Your Healthcare Prescription for Smarter Patient Outcomes

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Agenda

- Main Objectives
- Smarter Healthcare Capabilities
- Basingstoke & North Hampshire NHS Foundation Trust
- The Path to Smarter Healthcare
  - ECM Business Solution Entry Points

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Discussion Point

- What are the main reasons for considering ECM for Patient Records?
  - Improving Patient Outcomes
    - Greater Accessibility to patient records
    - Single view of patient records
    - Ability to share records with other internal and external “stakeholders”
  - Reducing Costs
    - Storage Space
    - Eliminating logistical costs
    - Greater efficiency of costly assets by reducing delays

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IBM's Smarter Healthcare Capabilities

A portfolio of business solutions focused on the local NHS that promote interoperability and provide Trusts with analytics capabilities,

- to improve patient outcomes
- to increase operational performance
- to reduce clinical risk.

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Healthcare Solutions Overview

IBM Software Solutions | Enterprise Content Management

IBM Healthcare Portal

IBM Health Information Exchange

IBM Initiate Master Patient Index

IBM Healthcare Analytics

IBM Care Pathway Optimisation

IBM Clinical eForms Engine
(Discharge Summaries/Clinical Correspondence)

IBM Healthcare Integration Engine

IBM Electronic Medical Records

IBM Medical Device & TeleHealth Integration

Databases

Multiple Databases

Paper, Images Sketches, Forms etc

Multiple Corporate Applications

Billing – HR Payroll

Multiple Clinical Applications

PAS – Order Comms – Pharmacy – Maternity – Pathology – ER/A&E

JCAPS Rhapsody eGate InterSystems

Existing Trust Integration Engine(s)

Patient-Connected Monitoring Devices

Home Monitoring Devices

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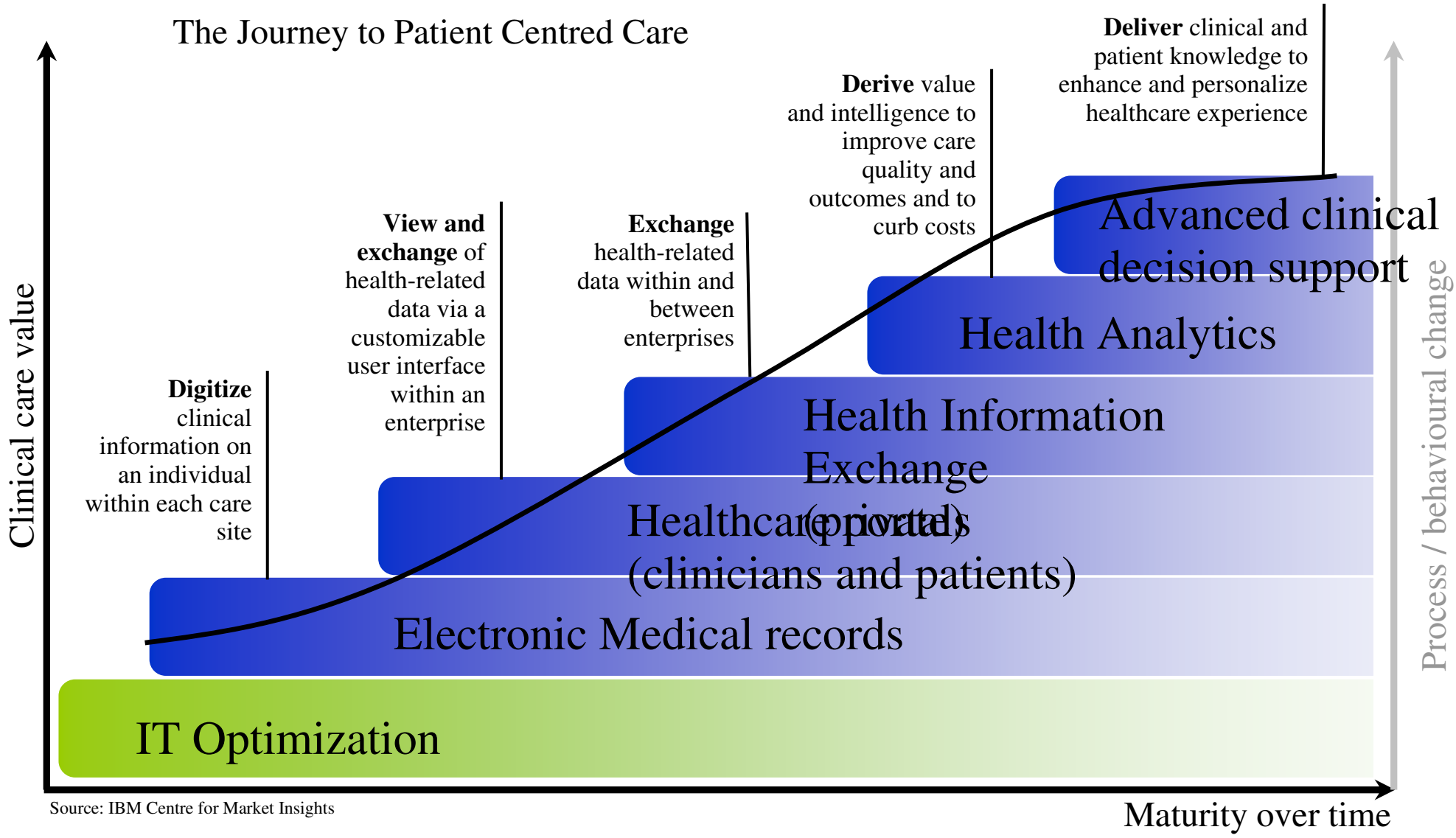
The path to Smarter Healthcare



