The Challenges and Opportunities for Sustainability in Healthcare

Barts Health strategy, approach and delivery of a sustainable, healthcare outcomes for the future

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Head of Sustainability and Patient Transport
Barts Health NHS Trust
Barts Health – an introduction

Our portfolio

- Large acute teaching trust, 5 hospital sites spanning 4 London boroughs
- Centre of excellence: cardiac, cancer, stroke and trauma services
- >574,000M² real estate
- Occupying our buildings 16,000 staff
- >2.3M patients every year
- Turnover £1.25bn
- £1.3bn PFI
- Diverse building stock
- 3,000 reactive tasks and 700 planned tasks
- £15M annual energy spend (11% FM budget)
Strategic Vision

Delivering behavior change from the Board

Organisational vision; “Our ambition is for east London to have health services in which we can all take pride. These services will reach beyond our hospitals and provide care where it is needed most - at home, in our communities, or in specialist facilities across the boroughs…”

Sustainable vision; “Barts Health is committed to delivering world-class healthcare and to ensuring our organisation remains fit to do so both now and in the future. We understand that we need to embed a culture that enables early adoption, adaptation and innovation to be driven throughout our organisation and into the core of the health services we deliver.

Our ambition is to be the most sustainable trust in the UK by 2020.”
Our Health Estates

Working together to improve our care

• Partnership approach embedded in everything we do
• The challenges;
  – £80m backlog maintenance
  – Increased and aging population
  – £30bn funding gap - £21bn being driven through efficiency
  – Expectations are increasing
  – Research advancements meaning more intensive care is provided
  – Natural resources are running out
“Climate change is the greatest global health threat/opportunity of the 21st century”

The Lancet (2009/2014)
Environmental Sustainability

Our Carbon Performance (Energy)
Financial Sustainability

Price of energy set to rise 50% by 2020

Barts NHS Trust Electricity Cost / Consumption

- Consumption 2013-15
- Cost 2013-15
- Linear (Consumption 2013-15)
- Linear (Cost 2013-15)
Social Sustainability

The health impact on society

**Fuel Poverty** - costs the NHS £850m a year, 27,000 excess winter deaths from cold homes

**Air Quality** – health costs £20bn a year (twice as much as obesity), 9,500 Londoners die prematurely each year

**Childhood Obesity** – costs the NHS £5bn a year, 25.5% of 11 year old children in East London obese [2012]
Our approach
How we impact our system

What if?

Our achievements

1. Trust
   - Saving energy
     - £2.0m saved
   - Low emission supply chain
     - £1.5m saved
   - 28% saved
   - Our approach

2. Operations
   - 32% lower carbon footprint
   - 25% fewer patient privacy issues
   - £428,000 saved in energy with 10% per year

3. Our community
   - £9.2 million saved
   - Cleaner air for East London
     - 16 million people reduced through reduced travel
     - One 5,000 free trips
   - Protecting patients
     - 500 staff
   - Switch your trip
     - 800 staff
   - 100% healthy meals
   - 800 staff

4. Our goals
   - Warm and well
     - 100% of all staff
   - Cold, damp environments

5. Our achievements
   - 8,000 staff trained
   - Reduced waste
     - 123,000 kg CO2
   - £1.7m saved
   - Water
     - 48,511 tonnes of CO2 saved
   - Nhs sustainability day
     - £1.53 million saved
   - Barts health sustainability programme

6. Our people
   - NHS sustainability day
     - £8.32 million
   - 446 organisations involved
   - 79 staff savings identified
   - 1,400 staff engaged
Case Studies

1. Energy Reduction in Facilities Management
2. Operation TLC
3. The Waste revolution
4. Delivering the triple bottom line
5. Onsite Energy Generation
6. Improving the Air we Breathe
7. Educating our future generations
Our guiding principles

Aligning and delivering our values

- Optioneering
- Managing the risks
- Verification
- Effective Management
- Building trusting relationships
- Lawful engagement
- Financing
- Competence
- Quality
FM Energy Improvements

Investing in Energy Efficient Maintenance

- Opportunity for organisational benefits; cost (now and future) and carbon
- Creating business cases for internal capital investment
- Over 3 years implemented £1.6M energy efficiency and sustainability projects through spend to save
- Annual revenue savings from these is £1M per annum
- Saved 6680 tonnes CO2 from these projects
- Plus avoided >£80K Carbon Tax

