AMU Coronary Angiography Pathway Redesign

Dr. Karl Bonnici
Associate Medical Director (Urgent care) – Stockport NHS Foundation Trust
• Background
• Simple Project
• Results
• RAACS
• Questions
<table>
<thead>
<tr>
<th>Location</th>
<th>Silver Heart</th>
<th>MRI</th>
<th>Wigan</th>
<th>Wythenshawe</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>230</td>
<td>145</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Oldham</td>
<td>337</td>
<td>215</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>Fairfield</td>
<td>387</td>
<td>333</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Salford</td>
<td>328</td>
<td>2</td>
<td>38</td>
<td>137</td>
</tr>
<tr>
<td>Bolton</td>
<td>339</td>
<td>0</td>
<td>62</td>
<td>54</td>
</tr>
<tr>
<td>Macclesfield</td>
<td>82</td>
<td>81</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>MRI</td>
<td>106</td>
<td>0</td>
<td>106</td>
<td>0</td>
</tr>
<tr>
<td>Stockport</td>
<td>536</td>
<td>3</td>
<td>133</td>
<td>5</td>
</tr>
<tr>
<td>Tameside</td>
<td>289</td>
<td>1</td>
<td>54</td>
<td>2</td>
</tr>
<tr>
<td>Trafford</td>
<td>17</td>
<td>0</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Wigan</td>
<td>416</td>
<td>0</td>
<td>1</td>
<td>405</td>
</tr>
<tr>
<td>Wythenshawe</td>
<td>445</td>
<td>0</td>
<td>0</td>
<td>445</td>
</tr>
</tbody>
</table>

780(22%)  453(13%)  617(18%)  1662(47%)
• SHH is a DGH – 800 beds / 400,000 population

October 2016 moved to new purpose built 59 bed AMU – internal bed re-configuration

LOS for cardio patients awaiting angio increased substantially.

Patients occasionally waited 5-9 days for angiography.

Poor 4 hour target has meant we have had to be a bit creative - opportunity
• Embarrassing ward round – apologies to patients

• Young, fit patients with troponin positive chest pain

• Conversation started around direct transfer from AMU
• 3 months of discussions........

• **A realisation that out of hours care is not delivered by cardiologists**

Stakeholders:
• Nurses got training from the local cath lab staff re: post angio care
• Acute med consultants
• Tertiary centre cardiologists
• Started small – few young patients with no co-morbidities

• Confidence increased and we started transferring more and more

• Between April to August 2017 – transferred 87 patients from AMU to angio

• Vast majority of these patients returned to AMU

• **No critical incident recorded**
• Results

Sep 2016 – Dec 2016  180 patients

April 2017 – August 2017  222 patients

Admission to Coronary angiogram

CATS referral to Coronary angiogram

Length of stay
Pre-AMU angio pathway: 11.7
Post-AMU Angio Pathway: 6.7
CATS Referral To Procedure - Age < 65

- Pre-AMU angio pathway: 6.3
- Post-AMU Angio Pathway: 3.3
Length of Stay - All Ages

Pre-AMU angio pathway: 12.7
Post-AMU Angio Pathway: 10.3
Length of Stay – Age < 65

Pre-AMU angio pathway: 11.3 days

Post-AMU Angio Pathway: 7.1 days
• The next step?

• Biggest limiting factor is a cardiology review

• RAACS
• Admission to coronary angiogram reduced by a further day
• LOS reduced by one day for all ages
• Next challenge: echo
• Presented to the teams at Pennine Acute NHS Trust
• Questions?
Comparison of Continuous Days of AIM Consultant Cover versus General Physician Cover
Dr Andrew Walden

Consultant in AIM, Royal Berkshire hospital
Background

- National recognition of AMU
- Little prospective data on AIM models of care
- Local development of AIM
- Skepticism from specialty consultants
Methods

**Existing model:**
24 hour Specialty physician cover for take AIM consultant cover of HMU and existing AIM patients

**Proposed model:**
AIM consultant cover
8am to 4pm; 2pm to 10pm; 10pm to 8am
Methods

Comparison of pilot week with ‘middle week’ and ‘comparator’ week

*A priori* comparison using Chi-squared test for comparison of rates and Mann U Whitney test for non-continuous variables
Methods

