Infrastructure As a Means of Redesigning Unscheduled Care Services

Dr Mike Burrows
Chief Executive
NHS Greater Manchester
• The NHS
• The Salford Healthcare System
• Our Challenge
  – Managerial
  – Clinical
  – Financial
• The Results
Where is Salford?
Salford

- 230,000 population
- A post industrial city
- 35% of ward areas are in the 10% most deprived in the country
- PCT co-terminous with local government, a single acute hospital Salford Royal Hospital NHS Foundation Trust
Salford – Male Life Expectancy

Three year rolling average

Life expectancy at birth

ENGLAND (non-resident deaths excluded)  
NORTH WEST  
Salford MCD

91-93 92-94 93-95 94-96 95-97 96-98 97-99 98-00 99-01 00-02 01-03 02-04 03-05 04-06 05-07 06-08 07-09
Salford – Female Life Expectancy

Three year rolling average

Life expectancy at birth

ENGLAND (non-resident deaths excluded)  NORTH WEST  Salford MCD
Salford – A Few Health Statistics
Standardised Mortality Ratios (SMRs)

- Heart Disease & stroke in under 75s – 146
- Stroke – 137
- Cancers
  - Colon – 124
  - Lung – 168
  - Oesophagus – 133
  - Stomach – 208
- Anti-depressants 1/3 above national average
Salford – A Few Health Statistics

- Emergency Department attendances p.a. – 65,000
- Walk-in centre attendances p.a.– 13,000
- GP consultations p.a. – 850,000
- Emergency admissions p.a. – 19,000
- Medical Beds - 400
- Intermediate Care Bed Equivalents - 90
One of our Major Health Challenges!
Salford Health Investment For Tomorrow (SHIFT)

• The story of SHIFT

• Outdated hospital accommodation. Please PCT can you fund our new £170m capital re-build?

• Yes but…

• Redesign opportunity!
SHIFT

• Programme of whole system transformation
• Programme of service redesign underpinned by enabling projects
• Joint commitment from both organisations
  – Delegated responsibility to a Partnership Board to oversee programme
• Need to develop common view of the objectives
**Planned Bed Numbers**

- Salford’s emergency bed use **60%** higher than national norm

<table>
<thead>
<tr>
<th>Type</th>
<th>2008</th>
<th>2012</th>
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<tbody>
<tr>
<td>Medical Beds</td>
<td>389</td>
<td>286</td>
</tr>
<tr>
<td>Emergency Assessment Beds</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>400</td>
<td>341</td>
</tr>
<tr>
<td>Critical Care Beds*</td>
<td>34</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>434</td>
<td>411</td>
</tr>
</tbody>
</table>

* - also supporting neurosciences & elective surgery
Contingent Factors

• National 4 hour A&E wait target
• GP out-of-hours care reform
• Variable quality of primary care provision
• Tariff system
  – From block payment to fee per item
• Differing perspectives on clinical risk
• Patient Expectations
The £150 Haircut

Hope Hospital Emergency Department

A Hairdressing Salon
The Strange Case of the patient with R50

ICD10 classification category: R50 - pyrexia of other and unknown origin
The Redesign of the Emergency Healthcare System
The Redesign of the Emergency Healthcare System

- Well Being Services
- Support for Vulnerable Patients
- Getting In To The Emergency Department
- In the Emergency Department
- The Onward Journey From the Emergency Department
- Managing The Back Door
## Broad Range of Initiatives

- COPD
- Diabetes Carecall
- Anti-Coagulation
- Dermatology
- Mental Health
- Generic Active Case Management
- Healthy Hips & Hearts
- Osteoporosis
- Tier 2 services

- Alcohol
- GI Disorders
- Coronary Heart Disease
  - Stroke
- IV Fluids
- Falls Prevention
- Heart Failure
- Medicines Review
- Expert patient programme
Chronic Disease Management

Level 1
Self-care
70% - 80% of patients

Level 2
Disease
Case Management
High risk patients
15% of patients

Level 3
Case management
Highly complex patients
5% of patients
Support For Vulnerable Patients
One Example of This Work

• Reductions in Re-Admissions
  – 5% of the population account for 32% of total emergency admissions, 33% of cost
  – High occurrence of poly-pharmacy
    • 16% taking ten or more over 3 month period
    • 46% taking five to nine over 3 month period
  – Asthma, Hypertension & Coronary Artery Disease the most common conditions
Predictive Modelling Tools

- **PARR1**
  - Condition-based

- **PARR2**
  - Algorithm using emergency admission as trigger, not limited to “reference” condition

- **PARR++**
  - Still in-patient data based but also uses prior utilisation, diagnostic information, demographics
Combined Predictive Model

