Value-Based Healthcare and Digital Solutions (Detailed)

This presentation explores in more detail the integration of value-based care principles with innovative digital solutions to optimise healthcare delivery and enhance patient outcomes.

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Accelerating value through digital co-workers

Definition:

Value-based healthcare is the equitable, sustainable and transparent use of the available resources to achieve better outcomes and experiences for every person.

- Hurst L, Mahtani K, Pluddemann A, Lewis S, Harvey K, Briggs A, Boylan A-M, Bajwa R, Haire K, Entwistle A, Handa A and Heneghan C CEBM, University of Oxford

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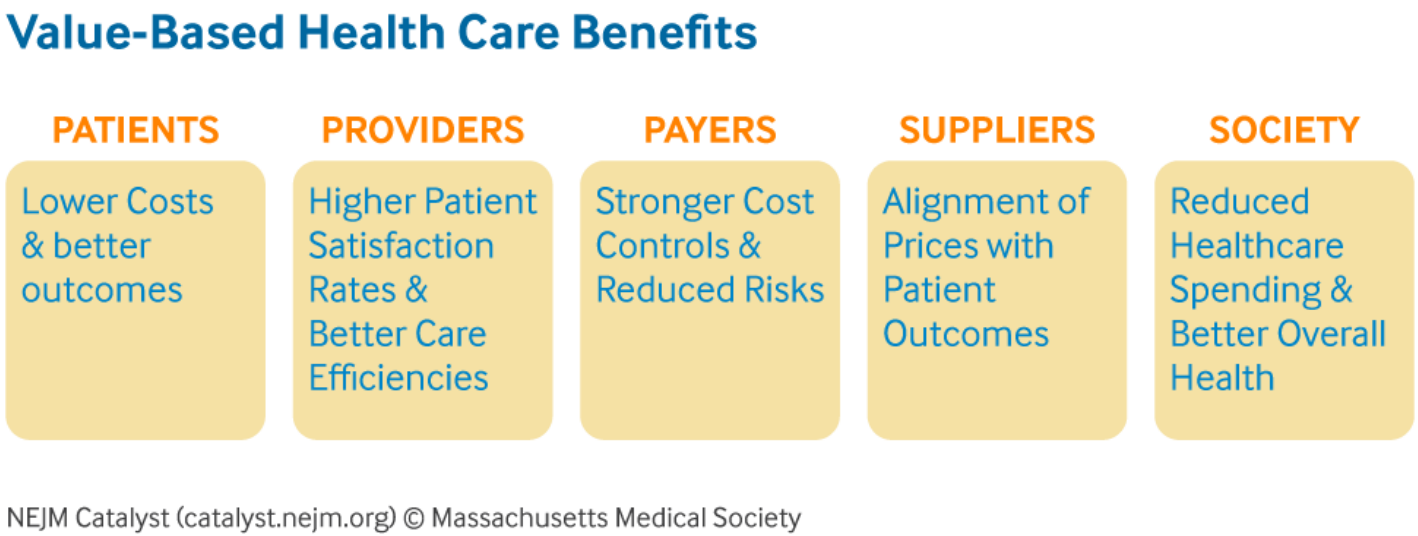
Value-Based Health Care (VBHC)

This entails transforming health care systems with the primary goal to maximise **value** to the person

- Putting the person at the centre of all care decision-making
- About better use of the limited resources we have
- About delivering better outcomes and experiences



NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society

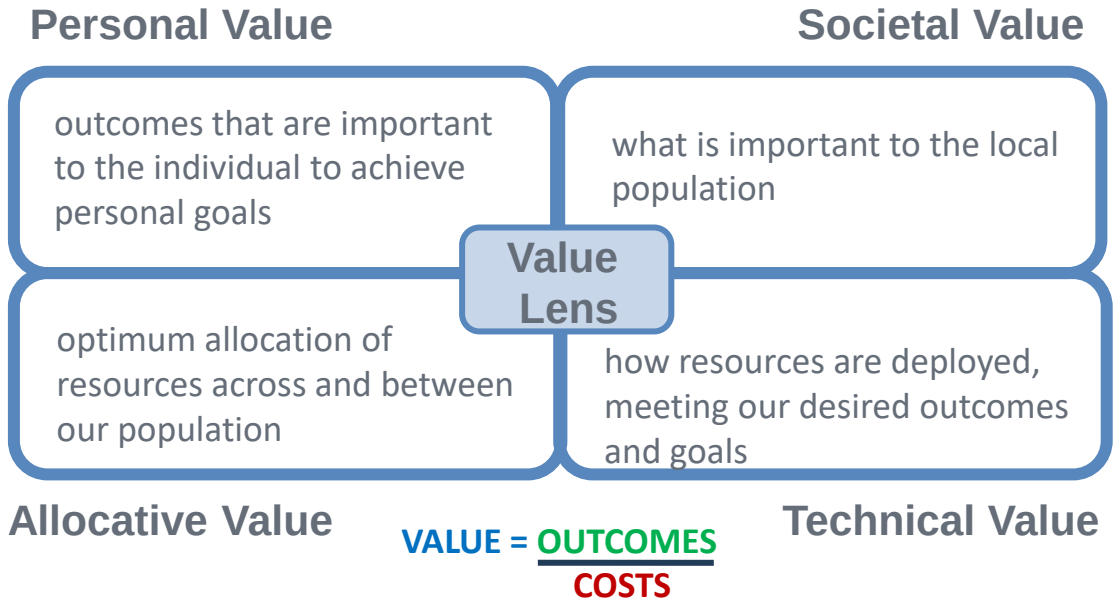
What do we mean by value?

