use of name, address or national insurance number and how these can be used to make sense of personal data over a prolonged period.

The example in the slide (it is an animation) takes you through the data hierarchy behind sea salt. Whilst this might be a simple ingredient the different levels at which this ingredient could be classed are defined in detail so it is clear that when people refer to it, they refer to the same thing.

This is not only useful for us, but it is important and valuable for industry. The value comes from having a publicly available dataset that can be used as a reference to map local (and private) data standards to. This has the potential to be important for things like e.g supply chains.

There are many benefits to this work, some examples include effective management of ingredients to facilitate improved ways of identifying risk for allergic individuals and considering all of the different types of risk associated with a given food. These enable future work on traceability and surveillance.

The success of this initiative is very much dependent on use, but the commitment to manage a linked dataset that aligns to legal descriptions provides opportunities for businesses in the domestic market and as all of the EU are mandated to report against the food codes behind the dataset it is likely to support use across the EU. Where people use other standards, for example ones available in third countries this means they can easily match with EU definitions.

Finally, developing our skills in creating and managing linked data registers are important in enabling the Agency to get value from its data assets into the future as this type of data becomes more widespread.

Slide 13

This slide is a comparison of FHS rating compared with the results of analysis reported through Local Authority Monitoring and Enforcement System data and UK Food Surveillance System data. Whilst the methodology is complex, data matching is difficult and data is old, it does demonstrate a correlation between the FHS and the outcomes of the samples undergoing microbiological laboratory testing.

You can see on the slide, that over time the rate of unsatisfactory samples has reduced in premises which are broadly compliant (scoring an FHRs 4 or 5) when compared with those broadly non-compliant (scoring an FHRs 1 or 2).

This shows that publishing the FHRs score has an impact on the number of negative samples, evidence that not only does FHRs improve business ratings through competitive attitudes between businesses but that there is evidence that this has a positive impact on public health outcomes.

However, it is not clear that that using consumers as a leverage to increase score has been deployed to full extent yet. Indeed, this is dependent on having 'digital stickers' available for use in an increasingly digital world.

Slide 14

You will, of course, recognise the FHRs rating on the slide. Part of the impact of FHRs has been the availability and accessibility of high quality data.

The accompanying images are those we are currently consulting on as part of our work to make the ratings more accessible on line. When FHRs was conceived the intention was for it to be a sticker in a window. However, in 2017 we continue to strive to get consumers to consider food hygiene on line as part of their decision making around food choices. Of course, on line is not just on your laptop but on your phone, your tablet and your sat nav.

And we continue to work with partners. Only last week we were engaging with HMRC in relation to them using the FHRs data to look at non-compliance. But equally, we look to use other third party sources of data to help the FSA identify premises with increased risk so that we have an approach to targeting inspections and other mitigation activity.