• Developed in conjunction with King’s Fund, Health Dialog, New York University

• Uses a more comprehensive dataset
  – Inpatient, outpatient, emergency room, primary care medical records
Comparison of Risk Scoring Methodologies

Predictive accuracy comparison

Number of Patients

Percentage of Actual Admission

CM With GP Data
CM Without GP Data
PARR++
PARR+
The Future Shape of COPD Services

Salford COPD Team – Integrated Care Pathway

Stage 1a
Primary Care
Primary prevention
Health promotion and education

Stage 1b
General Practice
Accurate diagnosis
Spirometry screening of high risk patients in community and general practice
Accurate performance and interpretation of spirometry
COPD register
Stratification of disease severity: mild, moderate, severe
Referral pathways to specialist support for diagnostic difficulty

Stage 2 General Practice
Treatment and management of stable disease
Salford COPD treatment pathway/ NICE guidelines to optimise treatment
Vaccination
POINTS templates to guide management
Specialist medication reviews by community pharmacist
Self management education and written individualised action plans
Anticipatory care
Knowledge and support for carers

Stage 3 Enhanced General Practice and community specialist services
Complex / severe disease
Case management by appropriate case manager (generalist ACM or Respiratory Nurse Specialist)
Telehealth/ virtual ward
Community specialist service and clinics with MDT support (including physiotherapy, psychology, oxygen)
Non Invasive Ventilation
Planned hospital admission for those who need it

Pulmonary Rehabilitation

Co-ordinated social care

Supportive and palliative care

Stage 4 Specialist and generalist community, hospital and OOH services
Unscheduled care
Admission avoidance through intermediate care
Hospital admission
Supported discharge to reduce LOS via CAST/RNS or intermediate care
Pathways post admission follow up

Stage 5 Specialist and generalist community and hospital
End of life care
Gold Standards Framework
Prognostic indicators for primary and secondary care
Specialist support
Referral pathways
Treatment and management

Admission avoidance

Education and clinical support

Information and Clinical Audit

Smoking cessation, health promotion and self care

The Future Shape of COPD Services
Acute COPD Admissions

- Admissions - no COPD service
- Forecast
- Actual admissions with COPD service
The Redesign of the Emergency Healthcare System

- Well Being Services
- Support for Vulnerable Patients
- Getting In To The Emergency Department
- In the Emergency Department
- The Onward Journey From the Emergency Department
- Managing The Back Door
• Intermediate Care
  – Bed numbers
    • Real & virtual
    • Medical stability
• Step-Up
• Step down
• Rapid response advanced practitioner
The Redesign of the Emergency Healthcare System
Estimates indicate 27% of activity could more appropriately be seen in primary care.
Time In Department (15 mins Bands)

Almost 1 in 20 attendances stays in the department less than 15 mins
Time in Department (15 mins Bands) By Disposal

Measure: Attendance Count % of Column
Very few attendances staying the department for 235 – 239 mins (3hrs 55mins to 3hrs-59mins) and 240 mins (4hrs)
Walk-In Centres
The Triage Wars

• Manchester Triage System
  – Its ability to assess primary care patients versus its ability to categorise hospital patients

• Differing perspectives on clinical risk

• Coming to a compromise
Revised Model

Emergency Department reception

Integrated Triage

Primary Care Centre

Minors

Majors/Resus
Emergency Department reception

GP-led Triage

The GP will run triage supported by A&E nurse who will score patients for Manchester triage. Any discrepancies will be documented and Manchester Triage amended accordingly.

Current Model

+ walk-ins

Primary Care Centre

Minors

Majors/Resus
Year-on-Year Emergency Department Activity Analysis

- 12% reduction on trend
- $1.2m saving

Graph showing attendances from 2004/05 to 2007/08 with categories for High, Standard, and Minor.
Year-on-Year Emergency Admissions

Episodes

2004/05 2005/06 2006/07 2007/08

18,500 18,600 18,700 18,800 18,900 19,000 19,100 19,200 19,300 19,400
Year-on-Year Emergency Bed-Days

<table>
<thead>
<tr>
<th>Year</th>
<th>Bed-Days</th>
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<tbody>
<tr>
<td>2004/05</td>
<td>134,000</td>
</tr>
<tr>
<td>2005/06</td>
<td>132,000</td>
</tr>
<tr>
<td>2006/07</td>
<td>128,000</td>
</tr>
<tr>
<td>2007/08</td>
<td>116,000</td>
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</table>
Informed Clinical Decision Making

• Informatics Workstream
• Development of Integrated Patient Record
• Improve efficiency opportunity
  – by reducing GP Practice and A&E staff time spent answering queries about the current medication of patients and correcting erroneous discharge scripts (estimated at 1 hour per day for each consultant)
  – Timely information on recent patient history
Integrated Record System

GP Systems

Hospital

Community

Salford Integrated Record

Patient Index

Patient Demographics

Anon. Extract for reporting

Clinical Data
Emergency Care Record

Diagnosis of Long Term Condition(s): LVF 2004, Renal (Serum creatinine > 150), Renal (GFR < 60), Diabetes Mellitus 2001.