VALUE = OUTCOMES / COSTS

- ✓ Outcomes that matter for the patient's condition **over the whole care cycle** (not just a single intervention)
- ✓ Total costs of care **over the care cycle**
- ✓ Outcomes should include patient reported outcomes and clinical outcomes

The term "value" has many connotations. Depends on who you are talking to and what their role is.

We need to consider the relationship between individual value and value to the population as a whole.



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Outcomes

"*An outcome is a milestone, endpoint or consequence* ***which matters to a person***". (Dr Sally Lewis)

Outcomes are not "*outputs*"; they are not lab results; they are not technical details.

They're real-world results, like physical functioning or level of pain.

- How soon after treatment can a patient with low-back pain expect to return to work?
- How likely is a man to experience incontinence or sexual dysfunction after treatment for prostate cancer?

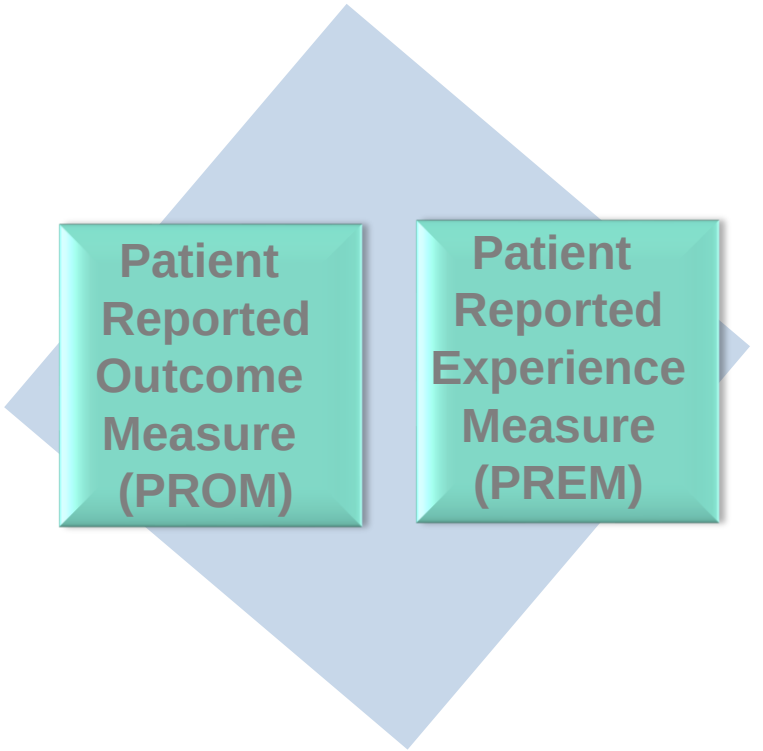
These are questions about outcomes.

Understanding outcomes that matter

VBHC is concerned with meaningful patient outcomes.

- **PROM** – tool used to collect information directly from patients (or someone on their behalf such as carers or guardians) about their *health status*, *treatment outcomes* and *functional status*.

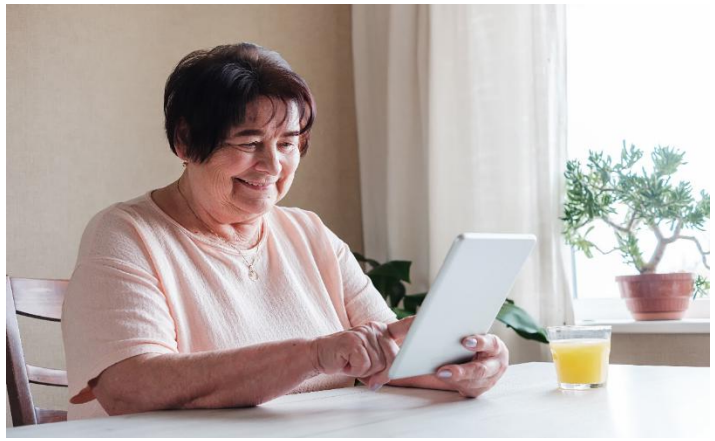
- **PREM** – tool used to collect information directly from patients about *their experiences with healthcare* after receiving services – communication, responsiveness, overall satisfaction with their care etc. These are unique and 'personal'



Factors involved in improving outcomes and reducing costs

Patient factors

- Raise health literacy
- Support healthy behaviours towards prevention and optimisation of quality of life
- Support shared understanding of medicine-towards the best choices
- Supported self-management of care



Healthcare factors

- Financing for value, optimum allocation and prioritisation of resources, incentivising best practice/quality improvements
- Decrease unwarranted variation and low value care
- Optimum positioning of drugs and devices
- Tailoring treatment to the individual's goals and context including preferred place of care
- Optimum pathways from prevention to end of life care
- New models of care, digital health, releasing capacity in the system
- Focus on meeting true need and reducing inequities

Whole Systems Approach

Delivering value in healthcare

What good might look like

*The sum of all interventions: e.g.**heart failure***

Early accurate diagnosis

NTproBNPs and Echos fall

Optimising intervention

Nurse Led clinics

Supportive treatment

Nurse Led clinics

End of life care / Long Term Care

Heart Failure Palliative Care Service

- ❑ PROMs and CROMs
- ❑ Time to optimisation reduced
- ❑ Big reduction in hospital readmission rates
- ❑ Community service good results (TDABC could confirm)
- ❑ Understanding PROMs data is complex

- ❑ Joint MDT palliative care/cardiology
- ❑ Advance care planning
- ❑ Reduced symptom burden
- ❑ Preferred place of care

Terms:

- NT-pro-brain natriuretic peptide (NT-proBNP) is a novel indicator for the diagnosis of heart failure
- An echocardiogram can diagnose heart failure as well as assess whether heart failure has progressed.
- ACS - Acute coronary syndrome
- CROM – Clinical Reported Outcome Measure
- MDT – Multi Disciplinary Team
- TDABC – Time Driven Activity Based Costing

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Linking Whole System to Value Stream Enablers

Patient Factors

- Healthy lifestyle choices
- Access to tier one services (third sector and community run)
- Access to evidence based health information and advice

- Quick access to diagnostics at point of suspicion
- Access to clinical advice and information to help manage and spot early symptoms or changes to health status
- Screening services

- Dietary and weight optimisation pre-treatment
- Early rehab and access to allied professional support (OT, Social services, Therapists, etc)
- Informed consent and Shared Decision Making (SDM)

- Chronic condition management plan
- self referral/ re entering route of the specialist care at point of need
- Wholistic approach to care, not single disease management

- Clear understanding of condition management and the role of palliative care
- End of life care plan
- Access to bereavement support for loved ones

Healthcare Factors

- Making every contact count
- Vaccinations
- Public Health and Health and Safety Policies

- Screening Services feeds directly into specialist diagnostics/care pathways
- Risk management and risk predictors based on accurate data from across the system at both individual and population level
- Timely access to diagnostics and specialist care

- Prehabilitation
- Enhanced Recovery After Surgery
- PROMs as a SDM tool and as a needs assessment at individual and cohort level

- Remote monitoring
- Seen on symptoms patient led specialist access
- Multi disciplinary team approach to complex and multi conditions care

- Early Palliative care referrals and care plans
- Access to end of life home care and support
- Specialist support for community/ primary care

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Value Based Models….

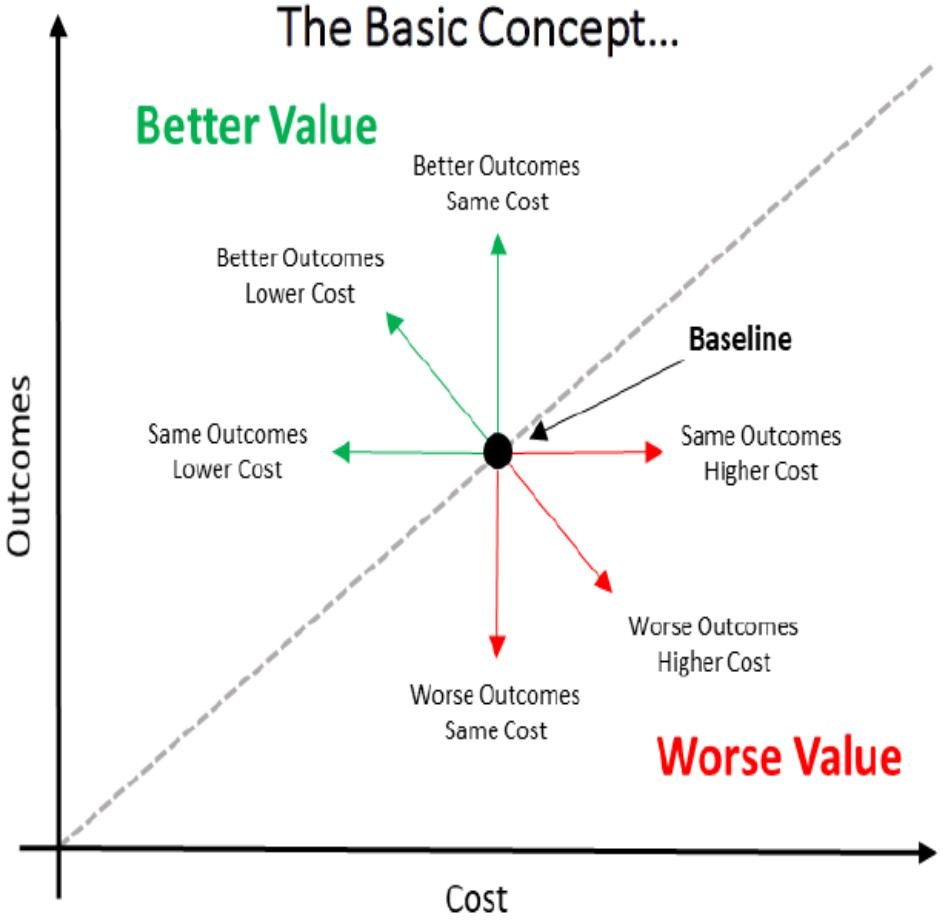
- Affordability equitation: increased demands, complex patient needs, ageing population, increasing costs

- Shift towards value-based payments
  - Price paid determined by performance of the healthcare technology/ service
  - Strong emphasis on patient-reported outcome measures (PROMS) and real-world evidence.

- Shift towards Outcome-based agreements
  - Contracting for medical devices and healthcare services
  - Achievement of key performance indicators

Value-Based Finance (VBF)

- Cost is a vital component of the value-based healthcare equation
- We need to know our costs across the whole system in order to understand the impact on outcomes, and on overall performance
- **Time-Driven Activity-Based Costing** (TDABC) - costing method that uses the time required to perform each activity in a process to calculate the cost of a product or service
- **Patient-Level Costing** (PLICS) - an accounting methodology that aims to track costs using treatment and diagnosis data
- A blended approach (PLICS/TDABC)



