What Happened to my Patient?

Ambulance Leadership Forum
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PHED Data

Funded by:

In Collaboration with:

Insight 2014: Informatics in Health Care Improvement.

Kingston University London

Swansea University

St George’s University of London

nuffieldtrust
Background

London Ambulance Service NHS

Accident & Emergency

Home / Ward / Operation / Nursing Home / Clinic
Background

London Ambulance Service
NHS

Accident & Emergency

Hand-Over

Home / Ward / Operation / Nursing Home / Clinic
Background

Accident & Emergency

Pilot

Home / Ward / Operation / Nursing Home / Clinic
What Next?
Pre-Hospital Emergency Department

PHED Data

Data Linking Project
Aims of PHED Data

Routine Data

Emergency Department

London Ambulance Service NHS Trust

6 Acute Trusts
13 EDs
Data Linking

London Ambulance Service

Routine Data

Subset of Data
(22 Fields)

Common Fields
Incident ID/Vehicle
Date/Time
Age

Linked Data

Emergency Department

Routine Data

Subset of Data
(13 Fields)

Common Fields
Incident ID/Vehicle
Date/Time
Age

11
Data Linking

Routine Data
- Call Details
- Response Time
- Priority
- Symptoms
- Illness codes
- Location
- Triage Decision

 Subset of Data
(22 Fields)

Common Fields
- Incident ID/Vehicle
- Date/Time
- Age

Linked Data

Linked Data

Common Fields
- Incident ID/Vehicle
- Date/Time
- Age

Subset of Data
(13 Fields)

Routine Data
- Investigations
- Treatments
- Imaging
- Blood Tests
- Times
- Outcome
- Destination

Emergency Department
Patient Pathway

1. 999 Call
2. PRF
3. Conveyance
4. Investigations / Images / Treatments
5. Diagnosis
6. Outcome
Patient Pathway

999 Call → PRF → Conveyance → Investigations / Images / Treatments → Diagnosis → Outcome
What telephone triage categories have the strongest associations with:
- ED Discharge
- Left before being seen
- ED Death
- No treatments in ED
PHED Data...

COMING SOON
Data Available
What telephone triage categories have the strongest associations with:
- ED Discharge
- Left before being seen
- ED Death
- No treatments in ED
When a GP uses an ambulance for a Health Care Professional Admission...

- Do they get admitted?
- Does it vary from practice to practice?
- Who doesn’t get admitted?
Common ED diagnoses
• What are the most frequent diagnostic groups?
• Are these covered in training?
• Where are the discrepancies in telephone/ambulance/ED diagnoses?
• What ACPs would reduce demand safely?
Mortality in the ED
- Who dies?
- What of?
- What did they say on the phone?
- What did they say to ambulance clinicians?
- Who was pre-alerted?
Patient Flow

- PHED Data
- HearAndTreat
- NotConveyed
- Discharged
- Admitted
- CallWaiting
- HandoverQue
- TreatmentQue
- AdmissionQue
- DischargeQue

Average time in Emergency Pathway

Accumulated Time vs Time

- Time range from -100 to 100
Patient Flow - Assumptions

Mean average number of calls generated in ED catchment area
Patient Flow - Assumptions

Mean average call duration
Patient Flow - Assumptions

Mean average on scene time
Patient Flow - Assumptions

Mean average handover at triage
Patient Flow - Assumptions

Mean average time in ED
Patient Flow - Assumptions

Mean average time to discharge

Mean average time to admit
Patient Flow - Assumptions

Mean average journey time

Mean average response time
Patient Flow - Assumptions
Patient Flow - Assumptions

- Trust average non-conveyance %
- Trust Average Hear and Treat %
Patient Flow - Assumptions

C1-C4

R1 and R2
Patient Flow
Patient Flow – For Stable System (No Queues)

- 8 Call Handlers
- 11 Crews
- 31 ED Treatment bays
- 18 Hospital beds

PHED Data

Average time in Emergency Pathway

Accumulated Time

Time

- HearAndTreat
- NotConveyed
- Discharged
- Admitted

Graph showing accumulated time over time.
Patient Flow – Effect of ED staffing deficit
Patient Flow – Effect of ED staffing deficit
Patient Flow – Effect of 10% non-conveyance + Hear and Treat rate increase
Patient Flow

PHED Data

- HearAndTreat
- NotConveyed

- CallWaiting
- Handover

- TreatmentQue
- AdmisionQue
- DischargeQue

Average time in Emergency Pathway

Accumulated Time

Time

-100 -80 -60 -40 -20 -10 0 10 20 30 40 50 60 70 80 90 100
Caution!

• Intentionally Simple

• Changing the assumptions, changes the model

• Based on one ED

• Averaged over 1 year
Summary

• Linked data is not routine practice in LAS

• But it is possible

• There are potential benefits;
  • Patients
  • ASTs/ Wider NHS/ Commissioners
  • Call-Takers
  • Clinicians

• This is only the start.....
Thank you for listening.

Questions?

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