Primary outcomes:
Discharges from AMU
ED breach rate
Readmission rate at 30 days
Methods

**Secondary outcomes:**
Adherence to trust VTE guidance
Hospital LOS
30 day mortality rates
Results

Pilot from 0800 22nd September to 29th September
n=281 patients
Middle week
n=253
Comparator week
n=301
Results - Discharge from AMU

<table>
<thead>
<tr>
<th></th>
<th>Week 1 (pilot)</th>
<th>Week 2 (middle)</th>
<th>Week 3 (comparator)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>281</td>
<td>253</td>
<td>303</td>
<td>837</td>
</tr>
<tr>
<td>Discharges from CDU</td>
<td>165</td>
<td>131</td>
<td>155</td>
<td>451</td>
</tr>
<tr>
<td>Proportion</td>
<td>58.7%</td>
<td>51.8%</td>
<td>51.2%</td>
<td>53.9%</td>
</tr>
</tbody>
</table>
Results - Discharge from AMU

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Expected</th>
<th>Expected (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharged</td>
<td>165</td>
<td>145</td>
<td>51.5%</td>
</tr>
<tr>
<td>Admitted</td>
<td>116</td>
<td>136</td>
<td>48.5%</td>
</tr>
</tbody>
</table>

Chi squared 5.7 with a p=0.017
Results ED breach

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Expected</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission &lt;4hr</td>
<td>1554</td>
<td>1501</td>
<td>93.3%</td>
</tr>
<tr>
<td>admission &gt;4</td>
<td>55</td>
<td>108</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

Chi squared 27.9 with a p<0.001
14-day and 30-day readmission rates

<table>
<thead>
<tr>
<th>Week</th>
<th>14 day readmit</th>
<th>30 day readmit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.79%</td>
<td>2.90%</td>
</tr>
<tr>
<td>2</td>
<td>3.63%</td>
<td>5.76%</td>
</tr>
<tr>
<td>3</td>
<td>3.92%</td>
<td>6.00%</td>
</tr>
</tbody>
</table>
Results - Readmission Rates

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Expected #</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-day readmit</td>
<td>8</td>
<td>17</td>
<td>5.9%</td>
</tr>
<tr>
<td>30-day no readmit</td>
<td>276</td>
<td>267</td>
<td>94.1%</td>
</tr>
</tbody>
</table>

Chi squared 5.07 with a p=0.024
Results - Hospital LOS

<table>
<thead>
<tr>
<th>n₁</th>
<th>n₂</th>
<th>U</th>
<th>P (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>34</td>
<td>597.0</td>
<td>0.985908*</td>
</tr>
</tbody>
</table>

normal approx
z = 0.0240048

0.980848*
## Results - 30 day Mortality

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Expected #</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>alive</td>
<td>266</td>
<td>270</td>
<td>96.1%</td>
</tr>
<tr>
<td>dead</td>
<td>14</td>
<td>11</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

Chi squared 0.85 with a p=0.35
Results - VTE compliance

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Expected #</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTE done</td>
<td>225</td>
<td>226</td>
<td>80.4%</td>
</tr>
<tr>
<td>VTE not done</td>
<td>56</td>
<td>55</td>
<td>19.6%</td>
</tr>
</tbody>
</table>

Chi squared 0.023 with a p=0.88
Conclusions

• Increases in discharge from AMU
• Lower readmission rates
• Reductions in breaches from the ED
• No effect on hospital LOS, 30 day mortality
• No effect on VTE compliance
Caveats

- Questionable external validity
- Historic data
- No information on patient experience
Questions?
THE 12th INTERNATIONAL SCIENTIFIC CONFERENCE
THE SOCIETY FOR ACUTE MEDICINE
Bournemouth International Centre
20 – 21 September 2018

Maximising the Impact of Ambulatory Emergency Care
**Background**

- Rapid introduction of AEC and now widespread model of care.
- Realisation of the potential impacts.
- AEC network was set up providing some basis for development, covered over 120 organisations.
- Increased central interest in incentivising the model.
- Many models and many competing priorities.
### Method and findings