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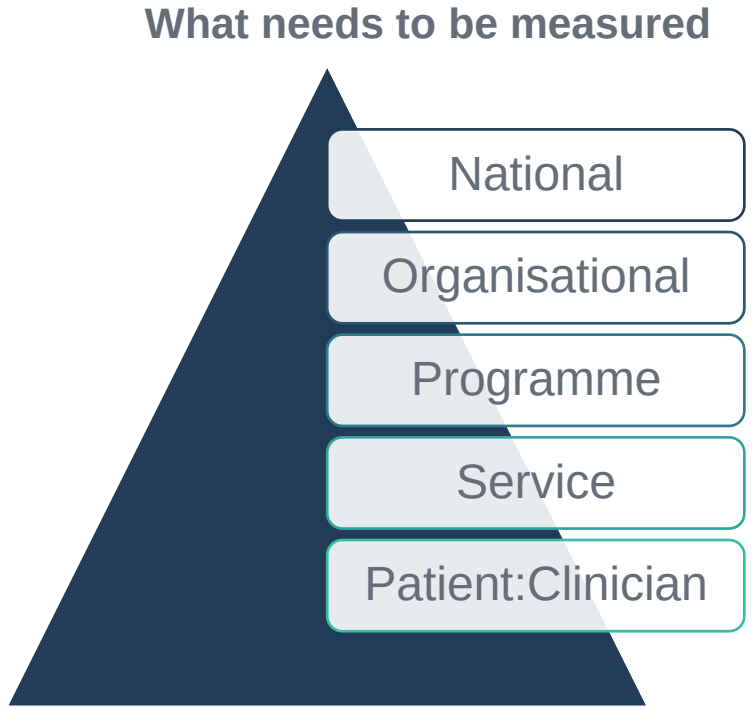
Value-Based Finance (VBF)

Demonstrating financial and non-financial benefits.

- The Value Based Health Care finance toolkit
- The toolkit outlines the role of finance in the delivery of VBHC and various key costing methodologies and approaches with worked examples.
- The toolkit is a useful guide for the finance community in how to implement VBHC approaches. a time driven activity based costing exercise to assess the variety of clinical pathways currently in place.



Value in Health and Finance - YouTube

Examples

A Diabetes Improvement and Variation Atlas - developed to provide insight and intelligence on adverse outcomes, including interventions along the pathway that could improve these outcomes.

Value-Based Procurement (VBP)

- **Shift in emphasis** from reduction in product costs, to consider technologies/products or solutions that can improve patient outcomes, increased efficiency and reduce the total costs within the patient pathway
- **Paying for medicines**, devices and services **according to value (outcomes) they provide** rather than volume purchased – payment by results vs payment per unit!
- Payment models - shift payments from volume-based to **value-based payments** (health outcomes/costs)
- **Encourages risk-sharing** and optimal care delivery to improve health and social outcomes for both individuals and populations
- **Smart contracts** eliminate manual processing
- *For example*, electronic reverse auctions are effective tools in correcting pricing in stagnant markets, however if the NHS is to continue to generate long term savings through procurement, different approaches need to be explored.

- Driving sustainable increased savings and improving patient outcomes.

An introduction to value based agreements - YouTube

Value-Based Procurement (VBP)

	Savings achieved through:				
	Reduction in consumption	**In patient to day case**	**Operational productivity**	**Reduction in infection/revisions**	**Change in patient pathway**
Value delivered by	A product which is higher quality or innovative results in lower like for like consumption of this product type.	A product and supporting solution, that enables treatment of a condition to be changed from one requiring an inpatient stay to a day case. Resulting in increased efficiency and measurable improvement to patient outcomes and experience.	A product and supporting solution, that introduces a tangible productivity benefit, in terms of theatre efficiency releasing capacity for additional procedures or ward capacity through a reduction in LOS.	A product and supporting solution, that can demonstrate a direct correlation between its adoption and application, and a reduction of infection rates for a specified procedure or patient cohort and resulting in measurable improvement to patient outcomes and experience.	A product and supporting solution, that enables migration of patients from an acute to a community setting, resulting in reduction in total system costs and measurable improvement to patient outcomes/experience.

Source: NHS Supply Chain – VBP Assurance Framework

VBP Generates Opportunities

To reduce costs:

- Reduce spend
- Reduce product usage
- Opportunities to reconfigure services
- Reduce agency spend

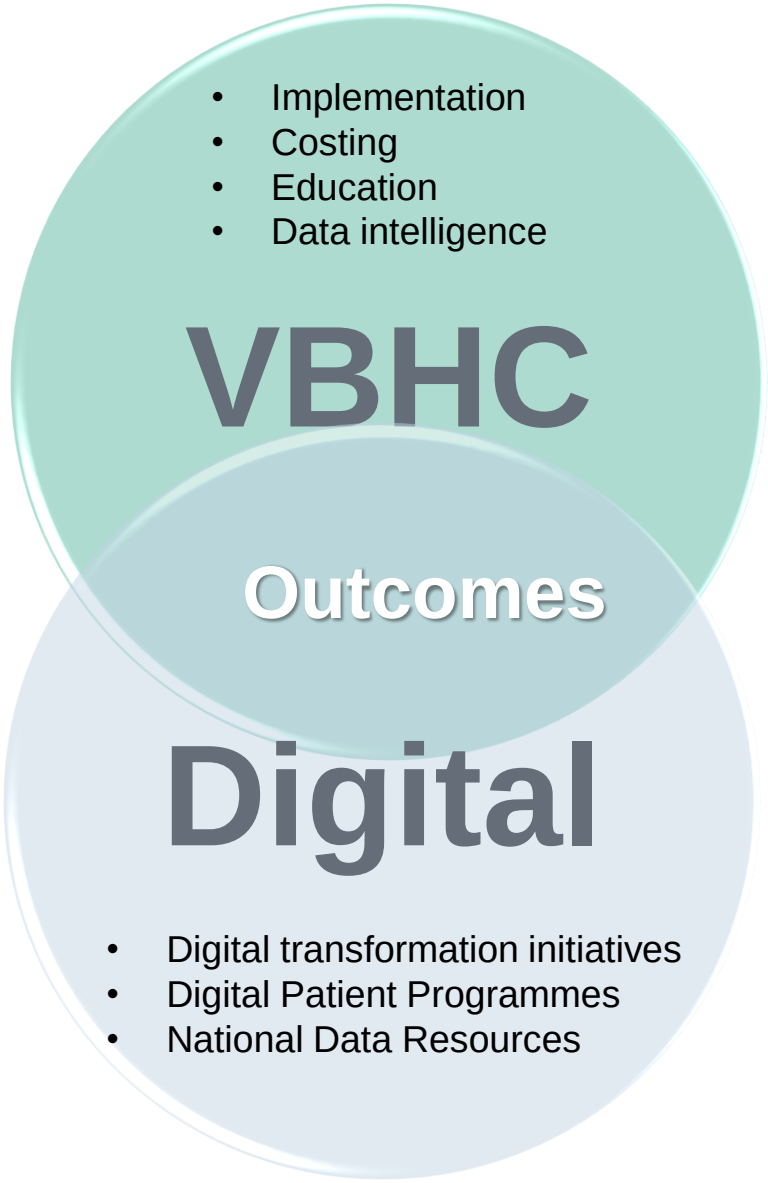
Results in:

- Improved patient care
- Cash releasing savings
- Cost avoidance savings
- Reduction of “waste” and number of products used
- Operational productivity

More efficient pathway:

- Opportunity for system redesign
- Reduce unit cost of care
- Provide more care through same resources
- Supporting patient flows through the system by reducing access time

VBHC and Digital - The Journey



- ✓ Increasing value by exploring costs and outcomes
- ✓ Outpatient risk prioritisation supported by PROMs
- ✓ Managing patients remotely
- ✓ Reducing unwarranted variation
- ✓ Reducing low value care
- ✓ National Clinical Framework
- ✓ A data-driven and evidenced based quality improvement approach

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Digital and Data Technologies Supporting VBHC

- ✓**Electronic Health Record**
  - Patient Centred Applications
- ✓**Clinical Decision Support**
- ✓**Patient Care Alerts / Workflows**
- ✓**Remote Patient Monitoring**
  - IoT / Smart Devices
  - Virtual Clinics / Consultation
- ✓**Intelligent Automation**
  - Robotic Process Automation (RPA)
  - Artificial Intelligence/ Machine Learning
  - Intelligent Orchestration /Workflow Mgt.

- ✓**Interoperability Ecosystem**
  - Health Information Exchange
  - Messaging Components
  - Openness
- ✓**Data Resources / Data Lakes**
  - Local and National
- ✓**Data Analytics / Data Science**
  - Data Insights - data into knowledge
  - BI Visualisations / Storytelling
  - Atlas of Variations

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Ecosystem: A Multi-Faceted, Integrated Approach

Supporting Environment:

- Partners
- Stakeholders
- Organisation
- Workforce and Staff Experience
- Capability
- Change Management
- Resources, Financial
- Culture
- Innovation and Research
- Information Governance
- Safety and Security
- Training and skills
- Sustainability

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Integrated Health and Care Services

PERSON CONTINUUM OF CARE

Intervention | *Early Accurate Diagnosis* | *Optimising Intervention* | *Supportive Treatment* | *End of Life/ Long Term Care*

Person Portal
(e.g. NHS Wales APP, Health and Care Social Media)

National Systems
(new, existing, legacy)

Staff Portal
(National & Local View)

Electronic Health Record

Data Ecosystems
(federated)

ENABLING SERVICES

INTEGRATION LAYER
(API Gateway)

Person, Patient Centric Care
(Child -> Adult)

Assisted Devices
(e.g. wearables, sensors, asset tracking)

Identity and Access Management
(role based)

Person Demographics
(Trusted Service, Wales/England)

Other Services
(e.g. third parties, back-end, Compliance. Regulatory eg labs)

Insights & Intelligence

BUSINESS USE CASES
(e.g. Social Prescribing, Remote Care, Connected Care, Digital Medicines, Waiting Lists, Outcomes collection, digital tools, data/process standards etc)

PERSON JOURNEY

Urgent/ Emergency Unscheduled Care
(111, Ambulance)

Primary Care
(GP, Pharmacy, Dentist, Ophthalmology)

Secondary Care
(Planned, Remote/ Virtual)

Social Care

Community Care

Third Sector Care

Other
(Mental Health)

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Digital Disruption – Wearable (Devices and Sensors) Digital Endpoint

- Biotech and pharmaceutical companies need to change to a person-centric model driven by digital health technologies
- opens the possibility for reduced effort to collect, timelines and cost savings
- Support clinical trials
- Support self management of care
- Support shared decision making

Source: ICONPLC.COM

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Device and Sensor Technologies

- It is now possible to capture a vast array of data
- Explore the significance of digital endpoints including digital biomarkers
- Build a case for the broader adoption of digital health technologies and digital endpoints
- Outline a strategy to best harness these innovations with an end-to-end framework to selecting and validating devices and endpoints
- Provide checklists for device selection and data strategy
- Consider the digital health technologies implications of the COVID-19 pandemic
- Demonstrate their future potential and impact on R&D

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Digital Challenges - Perspectives

Person Perspective

- Person/patient authentication
- Single portal channel
- Access to health record
- Completion and viewing PROMs

