

Cross-Party Group on Life Sciences
Tuesday 30 October 2018, Committee Room 5
Focus on Data and Diagnostics
MINUTES

MSPs Present:

Kenneth Gibson MSP (Convener)
Graham Simpson MSP (Vice Convener)
Claire Adamson MSP
Tom Mason MSP
Lewis Macdonald MSP
Gil Paterson MSP

1. Opening, Welcome and Introductions,

The Convener, Kenneth Gibson MSP, welcomed everyone to the fourth meeting of the Cross Party Group (CPG).

2. Minutes of the previous meeting (26th June 2018)

The minutes of the previous meeting of the CPG were accepted.

3. AGM

Kenneth Gibson was re-elected as convener of the CPG.

Graham Simpson MSP was voted in as vice convener.

The following MSPs confirmed that they wished to be supporters of the CPG:

- Claire Adamson
- Miles Briggs
- Donald Cameron
- Kezia Dugdale
- Lewis Macdonald
- Tom Mason
- Willie Rennie

The convener thanks John Scott MSP who has stood down as vice convener and Alex Cole Hamilton who has also stepped down as a supporter for their engagement with the CPG over its first year.

The Group invited ABPI to act as secretariat for a further year.

The CPG set the following dates for meetings for the coming year (all at 17.45):

- 19 February 2019 – Meeting (Committee Room 6)
 - Now amended to 05 February 2019 (Committee Room 1)
- 28 May 2019 – Meeting (Committee Room 5)
- 08 October 2019 – AGM and Meeting (Committee Room 4)

All meetings will begin at 17.45.

4. Ivan McKee, Minister for Trade, Investment and Innovation

Mr McKee presented an overview of his experience in the role, which encompasses the Life Sciences sector, since appointment in June 2018 and shared his initial thoughts and ambitions for the sector, making the following observations:

- The sector is very valuable to our economy already and, noting its ‘phenomenal’ rate of growth, the Government recognises its huge potential upside of the sector
- the amount of innovation going on in the sector is impressive and made possible because of the close alliance between academics, established businesses and start-ups, university spin outs, government agencies and the Industry Leadership Group, and the Scottish Life Sciences Association.
- the sector is a focus of the Government’s forthcoming export plan;
- the announcement of the new Medicines Manufacturing Innovation Centre is a very exciting and an important addition to Scotland’s capabilities;
- he is keen to explore the relationship between the sector and the NHS which he hoped could be a two-way street. He challenged the sector to come up with solutions that are cost effective for the NHS and undertook to examine where any blocks might be within the NHS to adoption of new technologies that, having proved themselves in the NHS in Scotland might use this as a springboard to the global marketplace.

In answer to questions, Mr McKee stated

- Scotland data is an important asset and how to use it “in a safe and controlled way that is best for the health service and the sector” was on his radar. He also said that making the best of data remains a challenge based on people’s conception of how data might be misused.
- that he would undertake to take forward specific costed proposals for innovation and to address any blocks placed on its adoption.

and Mr Gibson added

- that he understood that the Tayside deal is to receive £150 million announced by the Chancellor in the budget and that the Scottish Government is seeking to put £200 million into the programme;
- that clarity was needed on all the city deals not yet announcement as those announced earlier in the process are being able to attract investment away from those not yet announced;

Mr Gibson thanks the minister and invited him to return to speak at a future meeting of the CPG adding

- that he would invite questions to be submitted in advance to allow the minister to research subjects as necessary

- that members of the CPG could consider submitting requests him at any time for possible written parliamentary questions that he might lodge.

5. Acute myocardial infarction: Tracking patients' journeys and outcomes in a complex, acute healthcare system.

Damian Crombie from AstraZeneca introduced a presentation by the partners in a joint working collaboration between NHS Greater Glasgow and Clyde, the Golden Jubilee National Hospital, the University of Glasgow, The DataLab and AstraZeneca UK which has delivered, for the first time, a near real-time electronic ACS (Acute Coronary Syndromes) registry.