<table>
<thead>
<tr>
<th>Suitable for AEC</th>
<th>Unsuitable for AEC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seen in AEC</strong></td>
<td></td>
</tr>
<tr>
<td>Success (expect about 10% conversion rate)</td>
<td>Risk (Pt too sick/complex at time of selection)</td>
</tr>
<tr>
<td><strong>Not Seen in AEC</strong></td>
<td></td>
</tr>
<tr>
<td>Missed Opportunity</td>
<td>Success (appropriate alternative care)</td>
</tr>
</tbody>
</table>
## Implications for practice

<table>
<thead>
<tr>
<th><strong>Clarity on the aim of AEC</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The system should be signed up to the core aim of AEC being the same day discharge of emergency patients who would otherwise have been admitted to an inpatient bed. The service must be resourced to meet this demand.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Consistent patient selection based on clinical factors</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Appropriate patients are identified as early as possible in their journey using an assessment of clinical acuity and dependency.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Timely decision-making</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Senior decision-makers are accessed early and summative actions are taken to drive patient care.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Today’s work done today</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Logistical barriers to completing patient episodes in a single encounter are identified and minimized.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>A balanced dashboard of measures</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• A selection of clinically meaningful measures are used to monitor the effectiveness of the service and drive improvement, including analysis of potential further appropriate activity and impact on flow.</td>
</tr>
</tbody>
</table>
Want to know more?

- Visit the AEC Network stand
- Come to our conference on 31st October
- www.ambulatoryemergencycare.org.uk
- aec@nhselect.org.uk
Acute Medical Unit

• 68 beds
• 4 level 2 beds
• 140 nursing staff
• Average take of 90 – 110 patients in 24 hours
Problems identified
• Divide between Qualified nurse and Nursing assistants
• Crucial areas of patient care missed
# Quality Improvement Clinic: Good Practice Checklist

<table>
<thead>
<tr>
<th>What do we need?</th>
<th>What does it mean?</th>
<th>Do we have it?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leadership</strong></td>
<td>There is a nominated leader for each transfer of care/handover.</td>
<td>YES - Nurse in charge of every shift identified.</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>Transfers and handovers are valued as an essential part of care and preparation for handover is a priority.</td>
<td>NO - we felt that some staff didn’t appreciate the importance of effective communication to patient care</td>
</tr>
<tr>
<td><strong>Right people</strong></td>
<td>The appropriate people are involved.</td>
<td>NO - Separate between Qualified nurse and nursing assistants</td>
</tr>
<tr>
<td><strong>Specified time and place</strong></td>
<td>A specific setting or place has been agreed where transfers of care can take place without interruption or distraction.</td>
<td>NO - Qualified nurses where at the desk and Nursing assistants where doing a walk around</td>
</tr>
<tr>
<td><strong>Standardised process</strong></td>
<td>There is an agreed process for transfers of care. This includes an agreed set of information to be covered in transfers (minimum data set). This is communicated in a structured way, is action-focused, assigns responsibility for actions and is supported by clear documentation.</td>
<td>NO - Qualified nurses and Nursing assistants given different information</td>
</tr>
</tbody>
</table>
Method
Key Results of Pre-survey

- 87% of staff wanted all bands of nurses to handover together
- Over 90% thought this would improve patient safety and team moral
- 54% of the team wanted to have handover at the desk and to walk around after
Trial 1

- One qualified nurse and one nursing assistant
- 4-8 patients per team
Trial 2

• All qualified nurses and nursing assistants to have handover for all patients in the area
Key Results

• 83% thought the method improved patient safety
• Proportion of band 2’s who knew enough about their patients improved from 28% to 75%
• Time taken to handover increased
Unexpected Results