Supplier / Third Party Perspective

- "Open" systems, provider agnostic
- "Open" standards (data, processes, interoperability)
- Access to data

Community Perspective

- Embed digital inclusion in health, care and well being strategies
- Digital channels to support healthily lifestyle choices
- Digital natives and digital immigrants
- Recognising the average reading age of patients is 11

Healthcare Professional Perspective

- Single Sign-on
- Single patient view
- Access to near real time data
- Access to longitudinal patient data
- Virtual clinics
- Virtual care

Organisation Perspective

- Data quality
- Right **data**, data linkages and data flows – in near real-time
- **Processes,** pathways and removing unwarranted variation
- **Interoperability** and connectivity ecosystem
- Alignment to national policies
- Information Governance

- Articulating the value proposition
- Cyber Security

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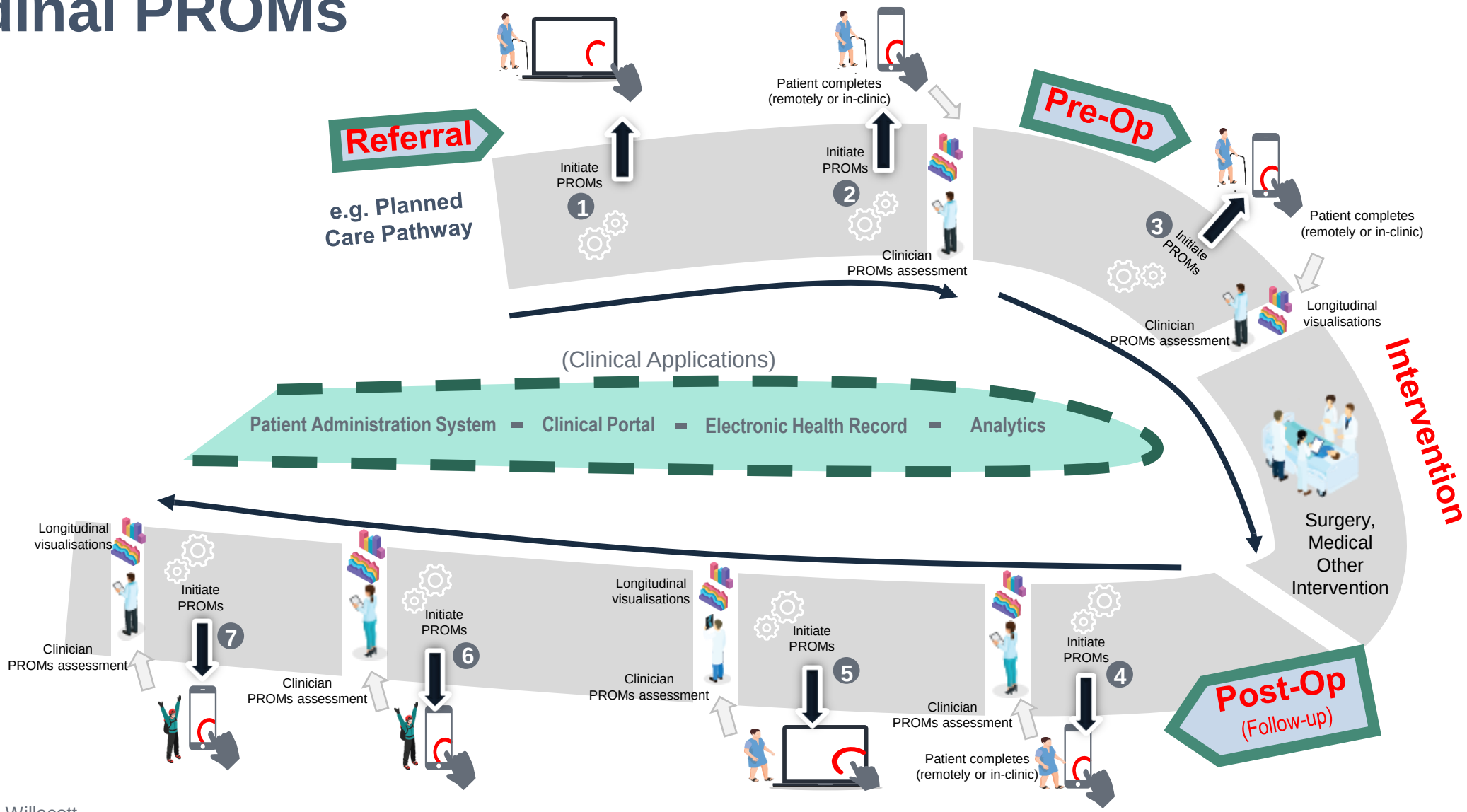
Multidisciplinary Patient Care Pathway – Longitudinal PROMs



Source: Said Shadi, Amanda Willacott

Business Needs - Patient Multiple Care Pathways

Illustration:

Chronic Condition

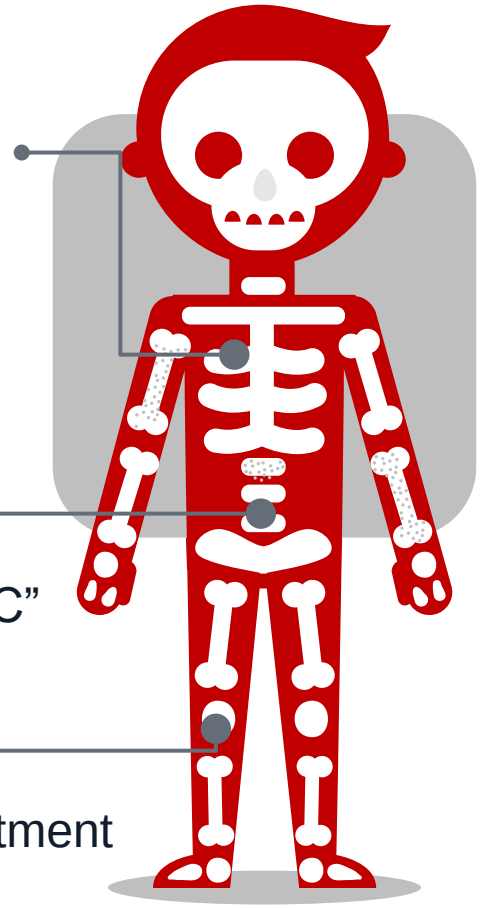
- Patient obtains specialist treatment from NHS Trust “A”
  (also the patients home Health Board)