Dr Iain Findlay, recently retired Consultant Cardiologist, NHS Greater Glasgow & Clyde explained:

- mortality for myocardial infarction in most areas of Scotland remains around twice that of the south of England despite us knowing this for some 30 years but little has been done specifically previously to address this difference;
- in England in 1998, the Myocardial Ischaemia National Audit programme or MINAP was set up allowing contemporaneous clinical data to be gathered on every heart attack, the information being collected and collated by funded audit nurses;
- in Scotland clinical data, while being recorded locally on different platforms, was not being brought together until NHS Greater Glasgow and Clyde, the Golden Jubilee Hospital and AstraZeneca launched a proof of concept in 2013 using secure data transfer from a mix of sources into a secure safe haven;
- in the first 12 month data period from 2013 to 2014, data from 3186 patients were collected from the 5445 TRAKCARE, 6651 SCI gateway, 7157 CATHI and 862 mortality records from the National Records of Scotland;
- the use of a reputable risk scoring system - GRACE Score allowed stratification of risk at an individual level and to influence treatment pathways
- an important difference in the assessment of chest pain was made possible with a new diagnostic test in 2015 to detecting previously unrecognised NSTEMI heart attacks;
- the test stressed already stretched services and patients who had had an NSTEMI attack were hospitalised for up to a week waiting to be transferred to an intervention centre for treatment;
- the programme allowed the pathway to be changed by introducing this scoring system into ambulances in NHS Greater Glasgow and Clyde, the team were able to show which patients needed direct transfer to the Golden Jubilee intervention team and those that did not – saving some £900,000 a year in bed days of people awaiting review in the intervention centre.

Professor Colin McCowan, Professor of Health Informatics, Robertson Centre for Biostatistics, University of Glasgow. told the meeting:

- once there was proof of concept, the team began working with the Data Lab (Scotland's national data innovation centre) to examine further innovations in data science from the data being gathered;
- the programme uses routinely collected data gathered already as part of clinical care– none is collection specifically for this project;

- subsequent studies have included looking at the medicines given to patients discharged from hospital following a cardiac event and analysing this against follow up data gathered at six months and a year to inform the choice of medicines;
- this is an example of a 'learning health system' that allows data to be interpreted and then used to improve service, the effects from the changes themselves being collected to evaluate the changes;
- this work fits with Scotland's Chief Medical Officer's ambitions for the practice of 'Realistic Medicine' by allowing data to address less effective approaches and reduce unwarranted variation;
- the programme has the backing of key professional organisations such as the Scottish Cardiac Society, and the team hopes that the Scottish Government will encourage the approach to be rolled out across Scotland.

In the questions session that followed, the CPG discussed mapping variation, the role of lay members on data privacy oversight panels. the significant savings that Scotland is now able to make in the cost of interrogating data from using this data approach, and possible causes for the identified higher mortality of women who have heart attacks – which is often due to women being older when they have their first identified heart attack.

6. The Trusted Research Environment in Scotland provided by the Health Informatics Centre, University of Dundee;

Professor Ewan Pearson is Professor of Diabetic Medicine at University of Dundee, Honorary Consultant in Diabetes and Endocrinology at Ninewells Hospital and Medical, and Head of Division for Population Health and Genomics at Dundee's medical school. Professor Pearson talked about the work of the Health Informatics Centre at Dundee, and its role in creating a trusted research environment for the use of data about patients, stating:

- Tayside, with some 20% of Scotland's population, has been pioneering health data research with records going back up to 40 years from birth to death, including prescription encashment data across more than 30 years and retinal imaging data going back some 25 years.
- The Health Informatics Centre and the other safe havens across Scotland are certified to the highest standards of data security, ensuring no data except population level summaries can be downloaded and taken out of the haven.

The linking of health and genetic data for a large population, then linked with health outcomes, creates a unique biorepository resource that allows the discovery of diagnostic and/or predictive biomarkers:

- Tayside has an important bioresource from 10% of the population who have consenting to their DNA and other biological samples being placed on the database. Meanwhile, 225,000 people who have signed up to the Scottish Health Research Register (SHARE) consented to blood gathered for routine clinical reasons being analysed, allowing a further 60,000 records to be added. As a result, across Scotland, there are around 150,000 people in a bioresource that can be linked across to their health data.

As examples of the use of this data in clinical care, Professor Pearson cited:

- A team in Dundee and Edinburgh utilising the value of retinal images as a 'window onto the vasculature' to integrate all identifiable vascular risks into one measure using a software tool called 'Vampire', and then to be able to assess, based on outcomes, whether this is an accurate assessment of heart attack risk.