• Senior staff can support junior staff
• Nurses more comfortable to take breaks
• Quicker handover to the flow co-ordinators
<table>
<thead>
<tr>
<th>What do we need?</th>
<th>What does it mean?</th>
<th>Do we have it?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leadership</strong></td>
<td>There is a nominated leader for each transfer of care/handover.</td>
<td>Yes- Nurse in charge allocated each shift</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td>Transfers and handovers are valued as an essential part of care and preparation for handover is a priority.</td>
<td>Yes- The team now has more knowledge as to why handover is important</td>
</tr>
<tr>
<td><strong>Right People</strong></td>
<td>The appropriate people are involved.</td>
<td>Yes- whole nursing team now attends</td>
</tr>
<tr>
<td><strong>Specific time and place</strong></td>
<td>A specific setting or place has been agreed where transfers of care can take place without interruption or distraction.</td>
<td>Yes- All nurses have verbal handover at the desk and then walk around to visualise patient</td>
</tr>
</tbody>
</table>
| **Standardised process** | There is an agreed process for transfers of care. This includes an agreed set of information to be covered in transfers (minimum data set). This is communicated in a structured way, is action-focused, assigns responsibility for actions and is supported by clear documentation. | Yes- All nursing staff are given the same information and jobs are allocated during the verbal handover  
Could be improved.                                                                                                                                |
Key Learning Points
• A combined handover worked best even in a large unit
• Qualitative over Quantitative
• Front line staff’s ideas matters!
Thank You

• CDU Team
• Handover champions– Leah Duffy and Trudy Bingham
• Ciaran Basketfield
• Adam Seccombe
References


‘How Do You Evaluate Quality of Care on a Medical Admissions Unit?’

Kate-Poppy Escritt – Medical Student
Jack Tagg – Medical Student
Dr Tom Cozens – Consultant
### Data Collection Tools

<table>
<thead>
<tr>
<th>Initials</th>
<th>Gender</th>
<th>Age</th>
<th>Definition</th>
<th>Length of Stay (hours)</th>
<th>Request</th>
<th>FFT result</th>
</tr>
</thead>
</table>

- **What is wrong with me?**
- **What’s being done?**
- **What needs to happen for me to go home?**
- **When should I expect to go home?**

- **Spoke to patient or relative**

---

**Friend and Family Test (FFT)**

**Patient Request Tool (PRT)**

**Communication Satisfaction Questionnaire (CSQ)**
RESULTS
RESULTS

Overall Data from CSQ

<table>
<thead>
<tr>
<th>NHSE Bundle Question</th>
<th>Yes</th>
<th>No</th>
<th>Could not Communicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is wrong with me or what are you trying to exclude?</td>
<td></td>
<td>9.52%</td>
<td>23.81%</td>
</tr>
<tr>
<td>What have we agreed will be done and when to ‘sort me out’?</td>
<td>66.67%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What do I need to achieve to get me home?</td>
<td>76.19%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When should I expect to go home?</td>
<td>50.00%</td>
<td>48.81%</td>
<td></td>
</tr>
</tbody>
</table>

Percentage of Patients

- 20.00% 40.00% 60.00% 80.00% 100.00% 120.00%
Conclusions

❑ Friends and Family Test gives a global view of satisfaction

❑ Patient Request Tool gives more specific, useful information on how to improve

❑ Communication failures caused the lowest level of satisfaction scoring

❑ Communication Satisfaction Questionnaire can be used to measure communication
THANK YOU
References


Investigating associations between Frailty, Therapy Complexity and Therapy Time on an Acute Frailty Unit.

Miriam Hope
Senior Specialist Physiotherapist
Aims of presentation

• Discuss background and context of project

• Therapy Complexity Scale development process
  + 3 stages of project

• Present results of investigating associations between:
  – Therapy Complexity
  – Frailty
  – Therapy Time
Acute Frailty Unit at St Thomas’ Hospital

An “8-bedded” (6 beds and 2 recliner chairs) acute frailty unit within the Emergency Department (ED) floor space.

Aims:

• Provide timely multidisciplinary comprehensive geriatric assessment (CGA) and intervention for older frail people presenting to the ED in accordance with the “Silver book”. (1)

• Facilitate a safe yet rapid discharge to reduce hospital admission.

• For those that require admission, establish a clear care plan early and facilitate transfer directly to the Older Persons Unit.
Background to project

- Over time, therapists perceived that patients were increasingly complex and more time was required to manage each one.

- Literature review:
  - no existing objective tool appropriate to assess complexity in our population.
Pilot complexity scale

- **Based on existing tools:** Rehabilitation Complexity Scale \(^{(2)}\) and Clinical Frailty Scale \(^{(3)}\) plus therapy needs and time spent with patients.

