Coding for Success
Simple technology for safer patient care

Dr Helen Lovell

Healthcare Quality Directorate

Auto Identification and Data Capture Project

- Sept 2005 - brief to recommend whether DH should develop a standard for AIDC coding in healthcare.

- Primary focus on patient safety – other benefits recognised

- Manufactured items (medicines and devices) and systems within healthcare settings

- Initial phase showed 'islands of application' within NHS; wider uptake in industry

- DH published 'Coding for Success' in February 2007, confirming policy support for auto-id and GS1 as coding standard for products.

- Recommendations plus programme of support to the NHS to encourage wider uptake
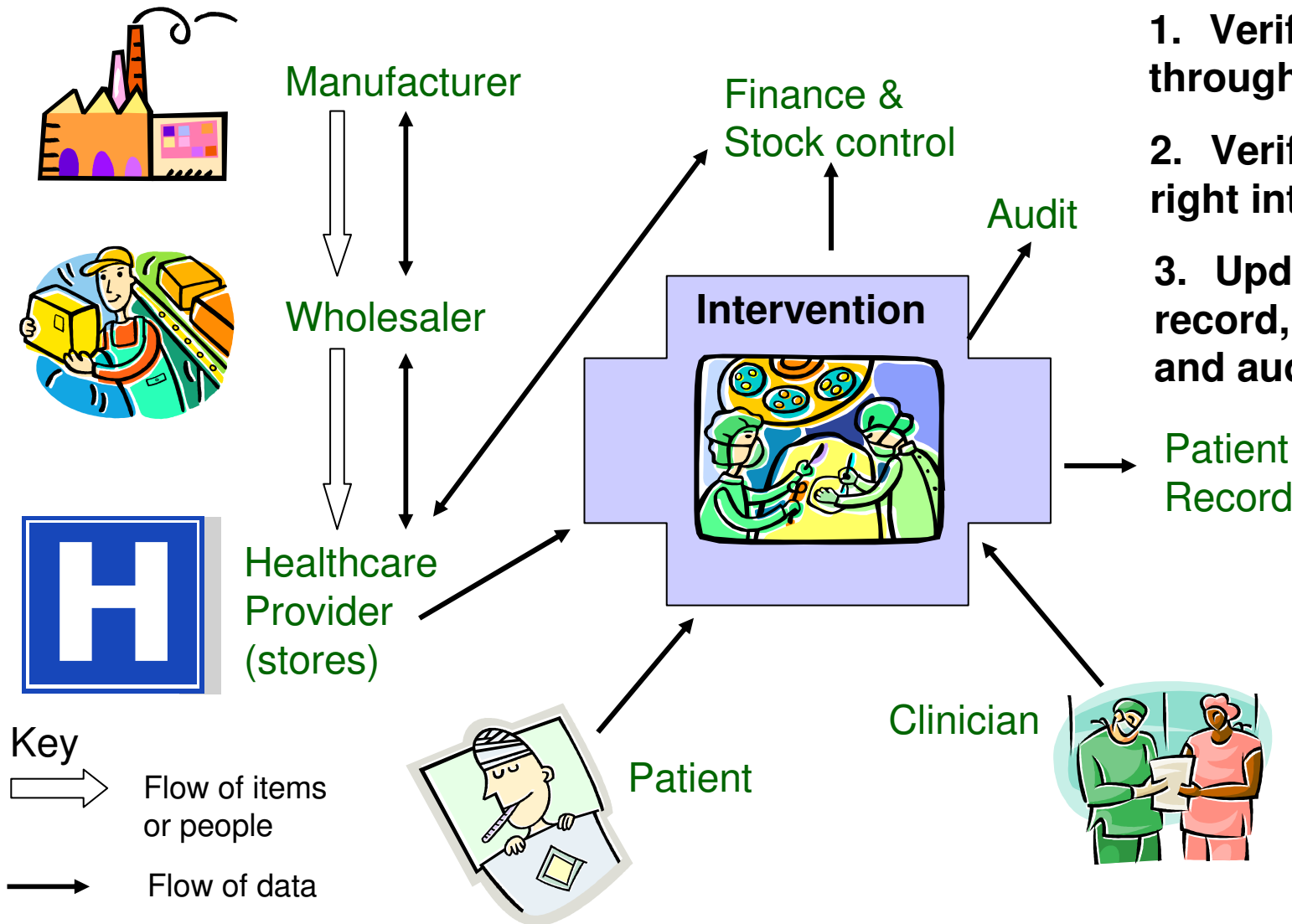
The context: errors in healthcare

- In the UK, about 10% of inpatient episodes result in errors of some kind, of which half are preventable

- Of 8 million admissions to hospital in England each year, about 850,000 result in patient safety incidents which cost the NHS about £2 billion in extra hospital days.