Source: IBM Centre for Market Insights

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Basingstoke & North Hants NHS Trust

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Improving Patient Outcomes

- These are generic challenges across all NHS Trusts
  - Single view of all patient information through the Portal
  - Available on all devices
  - Drive to reduce costs whilst improving patient outcomes/safety
  - Reduce dependency on legacy Clinical 5 applications
  - Move towards Straight Through Processing
  - Providing a platform and infrastructure that can react to change and take control of that change
  - Service Oriented Architecture
  - Taking control of our paper records through EDM
  - Ability to analyse unstructured text/data and convert it into structured content

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What is Straight Through Processing?

- Data is captured and entered at the point of care not retrospectively
  - Don't let the Tail Wag the Dog i.e. don't develop clinical solutions based on corporate requirements, ensure that the clinical needs are met and that the bi-products are added value and data that can be used for research
  - Data capture tools need to add clinical value and be easy to use
  - All data is captured and managed electronically
  - All data is enriched along the patient's journey
- Coding data is mapped accordingly e.g. OCD10 and HRG etc (mapped to clinical systems automatically)
- External reporting is managed electronically with no manual intervention
  - Work towards common standards of external connectivity via protocols such as HL7
- All data routing is managed electronically with no manual intervention

What is Natural Language Processing?

NLP is at its simplest level the ability to take unstructured data and translate it into structured, searchable content

- Pros
  - Clinicians are able to work as they work now by entering plain text as they do with their current hand-written medical notes
  - Information within medical notes, discharge summaries, progress notes, handover notes etc will be made available for clinical research which in turn will hopefully improve patient outcomes
  - Clinical coding is simplified and automated through data mapping
- Cons
  - Because medical note taking is by it's nature unstructured quality is difficult to guarantee. Checking mechanisms and auditing will need to be strengthened. (Maybe the NLP Systems can put a quality score against blocks of text based on the context of the note)
  - Up-front effort is required to teach the system about content patterns. Fine tuning will always be required

High Level Vision and Strategy

IBM Software Solutions | Enterprise Content Management

Straight Through Processing - Improving Patient Outcomes through functional efficiency

