

The Impact of Supply Chain Transformation in Health Systems

Case Study:
National Health Service, England 

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Introduction

The National Health Service (NHS) in England case study provides emerging empirical evidence of the health system level impact of implementing supply chain transformation to improve safety, quality and performance. An overview of the progress achieved to date, leadership strategy, outcomes and impacts of supply chain transformation in six demonstrator site NHS health trusts (trusts) is examined.

The World Health Innovation Network (WIN) conducts research on the impact and models for scalable health system supply chain innovation to track and trace products from bench to bedside, to patients, based on global standards. WIN's goal is to generate empirical knowledge and key learnings about the value of supply chain implementation in health systems across global jurisdictions.

National Health Service, England

NHS is a publicly funded and governed system comprised of over 8,300 separate organizations with over 1.5 million staff providing services to a population of 54.3 million and over 1 million patients every 36 hours. In 2016/17 the NHS budget was £107 billion. In 2017 the Commonwealth Fund ranked the NHS as the best health system in terms of efficiency, effective, safe, coordinated, patient centred care. The NHS has a strong leadership mandate to transform supply chain infrastructure to advance patient safety, clinical productivity and operational efficiencies to enhance return on investment.

Supply Chain Implementation Strategy



“Making the NHS the safest and most transparent healthcare system in the world.”

- Department of Health invested £12 million to implement the program
- £4.4m in actual savings; savings expected by March 2018
- Six demonstrator sites selected from 28 applications to participate in the strategy
- By 2021 will have all 154 trusts implemented

A series of adverse events in England led the government to focus on traceability as a strategy to improve safety and quality of care. In 2014, the government's NHS eProcurement Strategy (Scan4Safety) mandated all 154 trusts adopt GS1 global standards for supply chain processes and Pan European Public Procurement On-Line (PEPPOL) standards to enable digital transactions to create infrastructure to improve patient safety across the health system by 2021.

Initially, six demonstrator trusts were chosen to implement the program and £2 million was provided to each trust. The three essential practices to be achieved are: tracking and traceability of all products from manufacturer to patient, automated ecommerce transactions between trust and suppliers, and an automated capacity to remove products from inventory in the event of a recall. The outcomes of this case reflect the early implementation of the program infrastructure in highly specialized, high cost settings such as surgery and cardiac programs.

Supply Chain Transformation—NHS England



Findings

The evidence of impact and return on investment demonstrated in this case study reveal remarkable progress toward achieving the vision of “making NHS the safest and most transparent healthcare system in the world.”

1. *Leadership—A Driver of System Transparency*



- Government priority to improve patient safety is a driver.
- The NHS mandate for an integrated health system supply chain strategy is an accelerator.
- Investment, clear process and deliverables enable adoption and scale.
- Leveraging supply chain transformation to create transparency enables learning, accountability, evidence informed decision-making and performance.

2. *Return on Investment (ROI)—Exceed Department of Health Projected Outcomes*



- Achieves 4:1 ROI on inventory savings alone from waste reduction.
- Average savings of £2.4 million per trust realized from operational efficiencies and clinical time savings.
- Redirects the equivalent of 16 full-time staff to patient care per trust.
- The ROI suggests this program may be “self-funding.” Trusts may generate sufficient savings from inventory optimization and waste reduction to implement the program without further government investment.

3. *Performance & Accountability—Benefit Clinicians, Supply Chain Teams and Suppliers*



- Integrating supply chain and clinician teams enhances decision-making to improve safety, quality and cost.
- Near real-time data increases capacity to examine variations, eliminate waste and generate evidence-based best practice clinician decisions and outcomes.
- Traceability from manufacturer, to bedside, to patient provides real world evidence of product and process performance linked to patient outcomes.

Conclusion

This seminal research demonstrates the value and impact of embedding and scaling supply chain based on GS1 global standards and PEPPOL standards in health systems. This case documents impressive findings about the importance of transparency in creating the foundation for health system accountability informed by data and evidence. As the program scales, further evidence of the impact and the value of health system transparency and accountability and patient safety can be examined empirically.

Transparency may be the new currency that achieves an accountable, safe and sustainable health system.

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