Ref: C Vincent, G Neale and M Woloshynowych (2001), Adverse Events in British Hospitals: Preliminary retrospective record review, BMJ 322:517-19

AIDC can reduce errors

- Key applications
  - **Verification** – confirming the identity of a person, item or procedure
  - **Data capture** – using AIDC to capture serial or reference numbers eliminates transcription errors
  - **Supply chain issues** – effective track and trace for stock control (right product, right place, right time) and product recall
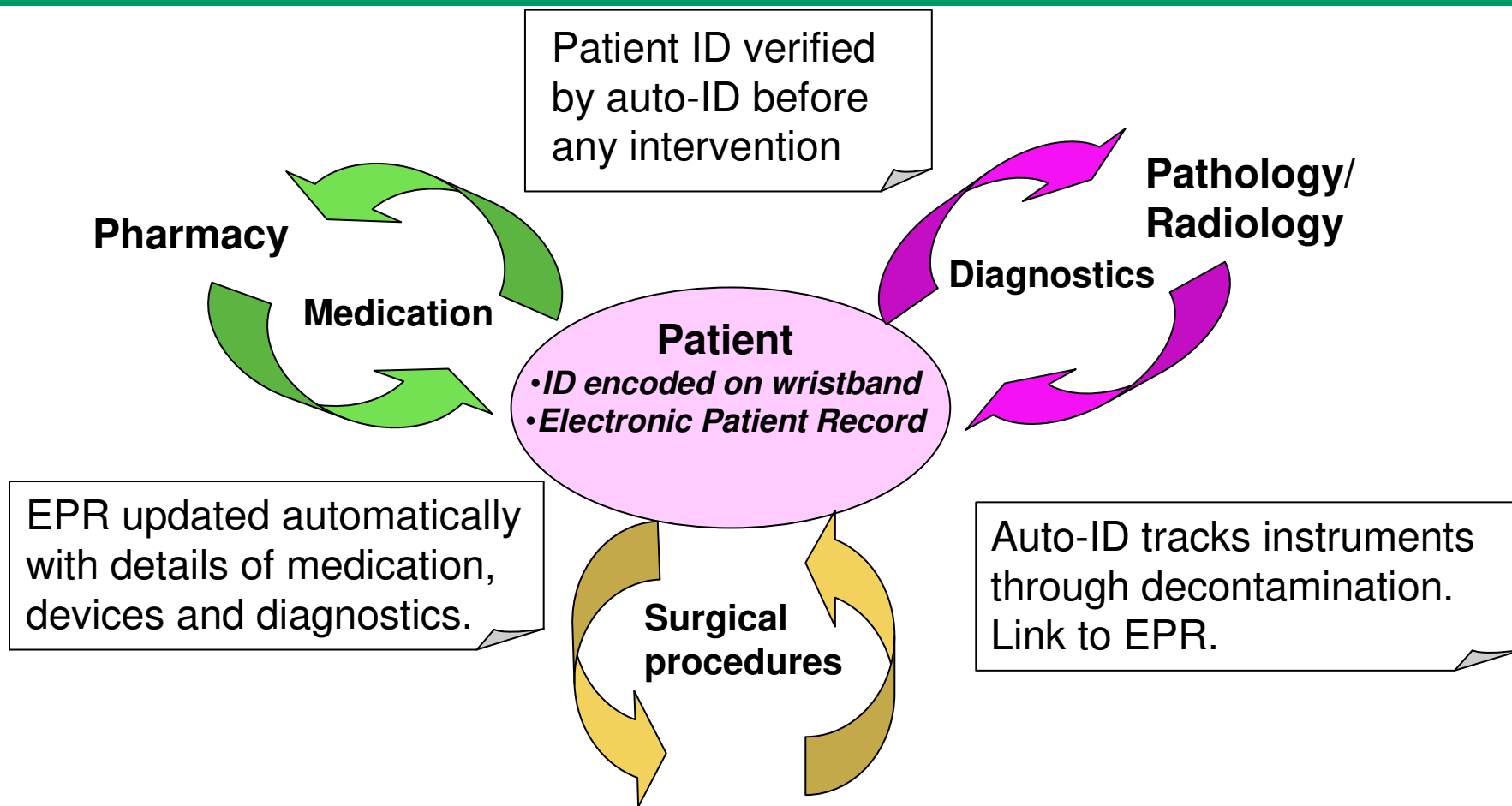
The Vision

