



Interreg
North Sea Region



SHINE

European Regional Development Fund

Health & Social Care Industrial Innovation

*Mr Andrew Fowlie
Scottish Government
Health Innovations Team*





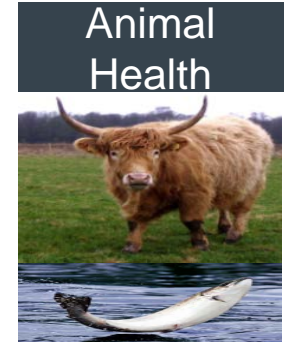
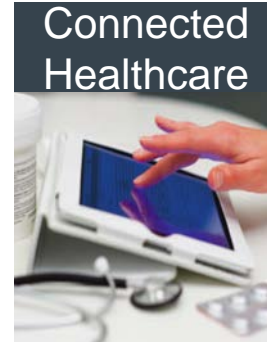
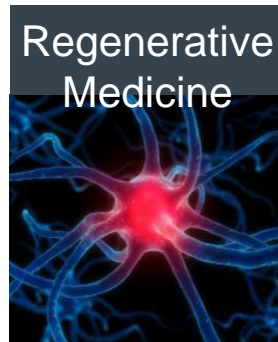
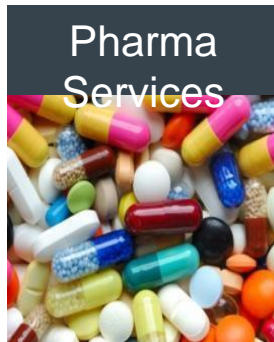
- 5 million people
- £12 billion
- 14 Health Boards
- 8 Support Boards
- Integrated delivery
- Moving towards social care integration

Scotland's Medical Technologies Landscape

Imaging	
Non Imaging Diagnostics	
In Vitro Diagnostics	
Surgical & Clinical Equipment	
Therapeutic Devices - Active	
Therapeutic Devices - Passive	
Digital Health & Care	
Science, Clinical & Technology	

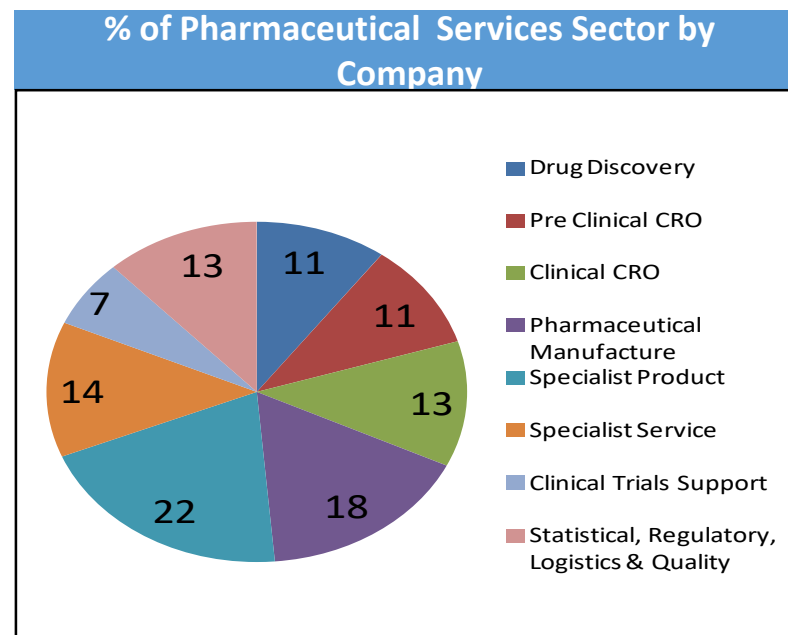
Areas of Strength

Scotland hosts one of the most sizeable Life Sciences clusters in Europe



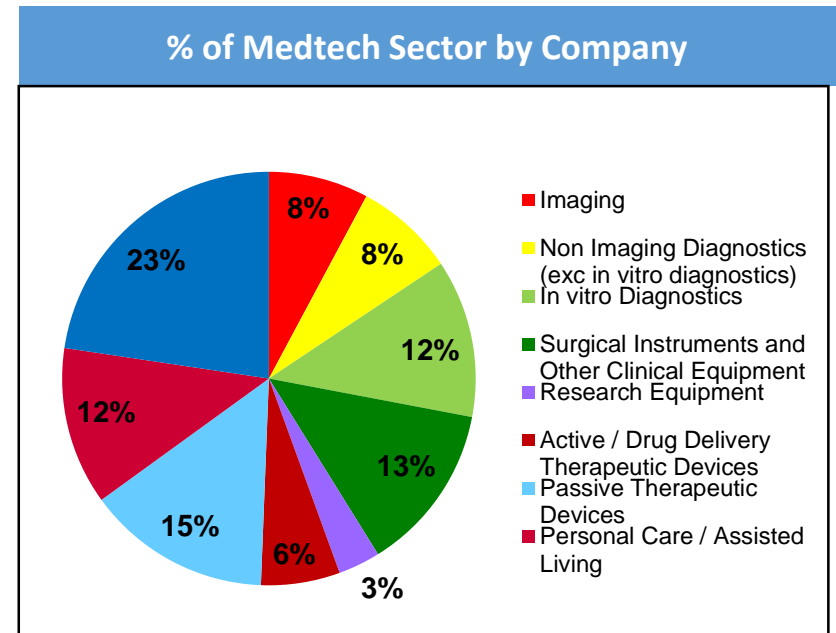
Pharmaceutical Services in Scotland

- Over **150** companies, employing more than **9,000** people with a turnover of **£1.2 bn**
- A comprehensive supply chain supporting every stage of drug discovery, development and manufacturing
- Refined testing and manufacturing expertise in fast-growing antibody-drug conjugate (ADC) market
- Global leaders in pharmaceutical manufacture AMRI, BASF, Capsugel, GSK and SAFC recognize the advantages of operating in Scotland
- Preferred clinical trial site for Pfizer, PPD, Quintiles and Roche
- Responsive tissue acquisition and data linkage