- 25% of people given clopidogrel, a first-line antiplatelet drug used in people who have had a heart attack or stroke, cannot metabolise the medicine. Those who cannot can be identified from a genotype panel that analyses 1 million genetic variants at a cost of £25 per person. By embedding the findings into a patient's medical record, a prescriber will know immediately whether to prescribe clopidogrel.

7. Innovative health informatics and diagnostics using Pillcam Colon and Reveal Link.

Mark Cook, Director of Government Affairs for Medtronic UK & Ireland and on behalf of the Association of the Association of British HealthTech Industries (ABHI), presented on why Scotland is an important place for global companies, explaining:

- Medtronic is at the forefront of global life sciences with some 5000 patents for health technologies and 400 clinical trials going on at any one time – with a tremendous need for data.
- The mix of universities, companies of all sizes and the Scottish Government's *Realistic Medicine* agenda – encouraging interventions that are valued by patients and deliver meaningful outcomes – all make Scotland attractive for research.
- The Academic Health Science Partnership in Tayside has played an important role in matching the problems identified from data and informatics with the life science companies that may have solutions.

He cited two examples of technologies that are being pioneered in Scotland:

- Pillcam A significant proportion of colonoscopies undertaken on people with bowel symptoms will show no findings, allowing clinicians to look for other causes. But colonoscopy takes up a lot of time and capacity in hospital so, if you can use data and informatics to predict which people are unlikely to have an underlying pathology, then you can offer an alternative to colonoscopy.
- With this subset of people Pillcam can be used. Pillcam is a camera that you swallow without leaving home that takes over 60,000 images, that are transmitted to a receiver on the patient's belt, before the camera is passed naturally. The images are then uploaded remotely by the clinician who can assess them.
- Pillcam is being pioneered in the Highlands
- Reveal Lynq is a way of identifying underlying cardiac problems that are difficult to identify but are causing small strokes and faints. The episodes may be rare enough not to be recognised even if a cardiac monitor is worn for a week or more.
- Implanting a monitor for two years or more, that is triggered and sends information each time there is an event, can allow an undiagnosed underlying abnormality to be identified and treated.
- Reveal Lynq's value lies in the opportunity to identify a previously unrecognised underlying cause for a minor event like a faint or minor stroke, which can then be treated, allowing a future massive disabling or fatal stroke to be prevented.

During questions and discussion, the following points were raised:

On creating the environment for collaboration

- In theory there are no barriers to SMEs getting involved alongside larger companies.
- SULSA, the Scottish Universities Life Sciences Alliance is working to create a one-stop shop for people to come to to access the facilities across universities.

- CMAC (the Continuous Manufacturing and Crystallisation hub) at Strathclyde University is building bridges between its eight Tier 1 large multinational pharmaceutical company members with around 20 Tier 2 members, many of them SMEs, to encourage collaboration.
- **Dave Tudor**, co-chair of the Scottish Government's Industry Liaison Group pointed out that there has not been consistent take-up of the Academic Health Science Partnership model, first published in 2012. He told the meeting that he and the Minister undertaking a formal review of the AHSP model and how we can be replicated effectively, to ensure Scotland translates the innovations in technologies more effectively to address the travesty of more than half of the technology created in Scotland never reaching a Scottish patient.
- The meeting discussed the extent to which Scotland's unique opportunity to join up data for improved patient care is being realised, and whether Scotland has allowed itself to slip behind other countries.
- **ACTION** In response to a further question on how the Government will take forward the Data Taskforce report on Scotland's data capabilities that ministers recently published, the Convener said that he was happy for the CPG to take the lead. He invited the Secretariat to draft a letter for him to send to the Minister with a view to sharing his response with CPG members.

8. Outline Work Plan

The Convener talked through the list so far of possible areas for presentation and discussion for the coming year and invited people with ideas to share them with him and the secretariat.

The current list of ideas is:

New Subjects

- Advanced Medicinal Therapies
- Scotland's Blood Sciences
- Scotland's Diagnostics Infrastructure
- The Medicines Manufacturing Innovation Centre
- The work of the Chief Scientist Office

Updates and Reviews proposed

- Women in Science
- The NHS and Data
- The Scottish Life Science Strategy milestones

9. Closing Remarks

The Convener reminded the meeting of the forthcoming Scottish Cancer Conference and encouraged people to visit the event website for more information.

The Convener commended the new summary document from the Fraser of Allander Institute updating their assessment of the Economic contribution of the pharmaceutical sector in Scotland.