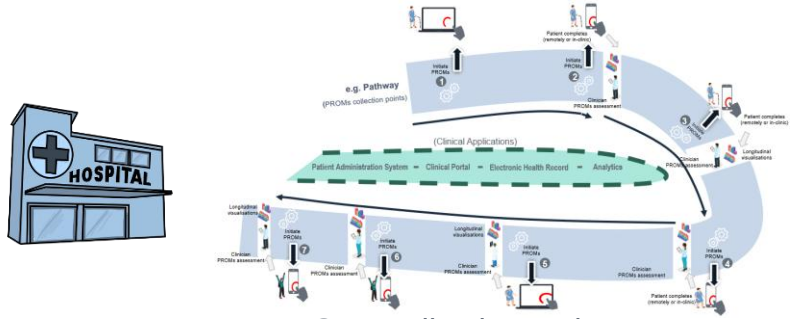
Cancer

- Patient obtains specialist treatment from NHS Trust “C”

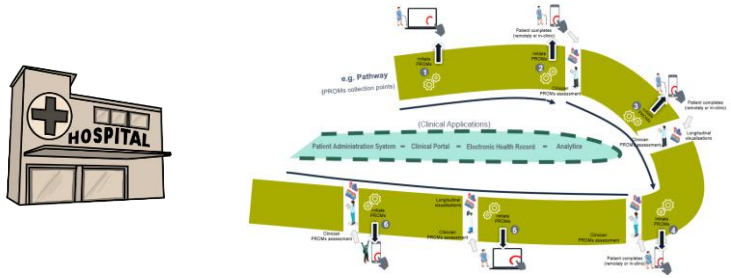
Planned Care

- Patient obtains specialist treatment from NHS Trust“B”





- PROMs collection pathway



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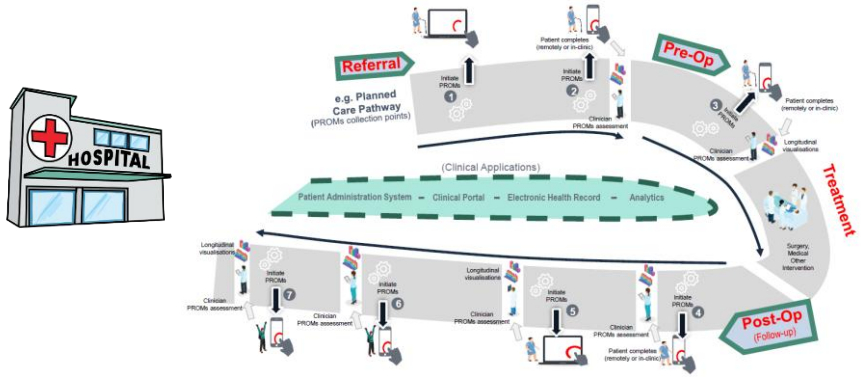
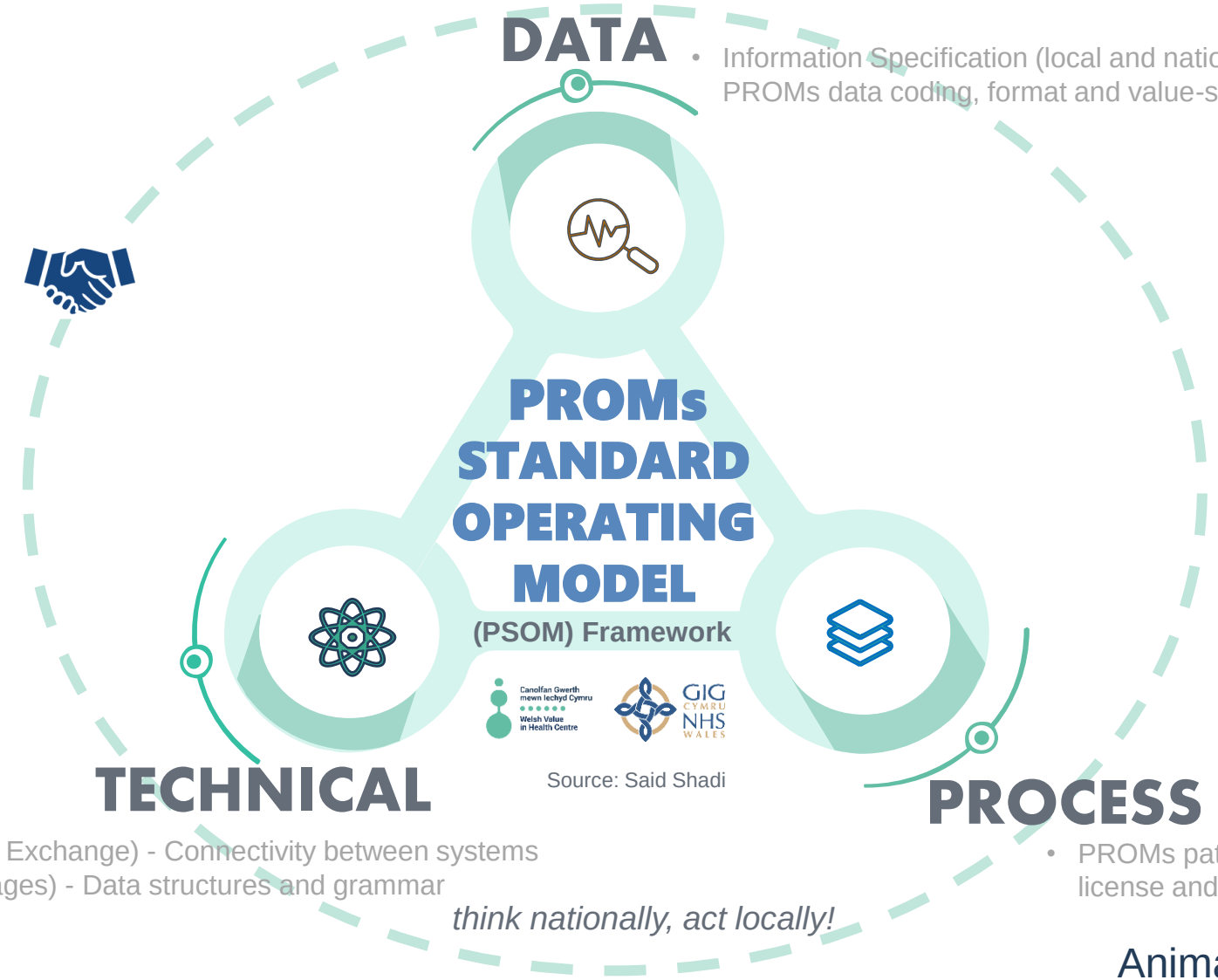