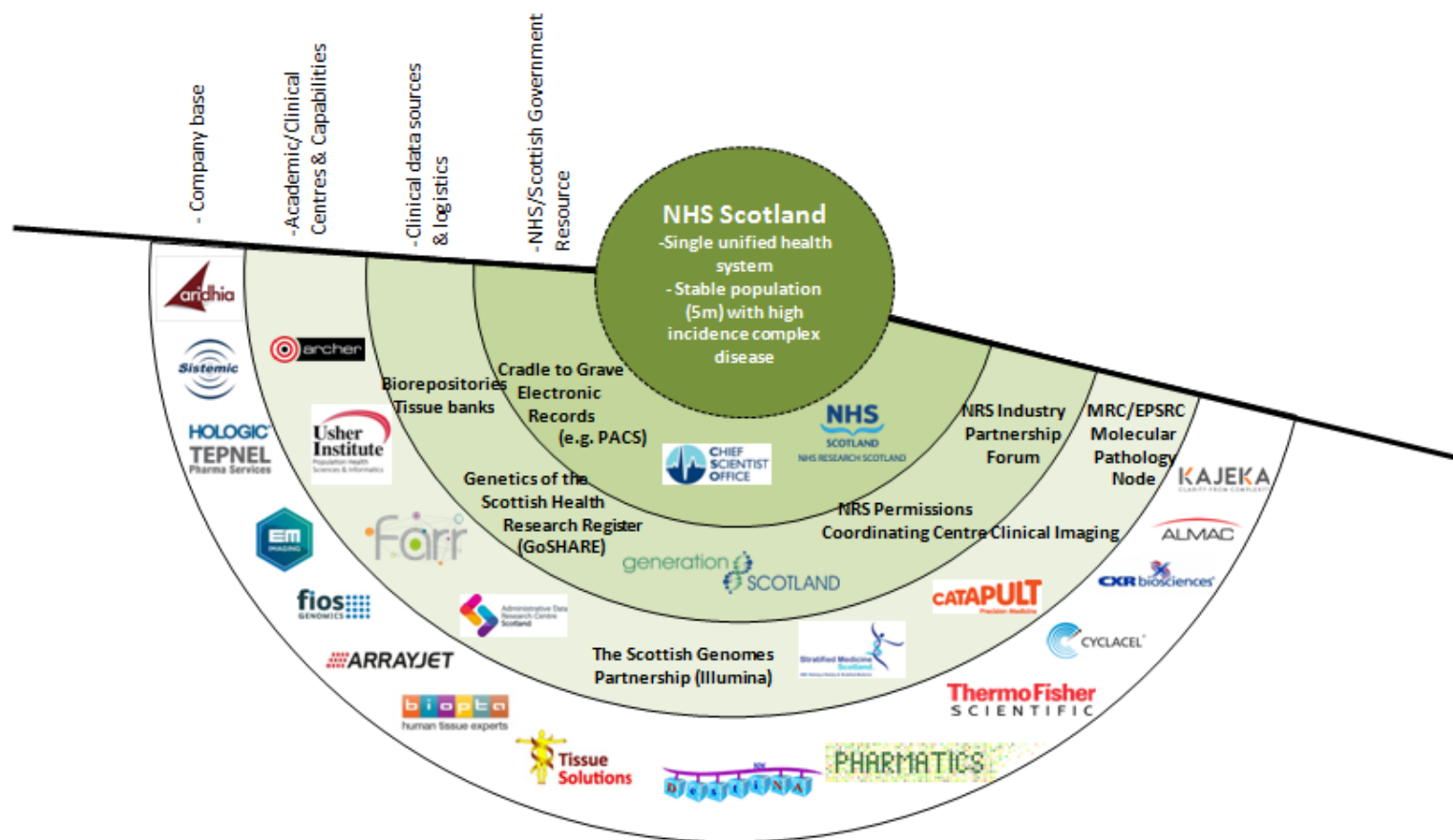


Strengths of Medical Technologies in Scotland

- Over **c250** companies employing over **9,000** people and with a turnover of **£1.2bn**
- **Comprehensive medtech supply chain** - **c100+** companies, with capabilities in design, prototype and manufacture
- Strong **history of healthcare innovation**
- **Ideal testing environment for the development of new medical technologies & diagnostics** with NHS facilitated access to patients & professionals
- **Global leaders in medtech manufacture** J&J, Medtronic, Terumo, Toshiba, Nikon, Ossur recognise the advantages of operating in Scotland.
- **Fast** and supportive **regulatory system**



Scotland's Precision Medicine Landscape



Commonwealth Fund Study

COUNTRY RANKINGS

Top 2*

Middle

Bottom 2*

											
	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL RANKING (2013)	4	10	9	5	5	7	7	3	2	1	11
Quality Care	2	9	8	7	5	4	11	10	3	1	5
Effective Care	4	7	9	6	5	2	11	10	8	1	3
Safe Care	3	10	2	6	7	9	11	5	4	1	7
Coordinated Care	4	8	9	10	5	2	7	11	3	1	6
Patient-Centered Care	5	8	10	7	3	6	11	9	2	1	4
Access	8	9	11	2	4	7	6	4	2	1	9
Cost-Related Problem	9	5	10	4	8	6	3	1	7	1	11
Timeliness of Care	6	11	10	4	2	7	8	9	1	3	5
Efficiency	4	10	8	9	7	3	4	2	6	1	11
Equity	5	9	7	4	8	10	6	1	2	2	11
Healthy Lives	4	8	1	7	5	9	6	2	3	10	11
Health Expenditures/Capita, 2011**	\$3,800	\$4,522	\$4,118	\$4,495	\$5,099	\$3,182	\$5,669	\$3,925	\$5,643	\$3,405	\$8,508

Notes: * Includes ties. ** Expenditures shown in \$US PPP (purchasing power parity); Australian \$ data are from 2010.

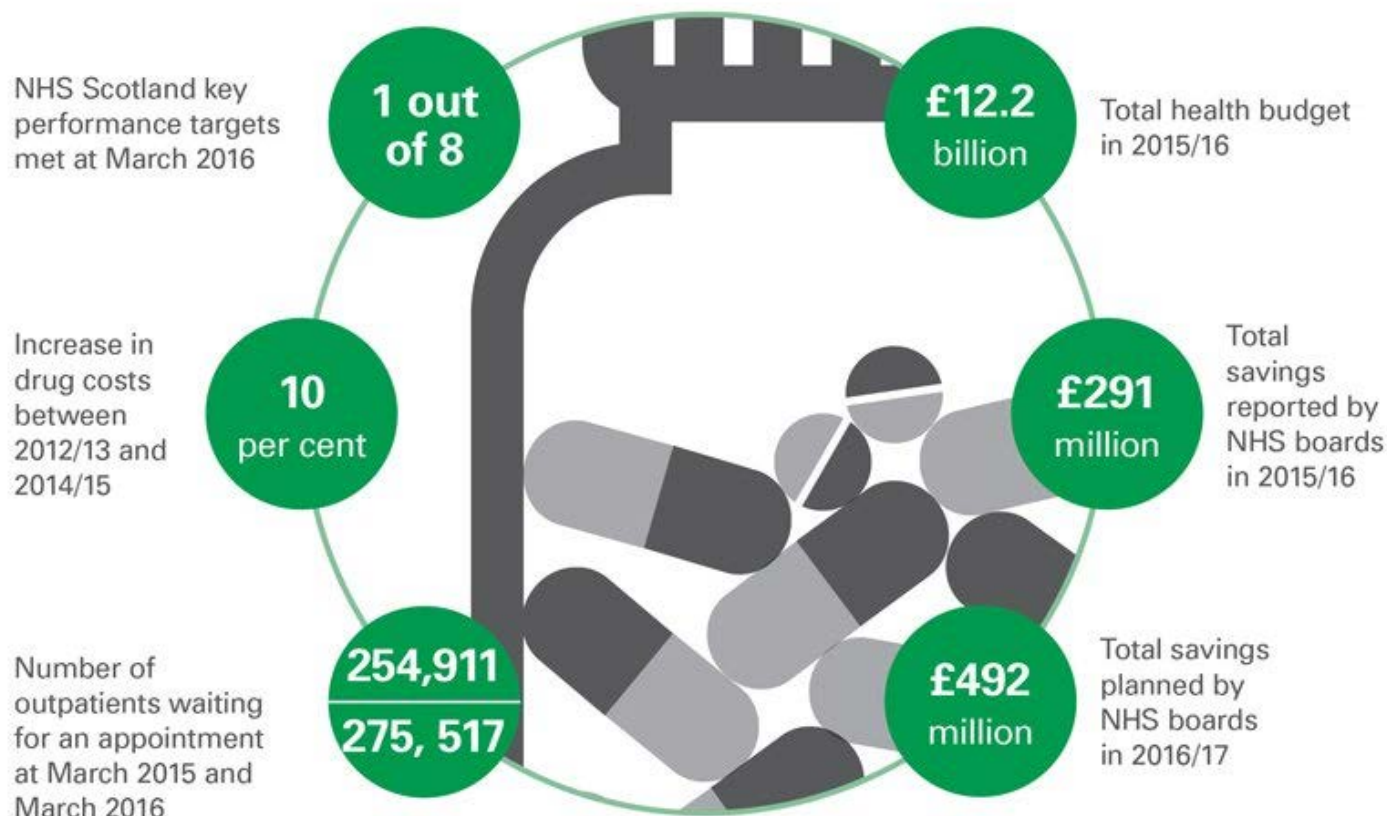
Source: Calculated by The Commonwealth Fund based on 2011 International Health Policy Survey of Sicker Adults; 2012 International Health Policy Survey of Primary Care Physicians; 2013 International Health Policy Survey; Commonwealth Fund National Scorecard 2017; World Health Organization; and Organization for Economic Cooperation and Development, OECD Health Data, 2013 (Paris: OECD, Nov. 2013).