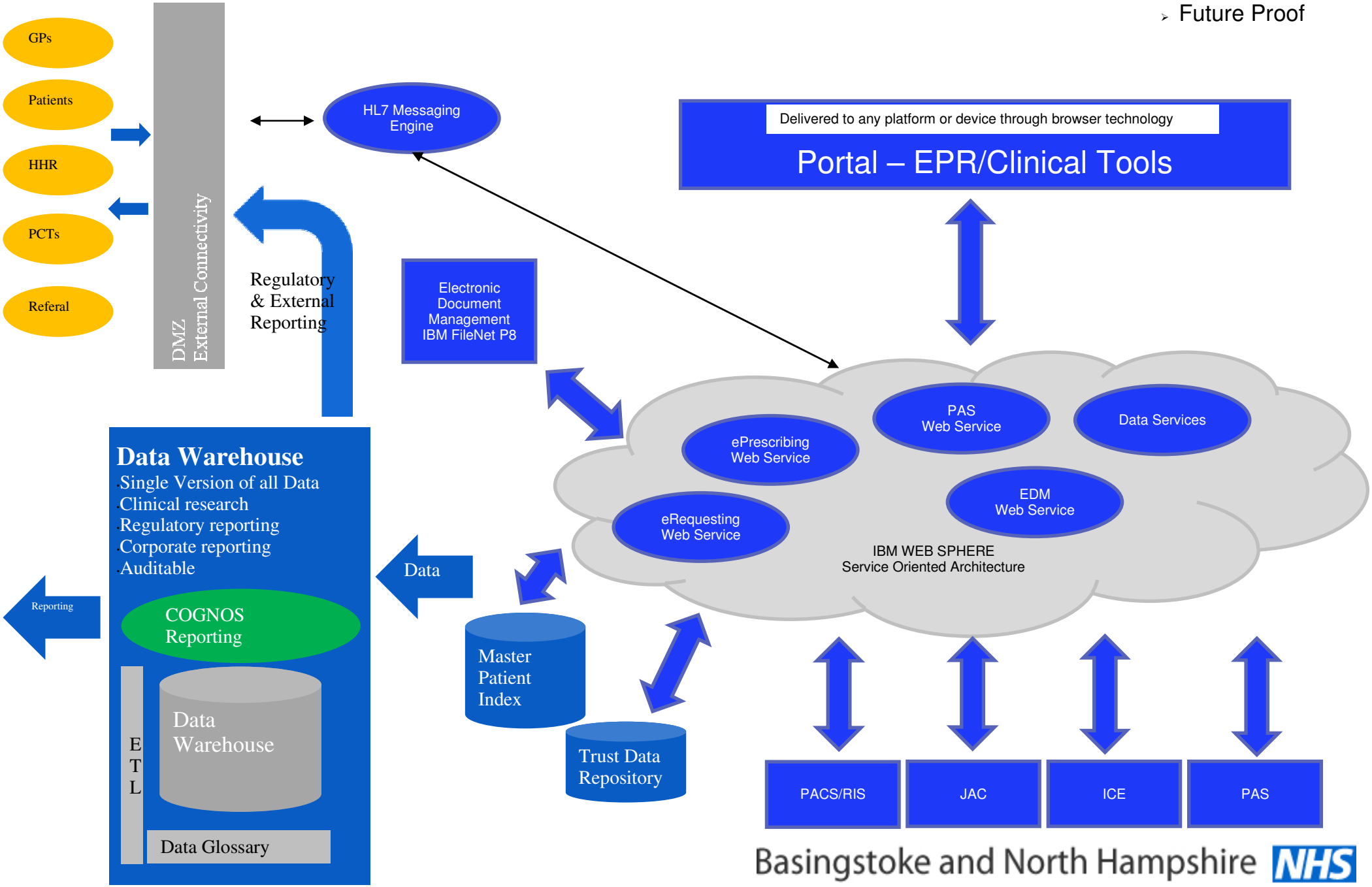
Decommissioning of PAS Systems					Natural Language Processing
	Natural Language Processing	EPR – Phase V	Trust Database		
IBM Initiate ? Master Patient Index	Data Warehouse – Phase IV	EPR – Phase IV	Trust Database	Research Tools	Natural Language Processing
IBM Initiate? Master Patient Index	Data Warehouse – Phase III	EPR – Phase III	Trust Database	Electronic Doc Management	
IBM Initiate? Master Patient Index	Data Warehouse – Phase II - TBD	EPR – Phase II – Merge with WECHT	Trust Database	Electronic Doc Management	
Gap Analysis and development plan	Electronic Doc Management	EPR – Phase 1. Combined Handover Tool	Trust Database	Data Warehouse – Phase 1 Combined Corporate Reporting	
Combined Buy Sell Hold Strategy					
BNHFT and WECHT Buy Sell Hold Map – Define Clinical Functions					