Medication issued by GP within last 12 Months: This shows the most recent issued prescription

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Dose</th>
<th>Qty</th>
<th>Date</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM BICARBONATE caps 500mg</td>
<td>2 THREE TIMES A DAY</td>
<td>200</td>
<td>12 Oct 2006</td>
<td>GP</td>
</tr>
<tr>
<td>OMEPRAZOLE gastro-res cap 20mg</td>
<td>2 twice daily</td>
<td>224</td>
<td>12 Oct 2006</td>
<td>GP</td>
</tr>
<tr>
<td>LISINOPRIL tabs 20mg</td>
<td>TAKE ONE DAILY</td>
<td>56</td>
<td>12 Oct 2006</td>
<td>GP</td>
</tr>
<tr>
<td>CO-CODAMOL caps 30mg + 500mg</td>
<td>1-2 four times daily</td>
<td>100</td>
<td>12 Oct 2006</td>
<td>GP</td>
</tr>
<tr>
<td>CELLVISC eye drp</td>
<td>2-3 DROPS FOUR TIMES A DAY BOTH EYES</td>
<td>60</td>
<td>12 Oct 2006</td>
<td>GP</td>
</tr>
<tr>
<td>SIMVASTATIN tabs 40mg</td>
<td>TAKE ONE AT NIGHT</td>
<td>56</td>
<td>26 Sep 2006</td>
<td>GP</td>
</tr>
<tr>
<td>QUININE SULPHATE tabs 300mg</td>
<td>take one at night</td>
<td>28</td>
<td>26 Sep 2006</td>
<td>GP</td>
</tr>
</tbody>
</table>

Allergy, Intolerance, ADR

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Notes/Description</th>
<th>Last Modified</th>
<th>Dr Name</th>
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<tbody>
<tr>
<td>Drug Allergy</td>
<td>Clindamycin</td>
<td></td>
<td>16 Sep 2006</td>
<td>Dickinson, Clare</td>
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<td>Drug Allergy</td>
<td>Carbamazepine</td>
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<td>Young, Dr R3(Doctor)</td>
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<td>Drug Allergy</td>
<td>Gabapentin</td>
<td></td>
<td>24 Nov 2004</td>
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<tr>
<td>Non Drug Allergy</td>
<td>Other</td>
<td>Lyofoam</td>
<td>03 Nov 2004</td>
<td>Young, Dr R3(Doctor)</td>
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</table>

Observations/Assessments

<table>
<thead>
<tr>
<th>Item Name</th>
<th>Value</th>
<th>Date</th>
<th>Dr Name</th>
</tr>
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<tbody>
<tr>
<td>Blood Pressure</td>
<td>119/57</td>
<td>11 Aug 2006</td>
<td>GP</td>
</tr>
<tr>
<td>BMI</td>
<td>27.5</td>
<td>25 Aug 2006</td>
<td>GP</td>
</tr>
<tr>
<td>BMI</td>
<td>26.4</td>
<td>01 Feb 2006</td>
<td>GP</td>
</tr>
<tr>
<td>BMI</td>
<td>25.7</td>
<td>25 Mar 2005</td>
<td>Hope Hospital</td>
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<tr>
<td>BMI</td>
<td>25.3</td>
<td>21 May 2005</td>
<td>Hope Hospital</td>
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<tr>
<td>BMI</td>
<td>29</td>
<td>10 May 2005</td>
<td>Hope Hospital</td>
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<td>BMI</td>
<td>27.8</td>
<td>10 May 2005</td>
<td>Hope Hospital</td>
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<td>BMI</td>
<td>30</td>
<td>16 Nov 2004</td>
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<td>BMI</td>
<td>31.5</td>
<td>22 Aug 2003</td>
<td>Hope Hospital</td>
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<td>34</td>
<td>12 Aug 2003</td>
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<td>34</td>
<td>08 Aug 2002</td>
<td>GP</td>
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<td>BMI</td>
<td>30.7</td>
<td>25 Aug 2006</td>
<td>GP</td>
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<tr>
<td>Eye Check</td>
<td>4</td>
<td>10 May 2005</td>
<td>Jones, Patricia Margaret</td>
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<tr>
<td>Foot Check</td>
<td>6</td>
<td>11 Oct 2006</td>
<td>Young, Dr R3</td>
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<tr>
<td>Alcohol</td>
<td>1 Units/Week</td>
<td>25 Aug 2006</td>
<td>GP</td>
</tr>
<tr>
<td>Smoking</td>
<td>Never smoked</td>
<td>10 May 2005</td>
<td>Jones, Patricia Margaret</td>
</tr>
</tbody>
</table>
Emergency Care Record