Manufacturer

Wholesaler

Healthcare Provider (stores)

Finance & Stock control

Intervention

Audit

Patient Record

Patient

Clinician

Key

Flow of items or people

Flow of data

1. **Verify products through supply chain**

2. **Verify right patient right intervention**

3. **Update patient record, stock control and audit**

But what will this feel like for patients?

The vision: patients

Patient ID verified by auto-ID before any intervention

Pharmacy

Medication

Pathology/ Radiology

Diagnostics

Patient
- *ID encoded on wristband*
- *Electronic Patient Record*

EPR updated automatically with details of medication, devices and diagnostics.

Surgical procedures

Auto-ID tracks instruments through decontamination. Link to EPR.

Evidence: patient safety

✓ Combined electronic prescribing, automated dispensing and bedside verification reduces prescribing (3.8% to 2%) and administration errors (7% to 4.3%) and patient ID checks increase from 17% to 81% (Charing X)

✓ Bar coding use in blood transfusions associated with reduced transfusion errors (Oxford)

✓ Vaccines – use of batch no or expiry date in code form associated with reduced immunisation errors. (Canada)

Evidence: other benefits

- Cost savings
  - ✓ Stock control – cost per line of purchase order reduced from £7.05 to 39p when AIDC implemented (Leeds)
  - ✓ Efficiency – better management of patients through surgery allows more patients to be treated per session, saving £270K per year (Birmingham)
- Time savings
  - ✓ Electronic verification of blood transfusion halves the total time for the procedure (Oxford)
- Increased job satisfaction
  - ☺ Installation of dispensing robot reduces time spent on menial tasks, and reduces staff turnover (various)

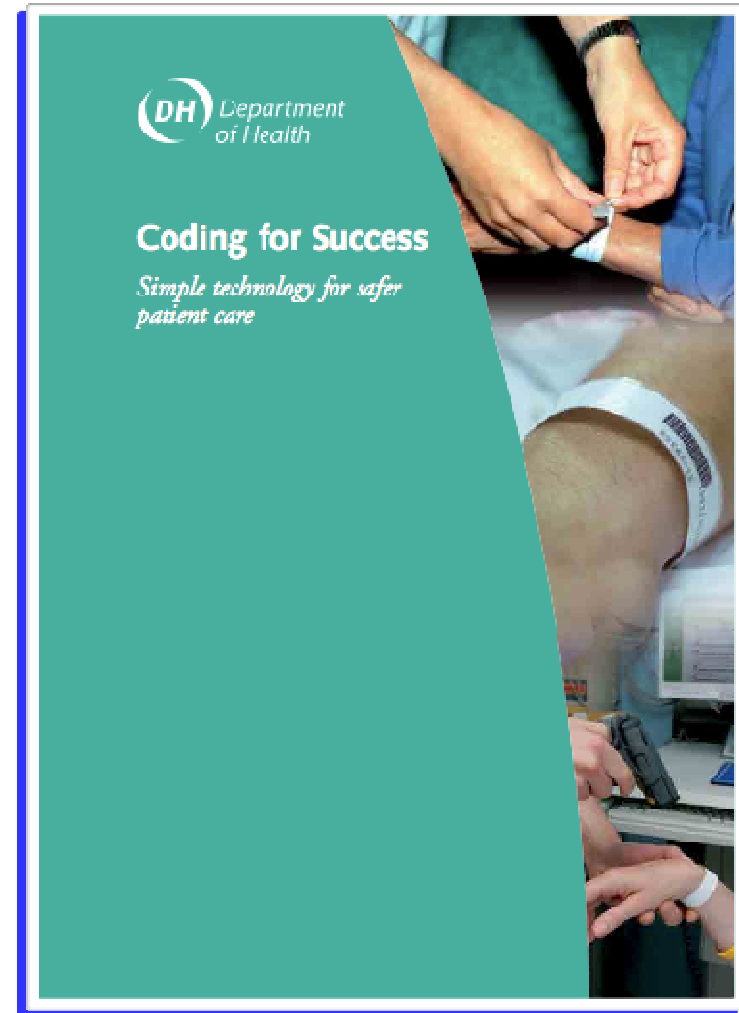## Progress in implementation: February 2007

What do we need?