**Pilot data:**
- Increase in complexity and time spent managing patients

**Limitations:**
- Scoring was not sensitive to time
- Lacked key elements of perceived complexity reported by therapists.
Refinement of complexity scale

Explored additional elements of perceived complexity:
- Questionnaire
- Focus group of therapists who had worked in the Frailty Unit.

Additional domains added
Scoring changed accordingly
Time element removed

Consistency of scoring between therapists was checked to ensure reliability.
<table>
<thead>
<tr>
<th>Host No:</th>
<th>Borough:</th>
<th>Location</th>
<th>Date:</th>
</tr>
</thead>
</table>

**Specialist Therapy Assessment Team Complexity Scale**

### Cognition

<table>
<thead>
<tr>
<th>0</th>
<th>2</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No cognitive impairment</td>
<td>Known dementia / Alzheimer's diagnosis</td>
<td>New cognitive impairment / Delirium</td>
</tr>
</tbody>
</table>

### Presenting Condition

<table>
<thead>
<tr>
<th>0</th>
<th>2</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>Mobility / Pain Limiting / Fall</td>
<td>Social</td>
</tr>
</tbody>
</table>

### Support Needs (Including personal care / mobility / transfers on d/c from STAT)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mostly independent with care / mobility</td>
<td>AO1 with care or mobility needs</td>
<td>AO2 with care or mobility needs</td>
<td>&gt;AO2 for care or mobility or requires constant supervision</td>
</tr>
</tbody>
</table>

### Therapy Needs

<table>
<thead>
<tr>
<th>0</th>
<th>2</th>
<th>4</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Follow Up</td>
<td>OP Follow Up Southwark / Lambeth</td>
<td>Therapy At Home / OP Other boroughs</td>
<td>Bed Based Rehab / Admit</td>
</tr>
</tbody>
</table>

### Care Needs

<table>
<thead>
<tr>
<th>0</th>
<th>2</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home no care needs</td>
<td>Home with restart of Southwark / Lambeth ERR</td>
<td>Home with new POC / other ERR</td>
</tr>
</tbody>
</table>

### Equipment

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No equipment provided</td>
<td>New walking aid</td>
<td>Adaptive equipment provided</td>
<td>Hospital Bed / Hoist / Manual Handling training required</td>
</tr>
</tbody>
</table>

### Borough

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southwark / Lambeth</td>
<td>Westminster</td>
<td>Wandsworth / Lewisham</td>
<td>Out of Borough</td>
</tr>
</tbody>
</table>

### Safeguarding raised

<table>
<thead>
<tr>
<th>0</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Barrier to discharge requiring STAT input

<table>
<thead>
<tr>
<th>0</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes (e.g. keysafe, access, reduced capacity in ERR)</td>
</tr>
</tbody>
</table>

Total: [33]
Therapy Complexity 2015 versus 2016

65% increase
Investigating associations

Therapy Complexity Scale and CFS implemented within STAT for all >70

4 month data collection period for all patients seen on AFU (N=312, mean age 84)

Statistical analysis completed looking for associations between CFS, TCS and Therapy time
Significant positive association between CFS and TCS ($r_s=.319$, $p=0.01$)
Significant positive association between TCS and time  
\((r_s=.409, p=0.01)\)

Positive association between CFS and time  
\((r_s=.185, p=0.01)\)
Conclusions

• Development of a Therapy Complexity Scale allowed objective measurement of a perceived change in patient caseload.

• As frailty increases, therapy complexity also increases.

• More complex patients take more therapy time.

• The developed TCS is a useful tool to describe, monitor and manage the AFU patient cohort.
References

1. British Geriatrics Society (2012) Quality Care for Older People with Urgent and Emergency Care Needs ‘Silver Book”


Bibliography


Impact of rapid influenza testing on antimicrobial utilisation

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Mathew Hewitt, James Walters, Mitch Reed, Katy Lomas, Julia Vasant, Belen Espina

1. Acute Medicine Department, Royal United Hospital NHS Foundation Trust, Bath
2. Microbiology Department, Royal United Hospital NHS Foundation Trust, Bath
3. Microbiology Department Great Western Hospitals NHS Foundation Trust
Background

