eFrailty Report V1
16th August 2019

User Guide for GP Practices
SPIRE Local
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1 Introduction

1.1 Background

The electronic frailty index (eFI) is a clinically validated tool that can identify people with frailty on a population basis using routinely collected primary care data.

The eFI, which uses a cumulative deficit model for frailty, has been validated against a population of over 900,000 people, aged 65 years and over. The practical application of the tool was successfully tested by GP practices working with Healthcare Improvement Scotland’s ihub.

As individuals interact with GP practices, their records accumulate a list of Read codes and community prescriptions. The eFI uses a subset of these Read codes (approximately 3,000) to interpret any number of up to 36 potential deficits (Figure 1, overleaf). The number of deficits that an individual is considered to have is then divided by the total (36) to produce a score.

The score determines whether a person is considered:
- Fit (a score below 0.12)
- Mildly frail (0.12 to 0.24)
- Moderately frail (0.24 to 0.36)
- Severely frail (0.36 and above)

This can be calculated for an individual or for a whole GP practice population.

Eg the eFI score for an individual with 11 deficits would be calculated as:

\[ \frac{11}{36} = 0.30 \text{ eFI score} \]

The individual in the above example would be identified as Moderately Frail, as they have an eFI score between 0.24 and 0.36.
<table>
<thead>
<tr>
<th>Disease State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis</td>
</tr>
<tr>
<td>Atrial Fibrillation</td>
</tr>
<tr>
<td>Chronic Kidney Disease</td>
</tr>
<tr>
<td>Coronary Heart Disease</td>
</tr>
<tr>
<td>Diabetes</td>
</tr>
<tr>
<td>Foot Problems</td>
</tr>
<tr>
<td>Fragility Fracture</td>
</tr>
<tr>
<td>Heart Failure</td>
</tr>
<tr>
<td>Heart Valve Disease</td>
</tr>
<tr>
<td>Hypertension</td>
</tr>
<tr>
<td>Hypotension/Syncope</td>
</tr>
<tr>
<td>Osteoporosis</td>
</tr>
<tr>
<td>Parkinson’s Disease</td>
</tr>
<tr>
<td>Peptic Ulcer</td>
</tr>
<tr>
<td>Peripheral Vascular Disease</td>
</tr>
<tr>
<td>Respiratory Disease</td>
</tr>
<tr>
<td>Skin Ulcer</td>
</tr>
<tr>
<td>Stroke and TIA</td>
</tr>
<tr>
<td>Thyroid Disorders</td>
</tr>
<tr>
<td>Urinary System Disease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symptoms / Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dizziness</td>
</tr>
<tr>
<td>Dyspnoea</td>
</tr>
<tr>
<td>Falls</td>
</tr>
<tr>
<td>Memory and Cognitive Problems</td>
</tr>
<tr>
<td>Polypharmacy</td>
</tr>
<tr>
<td>Sleep Disturbance</td>
</tr>
<tr>
<td>Urinary Incontinence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Limitation</td>
</tr>
<tr>
<td>Hearing Loss</td>
</tr>
<tr>
<td>Housebound</td>
</tr>
<tr>
<td>Mobility and Transfer problems</td>
</tr>
<tr>
<td>Requirement for Care</td>
</tr>
<tr>
<td>Social Vulnerability</td>
</tr>
<tr>
<td>Vision Problems - Blindness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Abnormal laboratory value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia &amp; Haematinic Deficiency</td>
</tr>
</tbody>
</table>

Figure 1: Deficits included in the eFI
1.2 Purpose

Evidence shows that timely identification of frailty followed by appropriate evidence-based interventions can help to reduce the likelihood of progression of frailty and support the long-term management of people’s health and wellbeing.

Unlike other risk prediction tools, the eFI assesses an individual’s condition using existing data from primary care systems. This increases the likelihood of identifying individuals most at risk earlier in their progression of frailty and before they experience a crisis.

The eFI is available through GP systems such as Vision and EMIS, however, there are a few key benefits of using the eFI through SPIRE. These include additional reports which enable practices to identify people who have experienced significant change in their level of frailty during a six-month period. These high priority groups were developed with GP practices to identify people who have experienced significant deterioration and are likely to continue to do so.

The high priority groups include:

- People who escalate to being moderately frail;
- People who are moderately frail and experience the greatest change;
- People who escalate to being severely frail.