- Manufacturers need to code products.

- NHS needs to use codes within wider systems.

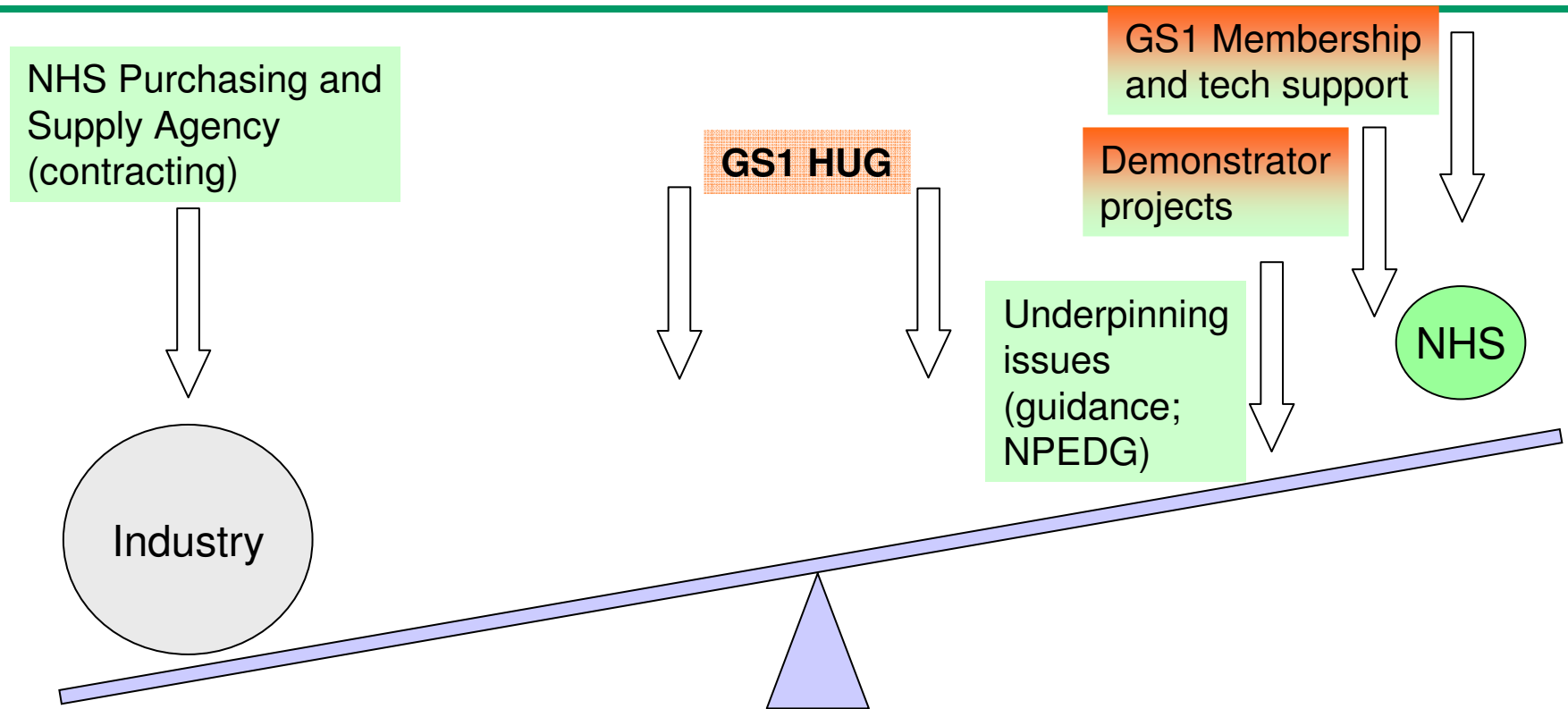- Agreement needed on common coding standard

What do we have?

- ☝ >90% of medicines have GTIN product codes;
- ☞ devices more patchy.

- ☞ NHS fragmented – mostly isolated applications.

- ☞ Underpinning systems (eg patient id) need to be more robust.