- Increasing incidence of influenza cases over recent seasons
  - On site influenza testing
    - Available in RUH since October 2017
    - More reliable and rapid
    - Median time to result from 29h to 3h

![Flu hospitalisation rate](chart.png)

*Source: Public Health England*
Aims

To determine whether rapid influenza testing:

- Improves the management of patients with influenza in the acute setting
- Reduces prescribing of empirical antibiotics in influenza positive patients
- Enables more appropriate and timely antiviral prescribing
Methods

• Retrospective review

• All rapid influenza tests over a 10-day period in January 2018

• Emergency Department, Medical Assessment Unit and Ambulatory Care

PHE criteria

Temperature ≥ 37.8 C

**AND** one of the following:

• acute onset: cough, hoarseness, nasal discharge or congestion, SOB, sore throat, wheezing, sneezing

• OR acute deterioration in physical or mental ability without other known cause on assessment by a senior clinician
**Results (1): Testing and yield**

Overall yield for rapid influenza testing = 34%

<table>
<thead>
<tr>
<th>Number of flu tests performed</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; – 10&lt;sup&gt;th&lt;/sup&gt; January</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>53</td>
</tr>
<tr>
<td>2018</td>
<td>165</td>
</tr>
</tbody>
</table>

Most samples requested whilst in ED (90%)

Rapid influenza test outcomes

- Influenza negative: 108
- Influenza A positive: 22
- Influenza B positive: 36
- Influenza A & B positive: 1
Results (2): Testing according to clinical criteria

- 60% of all patients tested met PHE clinical criteria

- Of all positive influenza cases, one in four (n=15) did not meet the PHE criteria
  - Afebrile
  - Prolonged duration of symptoms
**Results (3): Antimicrobial utilisation**

- 61% positive influenza cases commenced on antibiotics prior to rapid flu test result

<table>
<thead>
<tr>
<th>Antibiotics stopped with positive result</th>
<th>Antibiotics continued with positive result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No reason documented</strong></td>
<td><strong>Reason documented</strong></td>
</tr>
</tbody>
</table>
| 5 (14.3%)                               | 10 (28.6%)                                 | 20 (57.1%)
Results (4): Antiviral treatment

• None of the patients were commenced on antiviral treatment prior to result

• Almost half of patients (46%) with confirmed influenza were commenced on oseltamivir
### Results (5): Length of hospital stay

#### RUH Influenza Case Study

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient history</strong></td>
<td>63 yo male. Admitted with cough, fevers and generally unwell</td>
<td>65 yo female. Admitted with cough, fevers and body aches</td>
</tr>
<tr>
<td><strong>Rockwood Frailty Score</strong></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Co-morbidities</strong></td>
<td>Hypertension, BPH, inguinal hernia</td>
<td>Hypertension, osteoarthritis</td>
</tr>
<tr>
<td><strong>Length of time between admission and positive flu test</strong></td>
<td>26 hours</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>Number of antibiotic doses administered during admission</strong></td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td><strong>Length of hospital stay</strong></td>
<td>3.5 days</td>
<td>4 hours</td>
</tr>
</tbody>
</table>
Discussion (1)

- Widely utilised at the front door

- Influenza testing has doubled in 2017/18 season
  - Availability of rapid influenza test
  - Moderate to high level of influenza activity (moderate in previous season)

- Are we testing the right patients?
  - Clinical testing criteria (PHE) was not met in 40% of patients who were tested for influenza
Discussion (2)

*It is encouraging that*....

- 39% patients did not have antibiotics started, and in a small proportion antibiotics were stopped
  - Can we improve on this?

- Prompted antiviral treatment in almost 50% of flu positive patients
  - Why not more?

- Anecdotal evidence suggests that rapid flu testing may reduce length of hospital stay
Future prospects

• RUH influenza guidelines
  • Flowcharts, apps

• Education to all staff whilst having flu jab

• Extended hours during flu season (8am-8pm)

• Point of care testing to cover 24 hrs
Thank you for listening

Any questions?
References

• Reed M, Noble J, Espina B. On-site influenza testing is rapid and reliable, paper presented to the Society for Acute Medicine Conference, Edinburgh, September 2016.