2015
2014
2013
2012
2011

Strategic Delivery Path

Basingstoke and North Hampshire NHS
NHS Foundation Trust

- Flexible
- Scalable
- Interchangeable
- Re-useable
- Future Proof

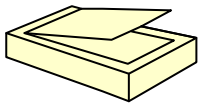


Basingstoke and North Hampshire NHS
NHS Foundation Trust

System Schematic

Approx. 3,000 users around the facility

IBM P8 Server with application, Websphere and Database



Approx. 75 scanning devices, 16 copies of scanning software

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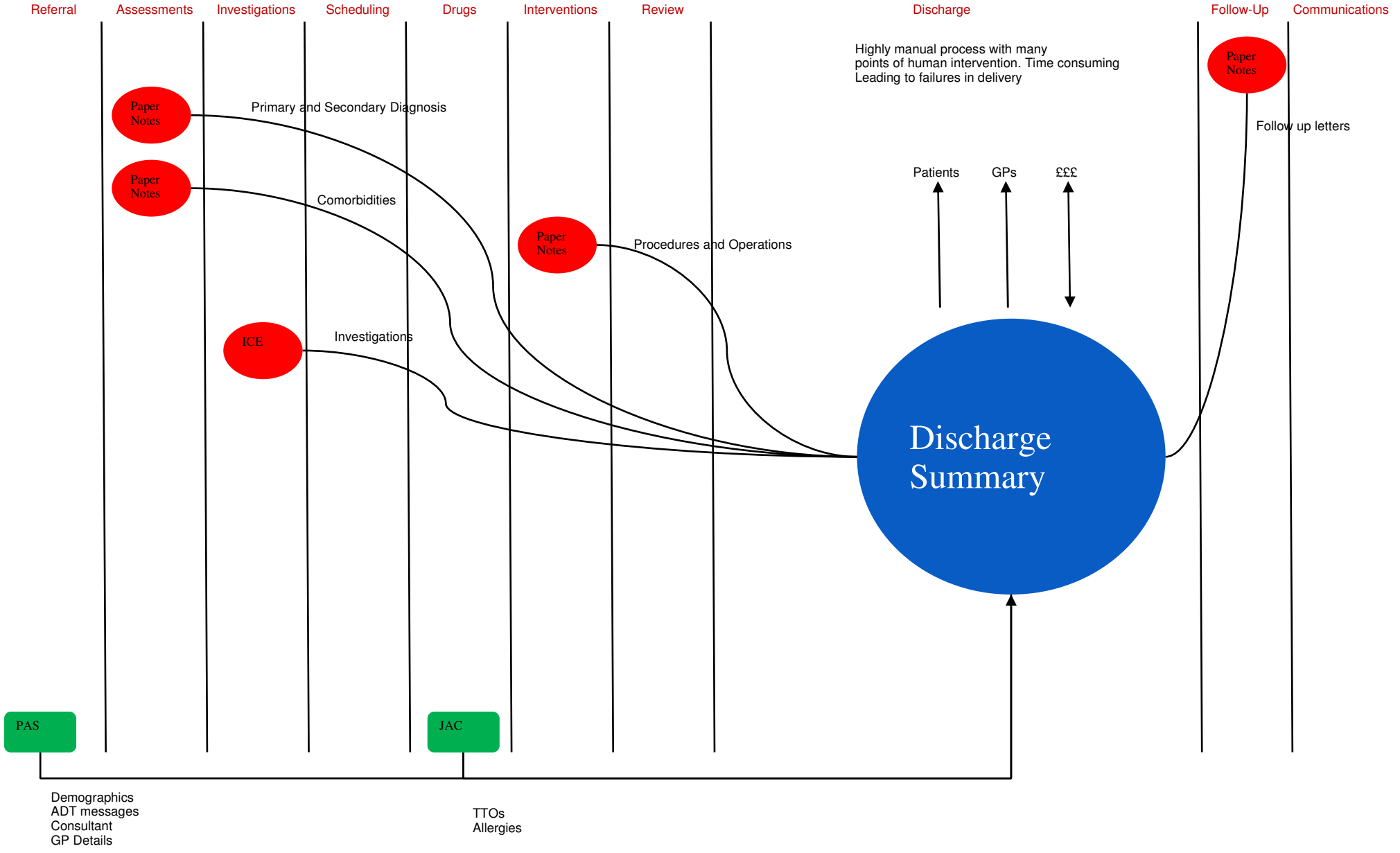
The Drivers for STP (example – Discharge Summary)

- Internal Operational cost constraints – Drive to reduce costs whilst improving patient outcomes
- Increased numbers of Sites to manage
  - Clinicians will need access to information anywhere
- The more the Trust can automate the less need there is for manual intervention
    - Fewer mistakes
    - More resource to direct at clinical opportunities
    - Better patient outcomes
    - Ability to deal with higher volumes
- Regulatory change e.g. Deeper scrutiny on the Trust's numbers and patient outcomes. The Trust will need solutions in place that can react to change
- GPs requiring more instant delivery of information
- Patients requiring more instant delivery of information
- Standardisation of output through de facto protocols (e.g. HL7). This will be driven from external pressures and competition for business
- The Trust can't ignore that although there are cultural and financial pressures that make change and automation complex and challenging, the fact is change is coming, and as other Trusts automate and provide external connectivity and access we'll have to do the same. Being part of that change is better than having it forced upon us

The Challenge (example – Discharge Summary)

- Large amounts of manual intervention to generate a Discharge Summary
- Changing guidelines on the content of a Discharge Summary
- No clear demarcation lines on roles and responsibilities for the generation of Discharge Summaries
- Discharge Summary content is derived from paper based records (although some information is coming from the underlying clinical 5 Systems)
- The use of technology is culturally not embedded into the Trust

Visual Representation of Current Process



Patient Journey

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IBM Enterprise Content Management

The path to value lies along one or more specific *business solution entry points*

Document imaging & capture

- Enterprise report Management
- Document capture automation
- Production imaging

Social content management

- Office document management
- Social content & collaboration
- Platform standardization & consolidation

Advanced case management

- Comprehensive case management
- Integrated collaboration and rules
- Case analytics
- Content-centric BPM

Content analytics

- Content assessment
- Master content
- Enterprise search

Information lifecycle governance

- Content collection & archiving
- Advanced classification
- Records management
- eDiscovery

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Contact Details

Sunny Patel
Medicinal Chemistry BSc Hons
ECM Brand Specialist
Email: sunny.patel@uk.ibm.com

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