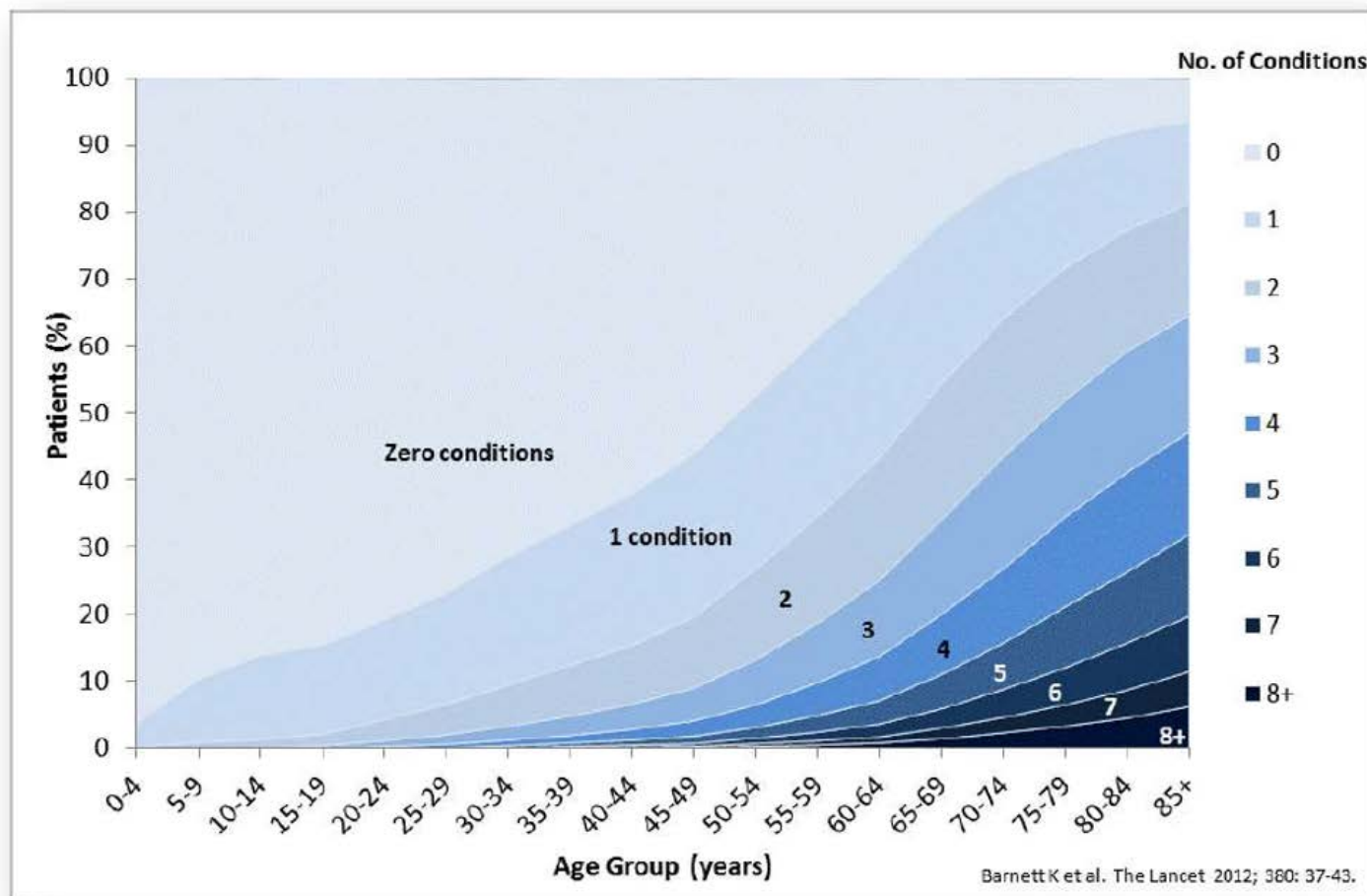
NHS in Scotland 2016

October 2016

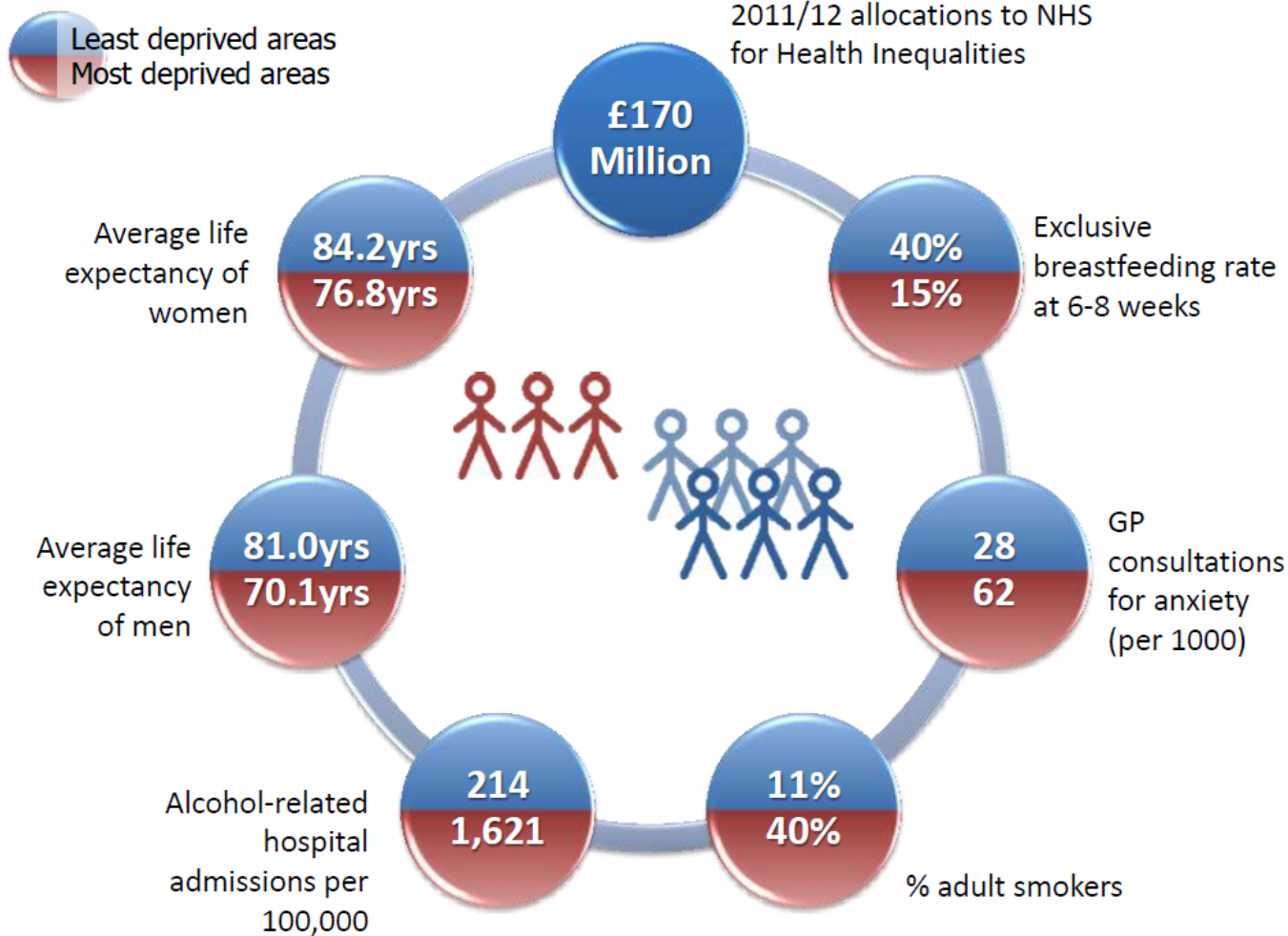
AUDIT SCOTLAND



Multimorbidity is common in Scotland

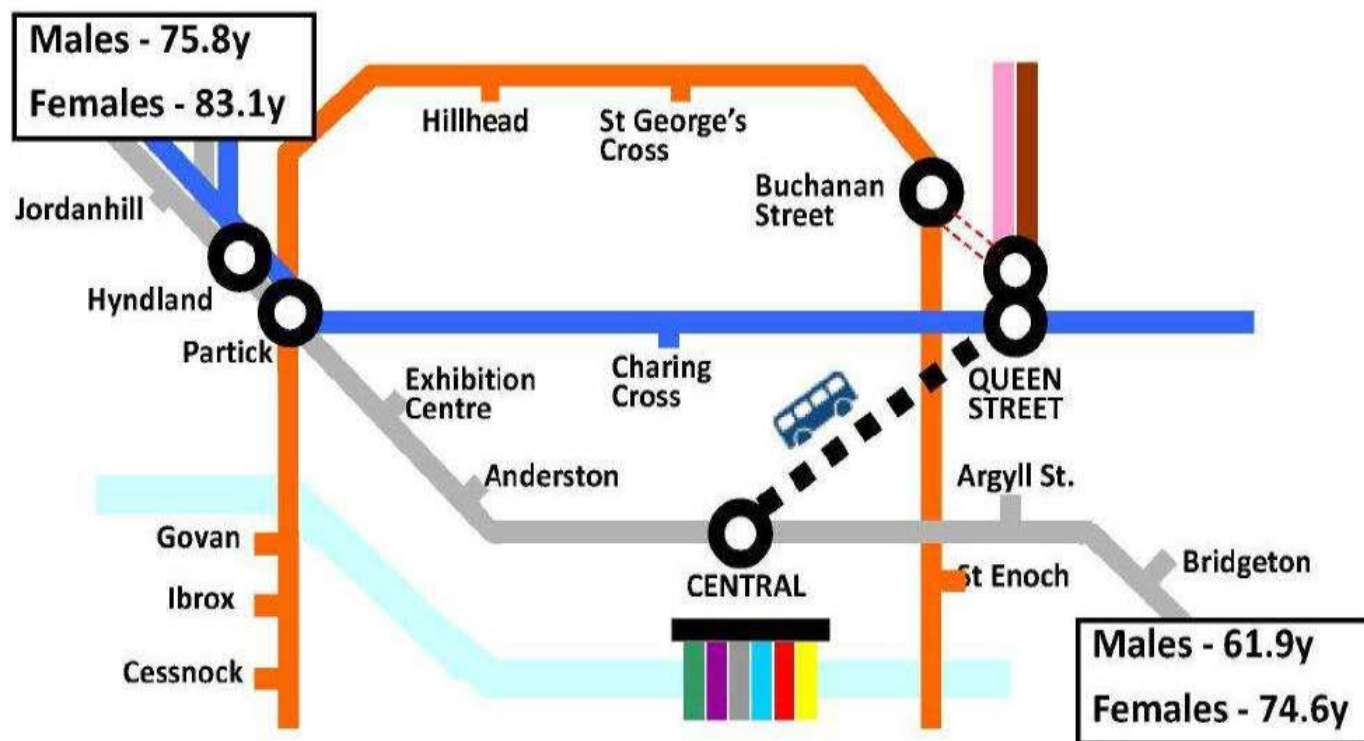


More people have 2 or more conditions than only have 1



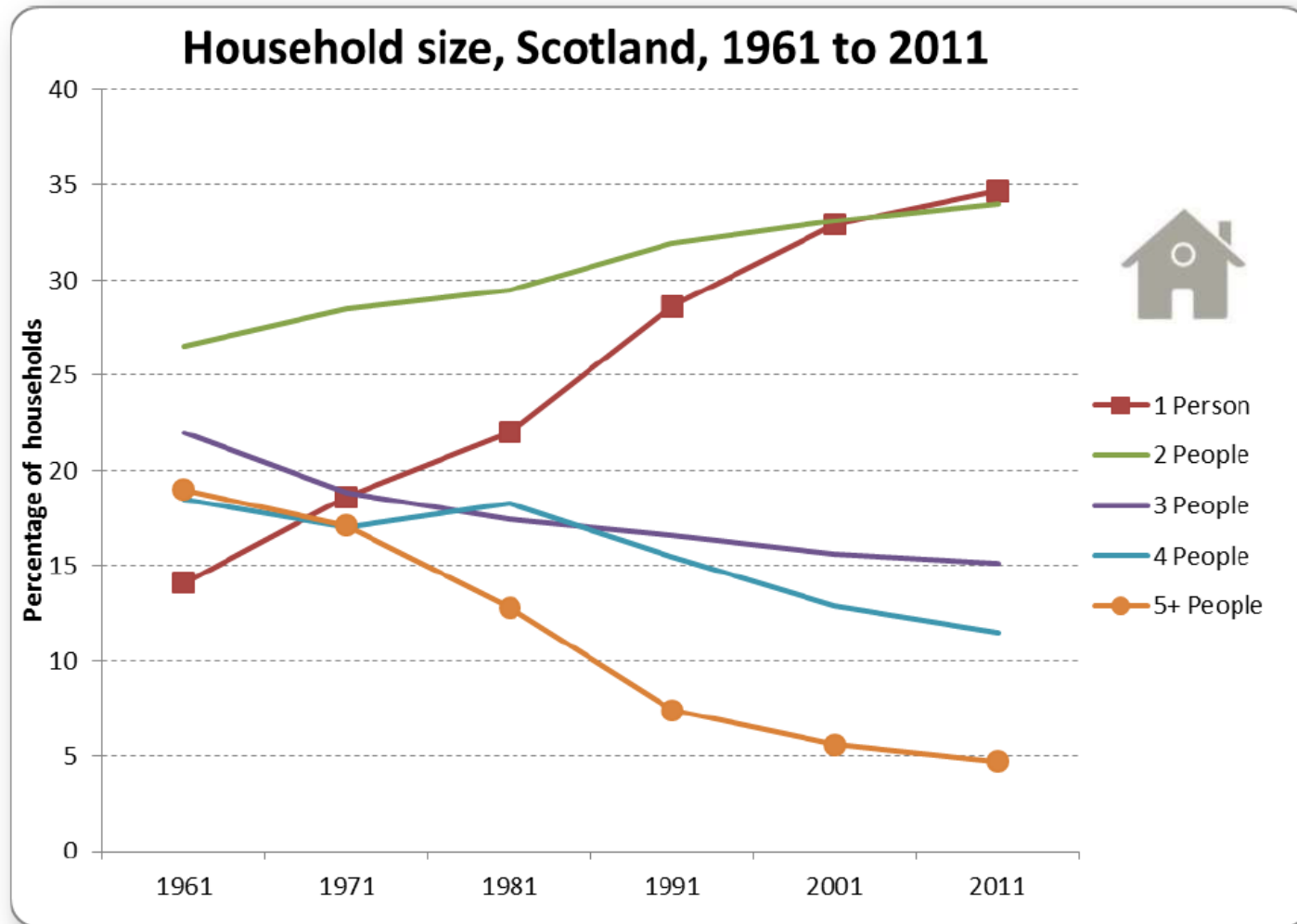
Source: Audit Scotland, October 2013

Each stop on the Argyll line travelling East represents a drop of 1.7 years in male life expectancy



Life expectancy data refers to 2001-5 and was extracted from the GCPH community health and well-being profiles. Adapted from the SPT travel map by Gerry McCartney.