- ☝ GS1 System offers best coding solutions

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Coding for Success: Recommendations

- We need to learn more about how to use this technology in the NHS
  - Coding applications in the NHS should be evaluated and lessons shared

- Products used in healthcare need to have GS1 codes

- GS1 System should be used for coding applications in the NHS
  - Wider benefits will come through as the IT infrastructure across the NHS develops in the coming years.

(DH) Department of Health

Coding for Success
Simple technology for safer patient care

www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_066082

Action: the balancing act

NHS Purchasing and Supply Agency (contracting)

GS1 HUG

GS1 Membership and tech support

Demonstrator projects

Underpinning issues (guidance; NPEDG)

NHS

Industry

• Industry is further ahead – need to rebalance with more support to the NHS at this stage, before moving forward together.

• Work with HUG to shape GS1 coding standards for the future.

Supporting the NHS: Connecting for Health and GS1

- Partnership agreement between Connecting for Health and GS1UK
- GS1 membership open to all NHS organisations
- Dedicated service desk facility at GS1UK for all users within healthcare

- Three focus areas for targeted support:
    - Decontamination of sterile surgical instruments
    - Medicines manufacturing (within hospital sector) and associated pharmacy projects
    - Patient identification

- Keeping in touch with plans in other areas (asset tracking, inventory management, medicines tracking, implant traceability, patient samples, loan sets…)

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Decontamination of sterile surgical instruments

Issue

- NHS National Decontamination Project is establishing 18 'decontamination supercentres', which require track and trace of surgical instruments.
- Track and trace a generic requirement for all NHS organisations

Action

With the National Project:
- Ensure AIDC requirements are fully assessed.
- GS1 application guidelines available
- GS1 coded instruments now available
- Case studies being developed from early adopters (Nov 2007)

For organisations outside the National Project
- NHS and industry workshops
- Consultation with solution providers – upgrade of systems to GS1

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Medicines manufacturing (and associated pharma)

Issue

- Production and over-labelling of medicines in hospital pharmacy units tend not to be coded
- Robotic dispensing becoming more common – demand for coding is increasing.

Action

- Establish current procedures and practices through visits and survey
- Develop case studies
- Identify best practice (with National and Regional Steering Boards)
- Develop '10 step guide'
- Workshops and other dissemination to facilitate uptake

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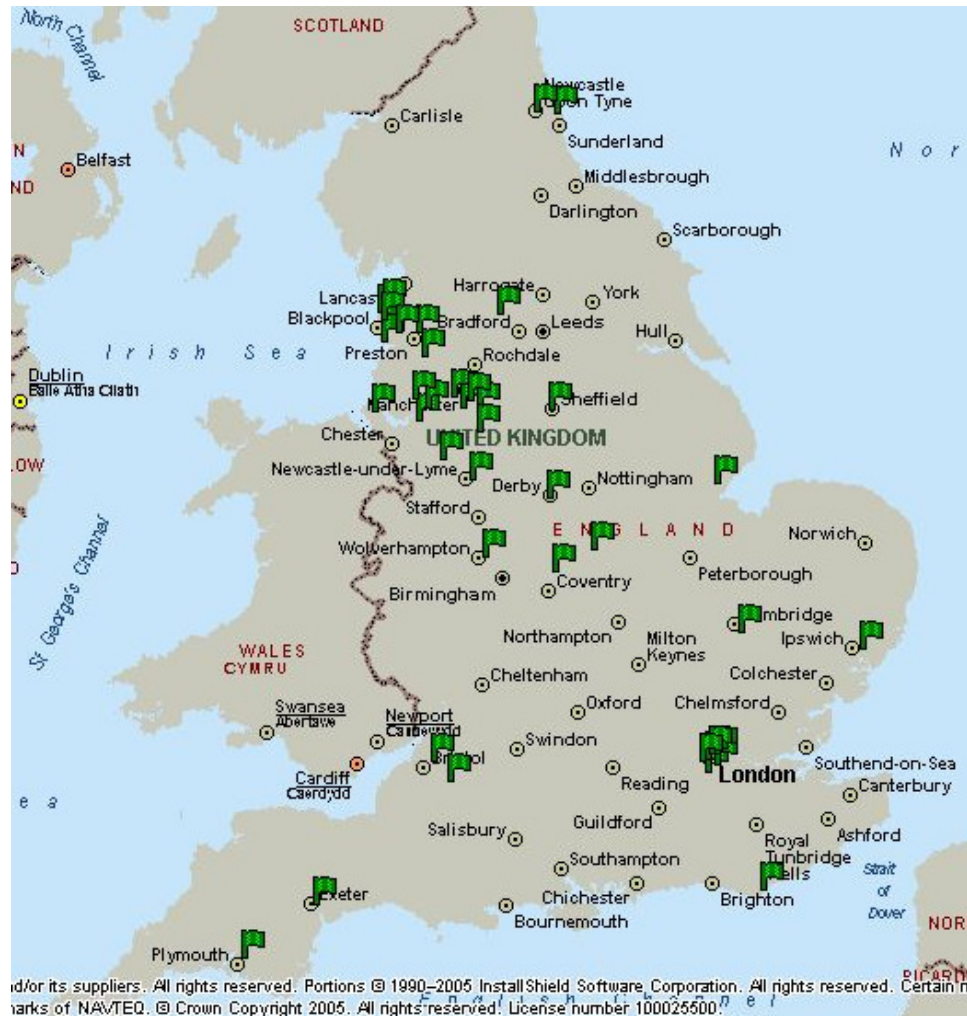# Patient identification