- PROMs collection pathway

NHS Wales PROMs - Digital Standards



- Information Specification (local and national PROMs data coding, format and value-sets)

- Interoperability (Information Exchange) - Connectivity between systems
- Interoperability (Data Packages) - Data structures and grammar

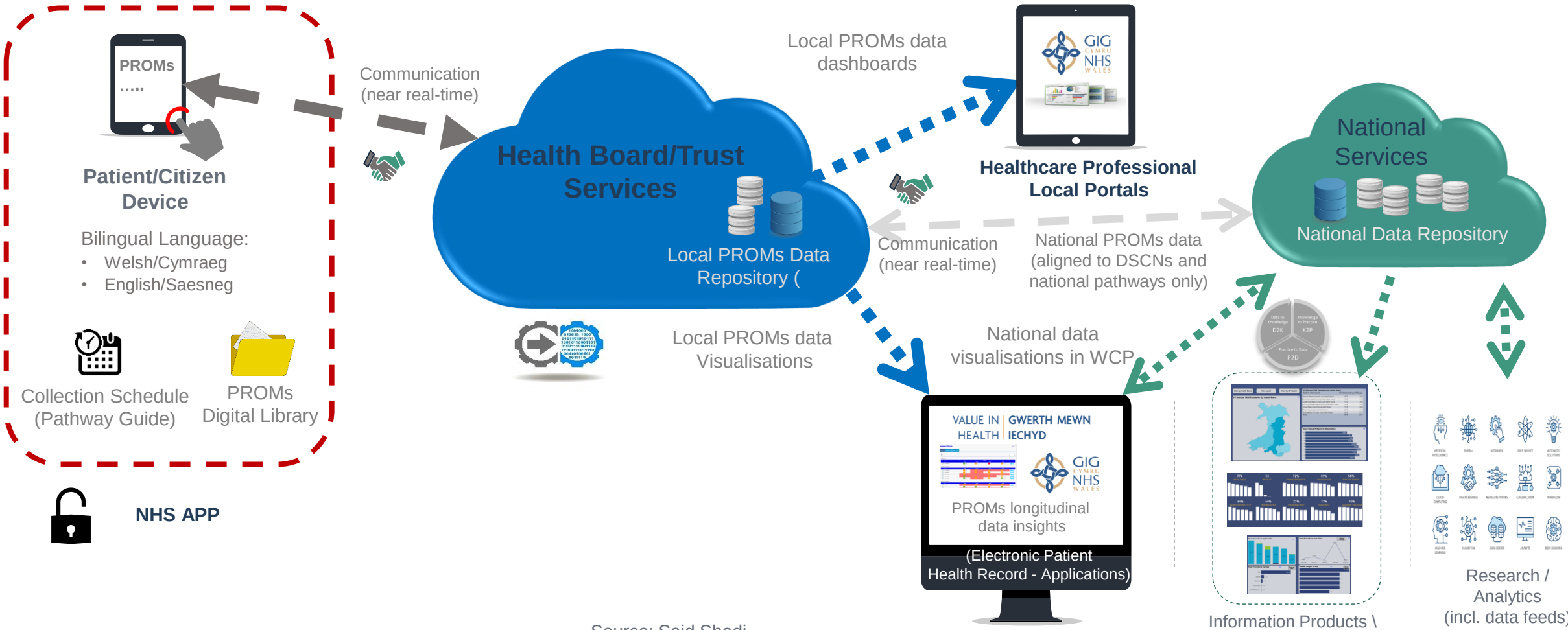
- PROMs pathway, schedule (collection points), license and PROMs use case stories/scenarios

Source: Said Shadi

think nationally, act locally!

Animation explaining PSOM

PSOM SERVICES – End to End Data Flows



Source: Said Shadi

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Accelerating value using Intelligent automation

Thank you

For further information, contact: Info@vailnova.com

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