© NHS Health Scotland

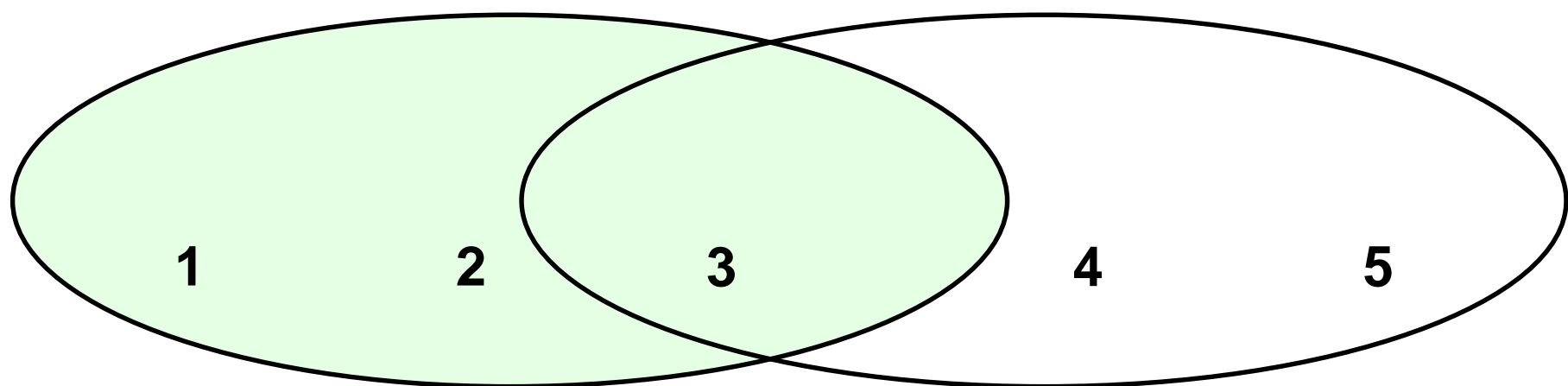


Source: NRS Census Data 2013

Improving Quality, Reducing Costs

QUALITY INITIATIVES

COST REDUCTION PROGRAMMES



Costs more

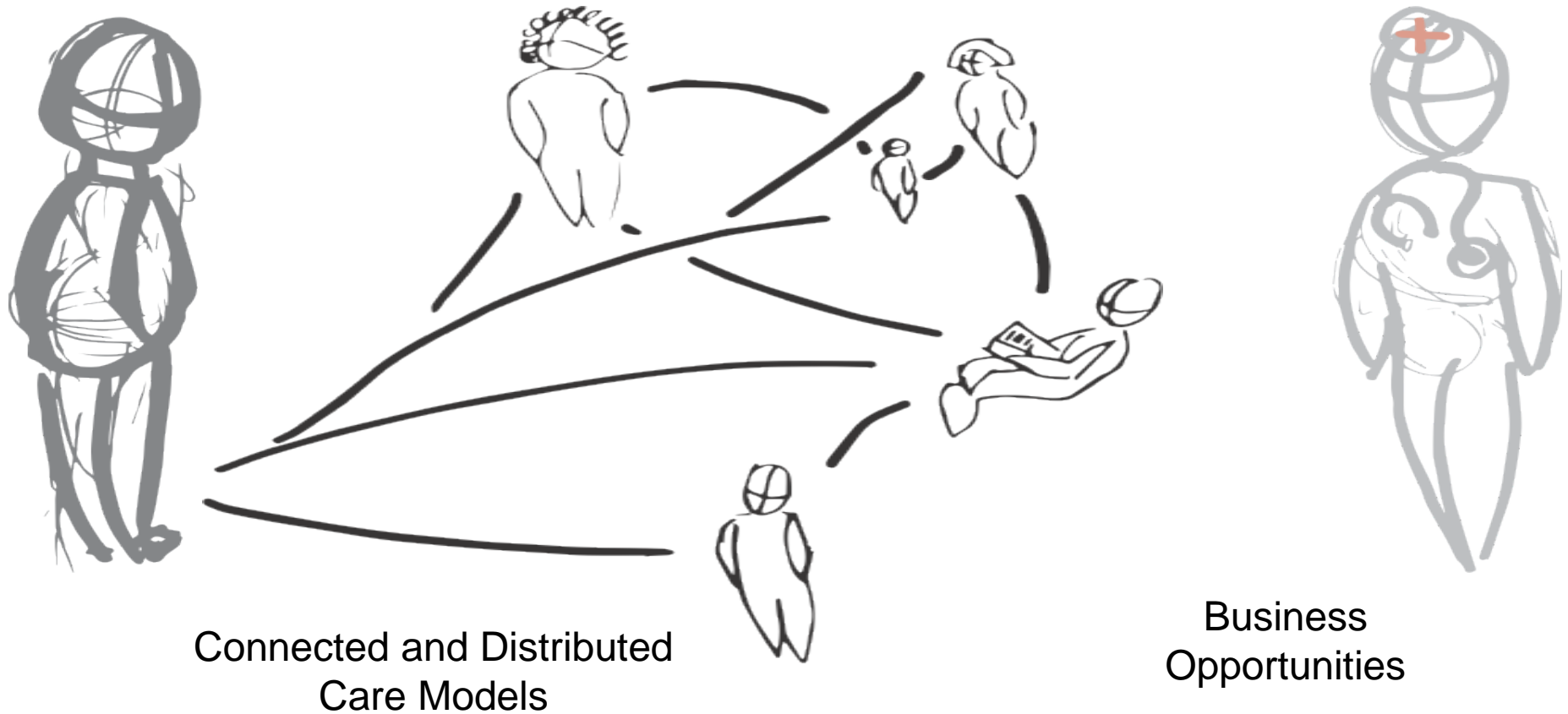
cost neutral

**improves quality
reduces costs**

quality neutral

reduces quality

New Models of Care: Accelerating the Pace of Change





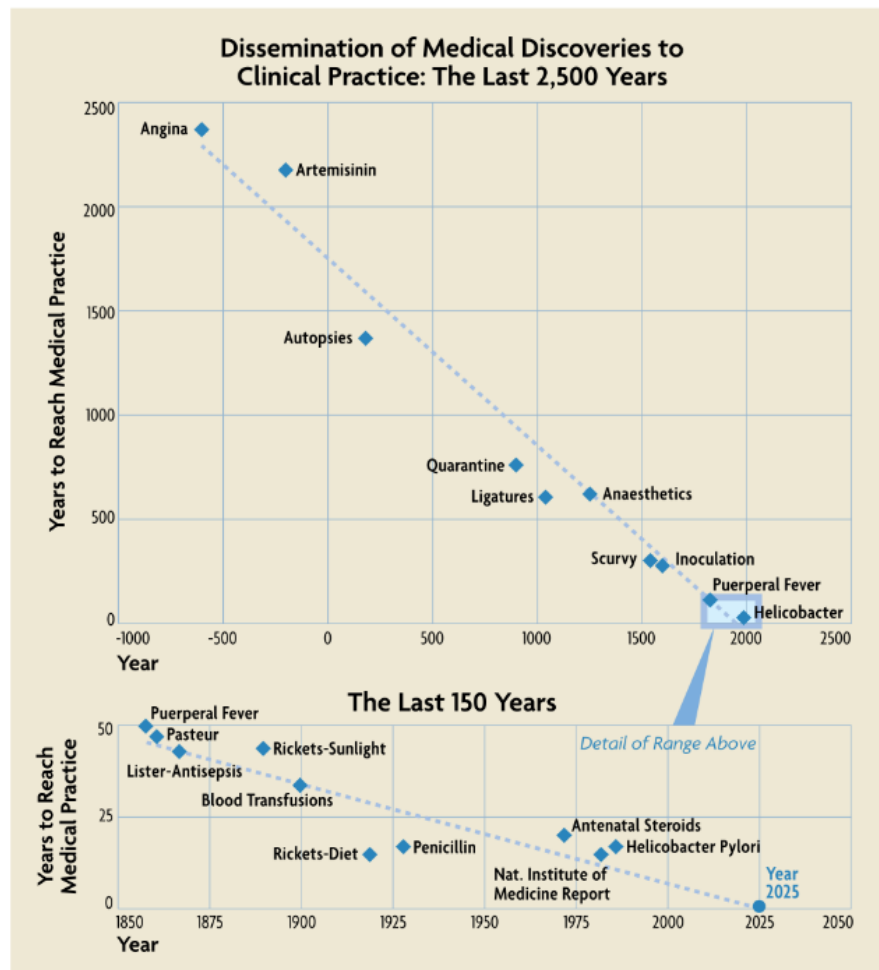
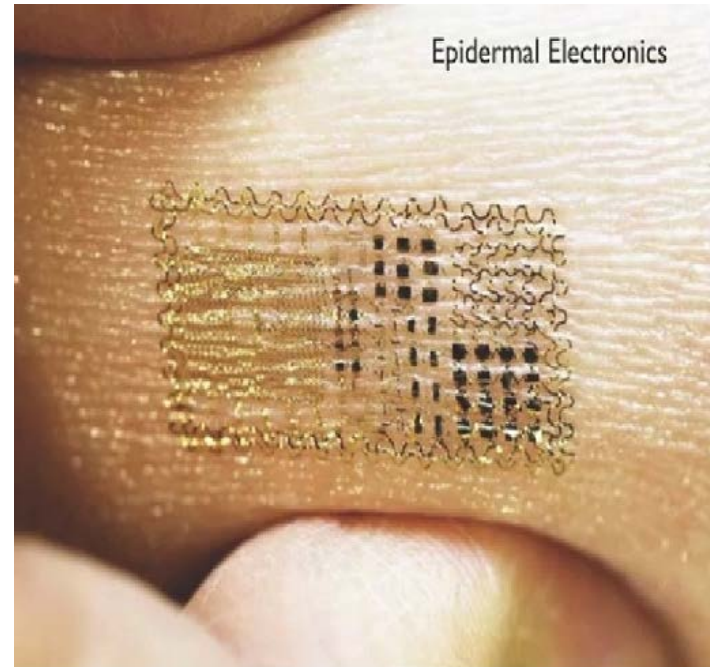
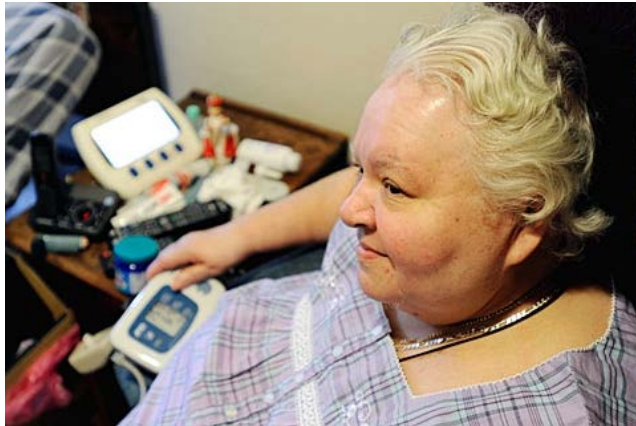


FIGURE 2.

While it took 2,300 years after the first report of angina for the condition to be commonly taught in medical curricula, modern discoveries are being disseminated at an increasingly rapid pace. Focusing on the last 150 years, the trend still appears to be linear, approaching the axis around 2025.





Technology Barriers

- 1100 known mobile apps available that may support people with diabetes
- 2% of people use them
- 40% Smart Phone use in Scotland
- Low level of health use of technology for remote support

Technology Barriers

1. Fears around privacy (e.g. of patient's own data) and regulation;
2. Perceived or real difficulty in achieving clinical benefit;
3. Perceived or real difficulty in achieving economic benefit;
4. Poor integration with health care processes;
5. The apparent existence of too many mobile options available with limited evidence behind them, making it difficult for patients to know which, if any, would be useful.