Issue

- Around 25,000 reports of patients being mismatched with care Feb 2006 to Jan 2007. >2900 of these associated with use of wristbands
- Wristbands are an ideal carrier for machine-readable verification of patient ID
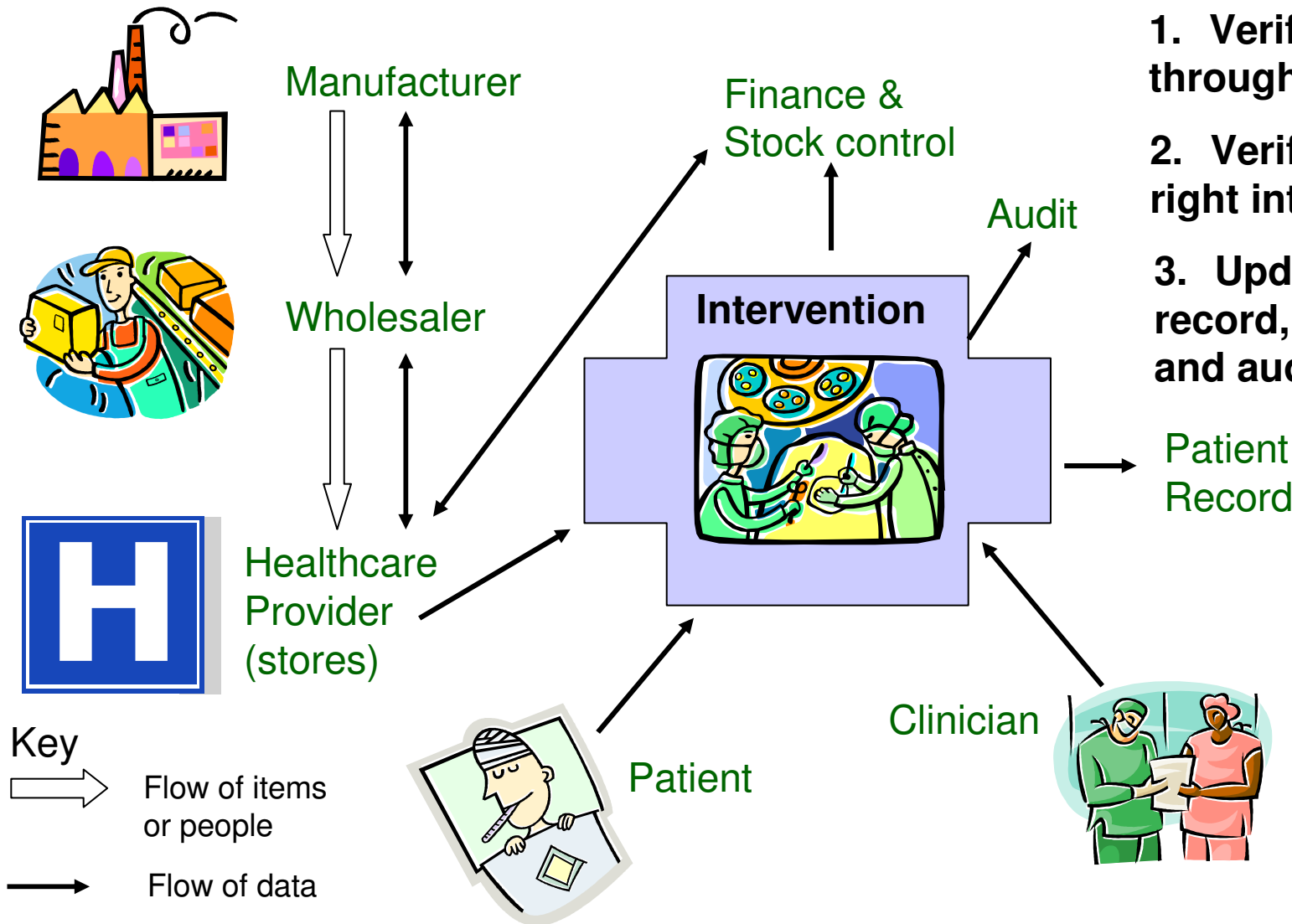
Action