Recent GP consultations & Care Plans (past 1 month)
   - LTC Care plans

Hospital Letters & Discharge Summaries (past 1 year)

Latest Hospital Letter

Clinic letter
GENERAL MEDICINE

Dr RJ Young
Consultant in Diabetes and Endocrinology

Outpatient Clinic Attendance Letter

Telephone: 0161 206 5157
Fax: 0161 206 5909

Our Ref : NJ/00300134 Date Typed : 05.10.06

Dr S Haber
LANGMUROTH RED CTR
250 LANGMUIR ROAD
SALFORD
( 17 )

Dear Dr Haber

Re: MICHAEL GAUGHAN D.O.B. 09/11/1944
77 WITNEY LANE Hospital No. 00880134
SALFORD, MANCHESTER M6 6R3 NHS No. 4422643924

DATE/TIME OF APPOINTMENT 04 October 2006 at 09:00
CLINIC/MULTI DIS RJT/PDTAT TYPE OF APPOINTMENT Follow Up

Michael was reviewed in the multi disciplinary foot clinic today 4 weeks following the amputation of his toes and metatarsal heads on the left foot. I am pleased to say that the area is healing nicely. The plan is to stop his antibiotics today as his CRP is normal and he has now been on antibiotics for 4 weeks post operatively. We will review him again in 2 weeks time to make sure that there is no deterioration in the foot.

Yours sincerely

Laboratory Results (past 1 year)

<table>
<thead>
<tr>
<th>Test</th>
<th>Level</th>
<th>Date</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>4.2</td>
<td>11 Aug 2006</td>
<td>Hope Hospital</td>
</tr>
<tr>
<td>HDL Cholesterol</td>
<td>0.80</td>
<td>06 Oct 2005</td>
<td>Hope Hospital</td>
</tr>
<tr>
<td>FGFR</td>
<td>47</td>
<td>27 Sep 2006</td>
<td>Hope Hospital</td>
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<tr>
<td>Sodium Creatinine</td>
<td>137</td>
<td>27 Sep 2006</td>
<td>Hope Hospital</td>
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<tr>
<td>Urea</td>
<td>6.9</td>
<td>27 Sep 2006</td>
<td>Hope Hospital</td>
</tr>
<tr>
<td>Albumin/creatinine</td>
<td>0.82 g/mol</td>
<td>11 Aug 2006</td>
<td>Hope Hospital</td>
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</table>
## Emergency Care Record

### Laboratory Results (past 1 year)

<table>
<thead>
<tr>
<th></th>
<th>12 Jun 2006 09:00</th>
<th>19 Jul 2006 13:00</th>
<th>13 Sep 2006 09:00</th>
<th>24 Jan 2007 09:30</th>
<th>28 Mar 2007 09:10</th>
<th>25 Jul 2007 09:20</th>
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<tbody>
<tr>
<td>Sodium</td>
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<td>Potassium</td>
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<tr>
<td>Urea</td>
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<td>Corrected Calcium</td>
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<td>Phosphate</td>
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<tr>
<td>Alkaline Phosphatase</td>
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<tr>
<td>ALT</td>
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<td>Bilirubin</td>
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<tr>
<td>Glucose/Fasting Glucose</td>
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<td>CRP</td>
<td></td>
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<tr>
<td>Haemoglobin</td>
<td></td>
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<tr>
<td>White Blood Count (and differential)</td>
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<tr>
<td>Estimated Glomerular Filtration Rate</td>
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<td>INR</td>
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<td>Troponin T</td>
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<tr>
<td>Amylase</td>
<td></td>
<td></td>
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<tr>
<td>Anticoagulation (PT/APTT)</td>
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</tbody>
</table>
Lessons To Be Learned

• Shared Goals
  – But also recognising differing perspectives
• Clinical relationships & involvement
• Managerial leadership
• Programme Management
• Need for “pump-priming” investment
• Patients will always look for where the light is on
• Quality & cost savings are not mutually independent aims!
Design Principles

• Public Service Buildings
• Their role in urban regeneration
• Local community ownership
• Use of arts
• Space
• Orientation
Lessons To Be Learned

• Estate Strategy / SSDP
  – Links to service strategy
• Territoriality
  – Utilisation Surveys
• Commissioning of buildings
• Sub-lessees
• Procurement Route
• Over-specification
Gateway Buildings

Welcome to Pendleton Gateway
Your health and lifestyle centre IN Salford
Gateway Buildings
Gateway Buildings
Gateway Buildings
Gateway Buildings
Gateway Buildings
Salford Royal
Salford Royal
Thank You

Happy to take any questions!