Convergence

- **mobile computing** (smart phone as a diagnostic tool/ body worn /in vitro monitoring)
- **digital manufacturing** (3d printing etc)
- **robotics** (surgery, dispensing, devices etc)
- **artificial intelligence** (anticipatory care, forecasting, informed decision making etc)
- **networks & sensors** (remote ECG, cloud enabled care etc)
- **systems biology** (regenerative medicine, genomics etc)

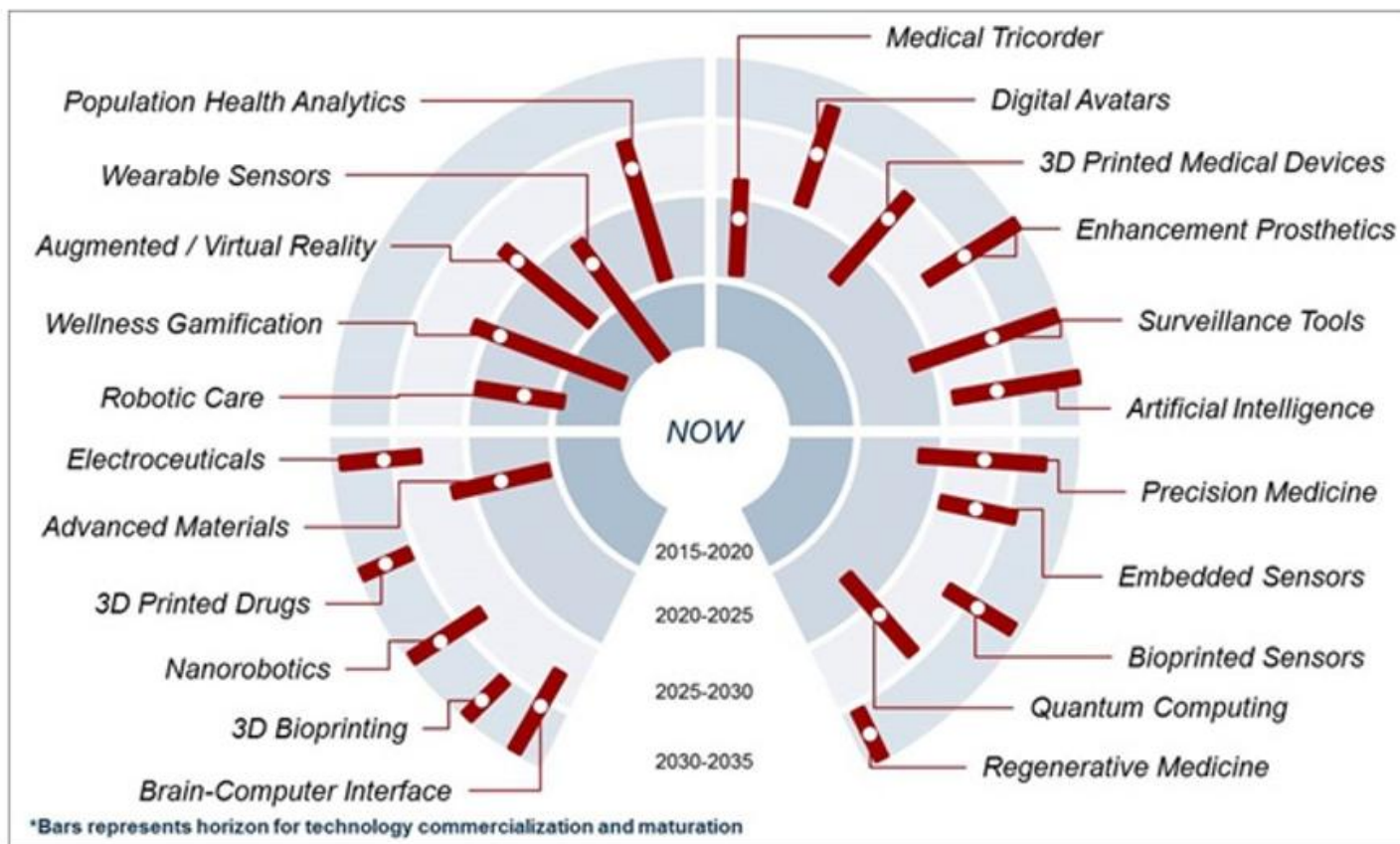


Figure 2: Timeframe for Commercialization and Maturation of Top 2025 Technologies

Source: Frost & Sullivan

Policy and Resources

1. Core Health and Social Care Delivery Plan and usual range of support plans
2. Economic Plan- Innovation and Productivity-Scottish Government- CAN DO
3. UK Industrial Strategy
4. Post BREXIT Emerging Policy



GENERATING IDEAS TO SUPPORT THE NHS

Do you have an idea about a new technology or product that can help the NHS? The Health Innovation Assessment Portal (HIAP-Scotland) provides information, guidance and support to help you present your ideas, so we can assess them and evaluate how your product or technology would support our strategic aims. We will also consider the associated costs and benefits.

[Register as an Innovator](#)

[Register as an Assessor](#)



Innovators

This is where you can tell us about your ideas or innovations and find out how to get help to develop them into products and technologies that may be of potential use to NHSS.

[Register as an Innovator](#)

[Submit a Solution](#)



Assessors

Experienced and qualified healthcare professionals will have the opportunity to provide constructive criticism and feedback on potential technologies and innovations through a multi-disciplinary assessment community.

[Register as an Assessor](#)

Useful Links

- [Health and Wealth in Scotland: A Statement of Intent for Innovation in Health](#)
- [2020 Vision for Health and Social Care](#)
- [Quality Strategy](#)
- [Procurement, Commissioning & Facilities Website](#)
- [Scottish Health Technologies](#)

Innovation Supply Process

Key stages of an innovation process for Scotland include the following;

Registration

Early engagement
and advice

Health Technology
Assessment (HTA)

Implementation

Registration and
Signposting

Industry/Enterprise
input
Link to NHS/Social
Care

Support for IMTO
process

Links to
Network,
Performance and
Delivery

HIAP

Innovation
stakeholders

SHTG

National /local
procurement

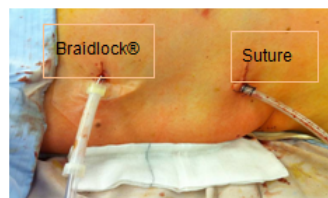
Innovative Medical Technology Overview: Number 001

This IMTO summarises a submission by **BRAIDLOCK LIMITED** regarding the following medical technology. It should be read in conjunction with the accompanying Review Document (RD), which is an impartial review of the strengths and weaknesses of the evidence submission by Healthcare Improvement Scotland.

The Braidlock®

Technology

The **Braidlock®**: A **Class I** non-invasive disposable medical device which provides securement for peripheral devices using tubing from 3.5Fr to 36Fr. Braidlock attaches lines, drains and catheters to a patient, and is suitable for use in a variety of clinical settings.