- NPSA Safer Practice Notices:
- *Standardising wristbands improves patient safety* (Jul 2007)
- *Your guide to implementing standard wristbands* (Jul 2007)

- GS1/CfH team now working with hospitals to develop patient ID solutions for various applications.
- Case studies to follow
- Workshops and other dissemination to facilitate uptake

Word is spreading… >45 hospitals now involved…. Increasing all the time. Starting to explore other healthcare sectors
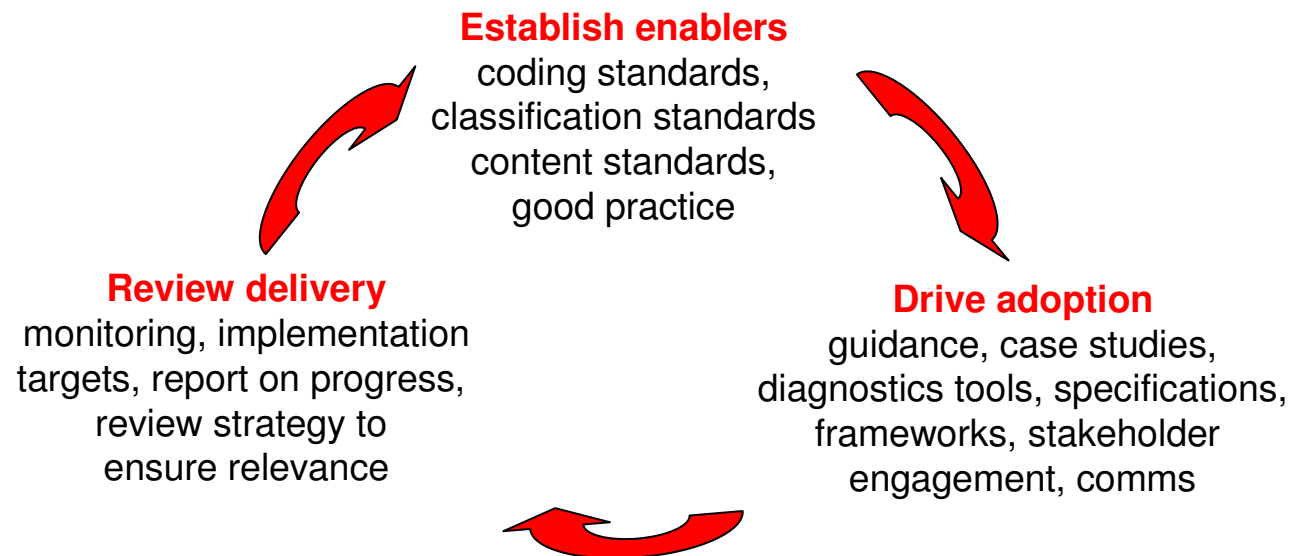
The Vision: tackling the underpinning systems

