Background
Supported self-management for asthma reduces use of healthcare resources, improves asthma control and quality of life.

Routine data codes can be inaccurate and inconsistent

Aim
• To determine the accuracy of codes for detecting exacerbation (and other outcomes) in routine primary care data compared to data extracted by inspecting the record.
• To explore alternative codes and proxies to improve accuracy.

Results
Demographics: Mean age: 50 yrs (SD 20 yrs) 59% female

Unscheduled healthcare in the ‘gold standard’ data
33% had an unscheduled primary care consultation
2% had attended A & E
1% had been admitted to hospital
34% had any unscheduled care (primary care/A&E/hospital)

Provision of action plans

<table>
<thead>
<tr>
<th>Codes</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precise codes</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>+Imprecise codes</td>
<td>34%</td>
<td>95%</td>
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</tbody>
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Routine review

<table>
<thead>
<tr>
<th>Codes</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precise codes</td>
<td>47%</td>
<td>98%</td>
</tr>
<tr>
<td>+Imprecise codes</td>
<td>58%</td>
<td>97%</td>
</tr>
<tr>
<td>+RCP3Q codes</td>
<td>86%</td>
<td>97%</td>
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</tbody>
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Example of codes

Precise codes: e.g. H333. Acute exacerbation of asthma
Imprecise codes: e.g. R0609 Wheezing
Treatment codes: e.g. fe6h, Prednisolone 5m
Combinations of codes: e.g. ‘Exacerbation’ or ‘wheezing’

We looked for the best combination of codes in terms of sensitivity and specificity for use as an outcome measure.

Conclusions and implications

• We have optimised algorithms of codes to best detect unscheduled care from read codes in routine UK primary care records.
• Unscheduled care can be used in trials as long as the intervention doesn’t change coding behaviour
• Provision of action plans has a poor accuracy and cannot be used as an outcome in trials.
• In addition, it is likely that the IMP2ART intervention will influence coding of action plan ownership

Implications for power calculations

• Need to use statistics based on predicted outcomes not literature as could be different.
• Large inter practice variation in coding -> Larger sample size

Methods

500 sets of records (50 from each of 10 practices)

We tested the sensitivity and specificity of groups of clinically relevant read codes for an unscheduled asthma care (and other outcomes) within the study year.

Results

A&E and hospital admissions
Sensitivity for A&E visits and hospital admissions was <9%.
Asthma A&E and hospital admissions were recorded using the same codes as unscheduled primary care visits.

All unscheduled care
Hospital admissions + A&E + unscheduled primary care

Sensitivity 71% (CI 63% to 80%)
Specificity 82% (CI 77% to 86%)

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