Product Performance	Economic considerations
<p>A UK single-centre, post marketing surveillance study evaluated the performance of the device in 50 paediatric patients with one or more chest drains after major chest surgery. Braidlock successfully secured the chest drains in place. In addition, physician questionnaires reported the use of Braidlock in adults for other applications.</p> <p>Braidlock offers an alternative to the standard suture method of line securement. No comparative studies are available to directly compare Braidlock with the suture method.</p>	<p>The cost of one Braidlock device is £1.50.</p> <p>Within NHSScotland, the cost components of the comparator suture method are as follows: approximately £3.27 per suture kit and £0.16 per removal kit, resulting in a comparator total cost of approximately £3.43.</p> <p>Use of the adhesive Braidlock device may release staff time relating to the fixation and subsequent adjustment of lines.</p>
Safety	Organisational and patient issues
<p>The device is non-invasive and non-pharmaceutical.</p> <p>No device-related adverse events were reported during the post marketing surveillance study.</p>	<p>The use of the Braidlock allows for the adjustment of lines or drains without the re-siting of the securement device.</p> <p>The use of the adhesive Braidlock obviates the need for sutures with multiple skin punctures.</p>

Innovative Medical Technology Overview: Number 002

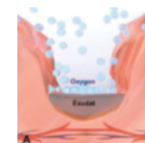
This IMTO summarises a submission by **infirst HEALTHCARE** regarding the following medical technology. It should be read in conjunction with the accompanying Review Document (RD), which is an impartial review of the strengths and weaknesses of the evidence submission by Healthcare Improvement Scotland.

Granulox® haemoglobin spray

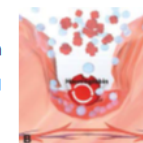
Technology

Granulox® haemoglobin spray: A **Class III** medical device indicated for the treatment of chronic wounds, such as venous leg ulcers, arterial leg ulcers, mixed leg ulcers, diabetic foot ulcers, secondary healing of surgical wounds and pressure sores.

The manufacturer proposes the use of Granulox for the treatment of chronic venous leg ulcers which have failed to heal with standard care. Granulox is an add-on treatment option to standard care.



Granulox® haemoglobin spray as an oxygen transporter to the wound bed.



Product performance	Economic considerations
<p>A prospective, randomised, single-blind, single-centre Czech study in 72 patients with non-healing chronic venous leg ulcers compared Granulox with sham saline solution. The study reported that at 13 weeks Granulox treatment was associated with a 53% average reduction in wound size versus a 21% average increase in the sham arm ($p < 0.0001$).</p> <p>A prospective study in Mexico found that after six months 13/14 patients' chronic wounds in the Granulox group healed compared to 1/14 patients in the standard 'moist' care group.</p> <p>There is some uncertainty surrounding the generalisability of the studies to NHSScotland.</p>	<p>The cost of Granulox is £100-£125 per can, which corresponds to an estimated cost per treatment of £4.20 based on the recommended 30 applications per container.</p> <p>A cost utility analysis submitted by the manufacturer provided insufficient evidence to determine whether or not Granulox would be considered cost effective within NHSScotland.</p>
Safety	Organisational and patient issues
<p>No treatment-related adverse events were observed across the studies submitted by the manufacturer.</p> <p>Granulox is contraindicated for use on infected wounds or during pregnancy. Sufficient data are not yet available to evaluate these cases.</p>	<p>Granulox treatment is most likely to be initiated by tissue viability nurses as part of integrated wound care teams within NHSScotland.</p> <p>Beyond administration of the spray, Granulox is not expected to impact upon the standard wound care procedure.</p>

Demand Led - Open Innovation

**THE KEY DRIVER OF INNOVATION IS SOLVING
CUSTOMER PROBLEMS THROUGH CONTRACTS IN A
BUSINESS ENVIRONMENT**

Creating Markets for Things that Don't Exist

David Connell

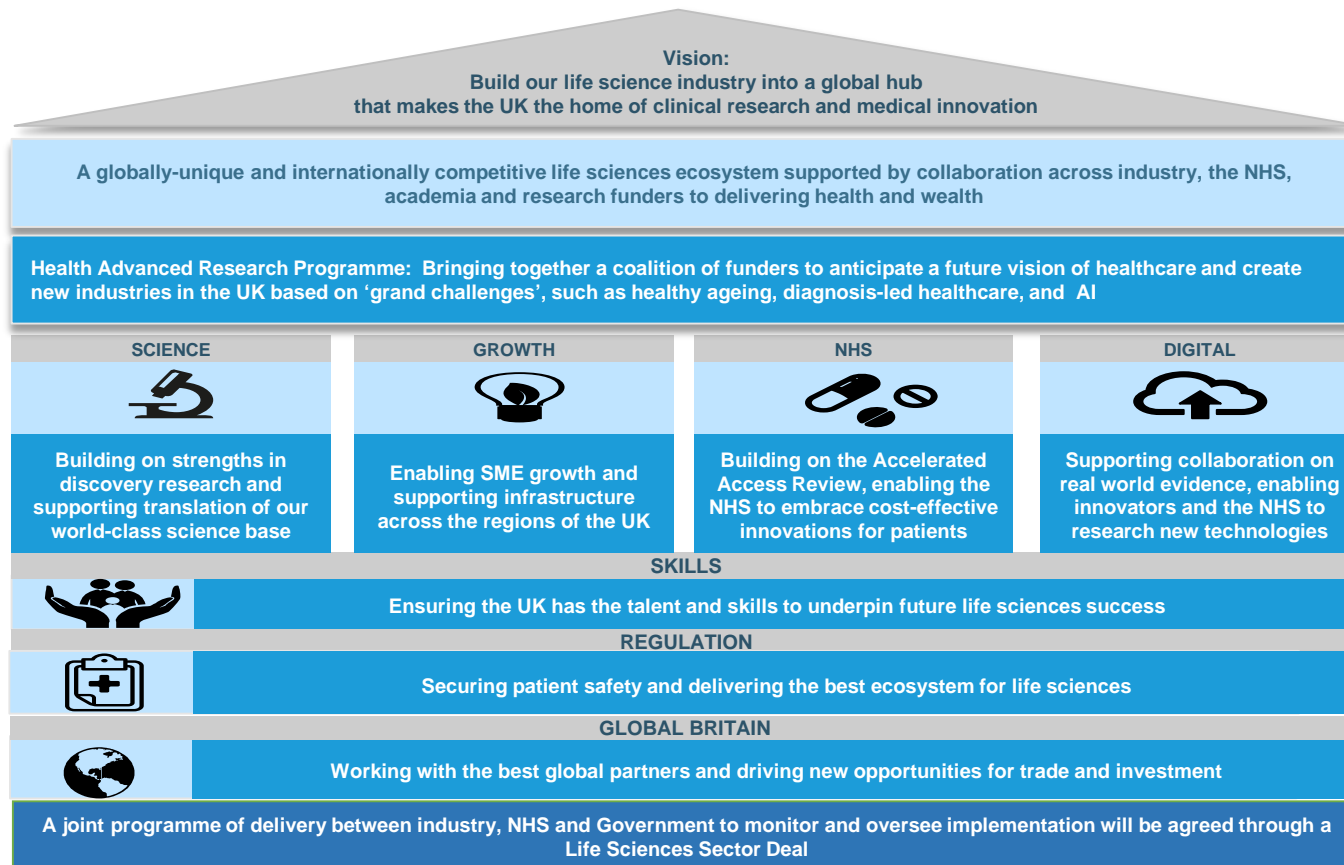
Cambridge University Centre for Business Research

OPEN INNOVATION

The process of innovating with others for shared risk and reward to produce mutual benefits for each organisation, creating new products, processes or ideas that could not otherwise have been achieved alone, or enabling them to be achieved more quickly, cheaply or efficiently



Life Sciences Industrial Strategy



An industry-led vision for the life sciences sector that will be underpinned by new investment and create the foundations to support growth and attract new industries into the UK in the post-Brexit environment

Our partnership