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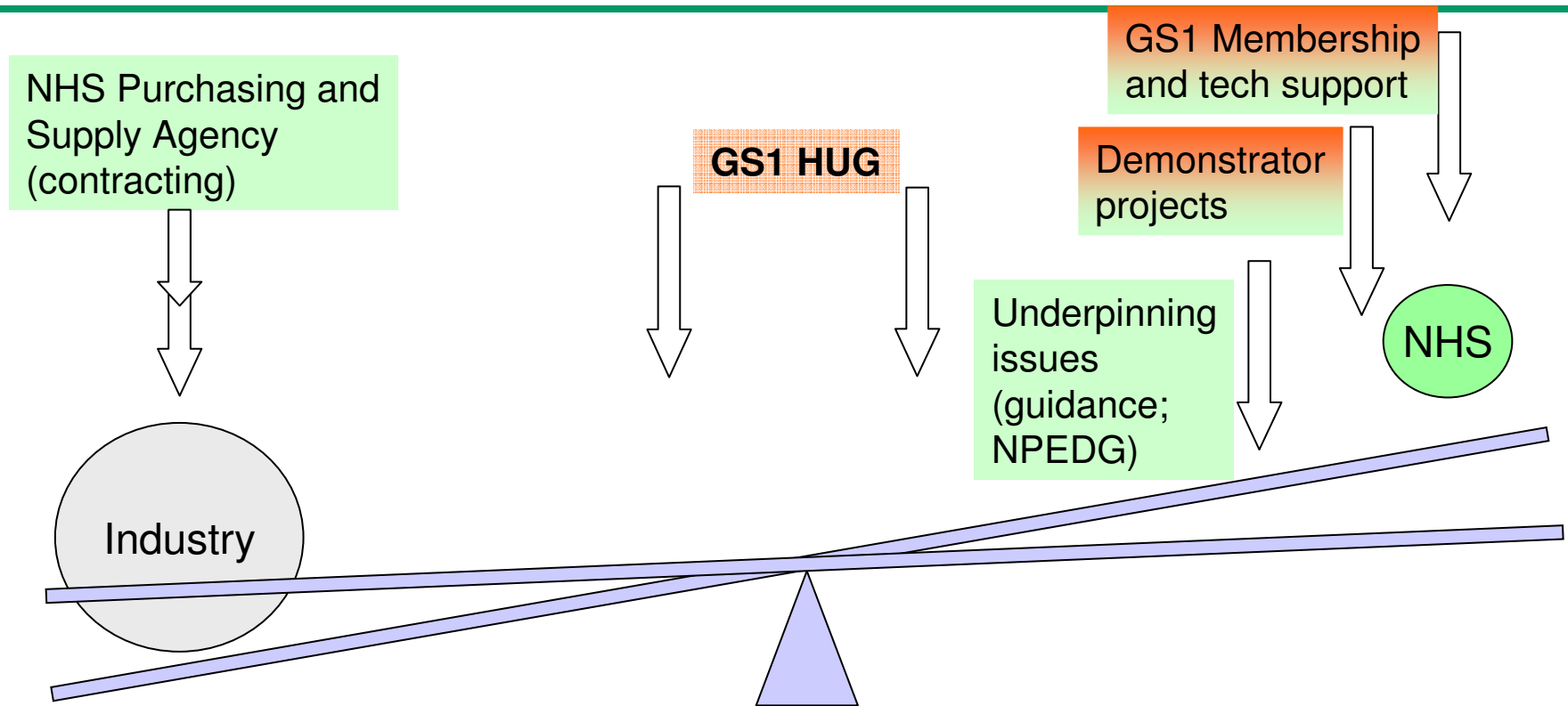# Underpinning systems: the procurement challenge

The vision: within three years the enablers required for the effective use of eEnablement technologies in procurement will be in place across the NHS supply network.

Establish enablers
coding standards,
classification standards
content standards,
good practice

Review delivery
monitoring, implementation
targets, report on progress,
review strategy to
ensure relevance

Drive adoption
guidance, case studies,
diagnostics tools, specifications,
frameworks, stakeholder
engagement, comms

NHS procurement community has established the NHS Procurement eEnablement Delivery Group (NPEDG), which will be working in partnership with GS1 UK HUG

NHS Supply Network: includes goods and clinical services, as well as support services.

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Action: the balancing act

NHS Purchasing and Supply Agency (contracting)

GS1 HUG

GS1 Membership and tech support

Demonstrator projects

Underpinning issues (guidance; NPEDG)

Industry

NHS

• The rebalancing process has begun.

• HUG will continue to be a key forum for driving action by all stakeholders.

Key messages

- Department of Health and its stakeholders believe in the potential of auto-identification to improve patient safety.
- Support programmes well established – both clinically led and through the supply chain.
- NHS engaging more strongly
- GS1UK HUG established
- Look forward to industry rising to the challenge.

All stakeholders need to continue working in partnership to achieve patient safety gains

GS1 UK HUG launch meeting on Wednesday afternoon – come along and get involved!

Contact points

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(GS1UK – supporting NHS uptake)

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NHS Purchasing and Supply Agency – NHS e-procurement enablement programme.

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