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Investment (£)</th>
<th>Annual savings (£)</th>
<th>Annual CO2 savings</th>
<th>Payback (months)</th>
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</thead>
<tbody>
<tr>
<td>Boiler House Refurbishment - Burner Controls, Steam</td>
<td>£ 165,490.00</td>
<td>£213,975.00</td>
<td>1842</td>
<td>0.77</td>
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<tr>
<td>Traps, Insulation, Leaks</td>
<td></td>
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<tr>
<td>Air Conditioning Inspection Repairs &amp; Steam Leaks</td>
<td>£ 144,400.00</td>
<td>£225,848.00</td>
<td>1354</td>
<td>0.64</td>
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<tr>
<td>PC Power Management software</td>
<td>£ 36,000.00</td>
<td>£135,740.00</td>
<td>895</td>
<td>0.27</td>
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<tr>
<td>Boiler lagging - Flange and Valve Insulation Covers</td>
<td>£ 9,250.00</td>
<td>£10,934.00</td>
<td>79</td>
<td>0.85</td>
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Changing Behaviours
Driving Clinical Leadership

- Partnership Project linking environmental performance with improved patient experience
- Research based evidence
- >£428K savings & 1,900 tonnes CO2
- Replicable model for NHS
- Potential Savings to NHS of £35M
- Improved patient experience – ¼ fewer privacy intrusions, 1/3 fewer sleep disruptions and staff reporting improved health and wellbeing
- Clinically lead
2 years of achievements

**Patients Report**

- 1/4 fewer privacy intrusions
- 1/3 fewer sleep disruptions

38% fewer patient requests to change room temperature

**Staff Report**

- A boost to team spirit and collaboration
- 1,900 tonnes CO₂ saved per annum

**TLC has improved the quality of the relationship between us and our patients**

Nigel Rose, Paediatrics Ward Manager

- Opportunity to save £35M
- And 200,000 TCO₂ per annum across the NHS

£428,000 financial savings per annum enough to fund 18 new nurses

Overall patient experience improved when sleep improved

Staff report feeling proud to improve patient care
The Waste Revolution

Turning waste into commodities

- Saved >£1.7M in waste costs
- Carried out >285,000 bin audits
- Trained 8,000 staff
- Compliance improved by 23%
- Reduced clinical waste by 20%, despite increase in our activity of 12%
- Zero waste to landfill
- Food waste segregation/composting
- Engaged, knowledgeable workforce
- Saved 83,000 road miles
Improving our performance

Future Projects - EPC

- 11 Year Partnership Project
- Achieve 2020 legislative targets
- No upfront capital requirement
- Allows Investment in Infrastructure, reducing backlog maintenance risk
- Increases resilience
- Reduces consumption, improves engagement
- Flexibility to support emerging clinical strategies
- Remain a leader

£1.8m Guaranteed Savings
£12m Private Sector Investment
£1.32m Social Investment
43% Carbon Reduction
£12m Private Sector Investment
43% Carbon Reduction

Barts Health NHS Trust
Powering Health

On-site generation

• First Project of its kind
• Partnership GE, Skanska, NHS Confederation and IHEEM
• Delivered through PFI variation
• Save £493K pa in energy costs
• 2,500 tonnes CO2 saved
• Fully funded, off balance sheet solution
• Improved resilience
• Added value £100K
Air Pollution
A national health issue that needs addressing at scale

- 9,500 Londoners die prematurely
- Hampers Child lung development (10%)
- Affects those in deprived areas
- Exacerbates serious health conditions
- Leads to Stroke, Heart Disease, Asthma
- Collaboration for 3 year Programme
- Working with Children's services - maternity
- National Clean Air Day
Barts Health NHS Trust Cleaner Air Project
5 key things to help Barts Health community breathe cleaner air

1. Physicians helping patients to understand how they can improve the quality of the air they breathe

2. Health professionals advising patients during home visits on ways to keep warm

3. Breathing spaces create healthy green havens

4. Staff and patients switch to walking or cycling on low pollution routes

5. Helping our partners to adopt low pollution behaviours
Food Education

Health, Education and Sustainability

- 25% <11yr olds are obese
- FFLP pathfinder project
- 3 core themes; Health, Sustainability, Education
  - Food Education Skills
  - Catering Quality Standards and Certification
  - A Health Promoting Setting
  - Patient Dining Experience
  - Community and Partners
  - Vending and Retail
- Supports public health and health and wellbeing agenda
- Put 500 8yr olds through programme
# Sustainable Opportunities

## Linking Health and education with Sustainability

<table>
<thead>
<tr>
<th>Estate Opportunities</th>
<th>Community Opportunities</th>
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<tbody>
<tr>
<td>Heating, ventilation and lighting</td>
<td>Improving air quality</td>
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<tr>
<td>Food – procurement and offering</td>
<td>Tackling obesity - Food</td>
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<td>Sustainable travel</td>
<td>Sustainable growing to tackle loneliness</td>
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<td>Reducing fleet emissions</td>
<td>Fuel depravation and cold homes</td>
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<td>Pharmaceutical – bedside cabinets, recycling/reuse</td>
<td>Home energy usage/environment</td>
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<td>Waste Management and resource efficiency</td>
<td>Community generation</td>
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<td>Water efficiency</td>
<td>Travel for health</td>
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Video

www.bartshealth.nhs.uk/sustainability or YourTube ‘The Power of Sustainability’ Barts