The SPIRE version of eFI also includes additional Read codes so that it more closely reflects Scottish coding practices. These codes were identified by an independent group of GPs from Scottish Clinical Information Management in Practice (SCIMP) who reviewed, added and tailored these codes for the Scottish context. As a result, the frailty scores are more thorough, taking into account variation in coding across Scotland.

The SPIRE eFI report is set to run (update overnight) on the first of each month. The report can also be run manually at any time.

1.3 Reporting Requirements

Information provided in each practice:

- Query to interrogate SPIRE database;
- Report containing stratified and summarised patient lists along with drilldown into individual patient information (Read coded deficits and prescribing)
1.4 Criteria
The following patients are included in this query:

Patient Type: Regular
Patient Status: Registered

1.5 Eligibility

eFI has been validated against practice populations aged 65 and over. Version 1 of the report only includes these patients.

Version 2 which will be released later in the second half of 2019 will add patients aged 18-64 with the caveat that the algorithm was not validated against this younger age group.

1.6 Risks and Issues

This report is limited to 36 deficits. The poly-pharmacy deficit currently includes any prescription type in the past 12 months due to the inability to differentiate repeat prescriptions from acute prescriptions in the current version of SPIRE.

1.7 Further Information

Further information on the eFI and guide on how to improve coding, can be found here:

2 SPIRE Local – Reports Display

It is recommended that eFrailty data is viewed through the report dashboard.

To view the eFrailty Report select the ‘Reports Display’ module from the SPIRE Homepage:

In the ‘Reports Display’ module you will see a list of available reports in the box on the left hand side of the page. Selecting a report will display a preview on the right hand side of the page, as shown in Fig 2.3
Select ‘eFrailty Report’ from the list and then click the ‘Open in Browser’ button:

**Open in Browser**

**NB:** Please select the latest version number if multiple eFI reports appear in the list.

This will open the eFrailty Report at the front page of the in your web browser.

Please note that we recommend Internet Explorer as the default browser, any other browser may have limitations on the functionality and how the report is viewed.
3 eFrailty Dashboard / Report

The front page of the eFrailty report will open in your browser as shown below:

![eFrailty Homepage](image)

The chart on the front page shows the grading of frailty in patients based on Read codes in your clinical system.

This report provides an overview of the patients in each eFrailty Index (eFI) category in your practice and highlights those whose frailty has worsened over the past six months.

At the top left of the screen you will see the dropdown for selecting the run date:

![Run Date](image)

Data is automatically shown for the most recent run date. To select a previous run date simply choose the required date from the dropdown list and press the ‘View Report’ button at the top right of the page.
This will update the data throughout the report.

![Image of eFrailty Homepage]

Figure 3.2 – eFrailty Homepage

Data is automatically shown for the 65+ age group detailed at the top of the homepage as shown in Fig 3.2 above.

4 Navigating eFrailty Report

From the eFrailty Report homepage, a full list of all patients aged 65 and over can be accessed, as shown below in Fig 4.1

![Image of eFrailty Homepage]

Figure 4.1 – eFrailty Homepage

The electronic frailty index (eFI) is a severity grading of frailty of older patients based on patterns of frailty coded in your clinical system. This report provides an overview of the patients in each eFI category in your practice, and highlights those whose eFI has increased over the past six months.

A full list of all patients aged 65 and over and their eFI can be accessed here.
This will take the user to a report showing a list of all patients aged 65 and over:

**Figure 4.2 – eFrailty Patient Listing for all patients**

From the eFrailty Report homepage, select any underlined figure from eFrailty Index Grouping or High Priority Patients sections, as shown in Fig 4.3 below:

**Figure 4.3 – eFrailty Homepage**
This will take the user to a report giving a list of the patients in the selected group (in this instance eFrailty Grouping Severe), as shown in Fig 4.4 below:

**Fig 4.4 – Patient List – Severe**

Details of patient’s CHI Number, Clinical System ID, Surname, Forename, Age, Gender, Frailty Group, Current eFI, Priority Group and Scoring Change in last 6 months information is available to view in all patient listings.
Clicking on a patient’s CHI number will take the user to the following page:

**Fig 4.5 – CHI Selection Breakdown Information (Top of Page)**

A summary of eFI scoring changes from previous years, current eFI Scoring and Deficit List (excluding prescription deficit) is provided on the CHI Breakdown page, as shown in Fig 4.5 above

<table>
<thead>
<tr>
<th>Date</th>
<th>Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>27/07/2015</td>
<td>Dyspnoea</td>
</tr>
<tr>
<td>02/02/2015</td>
<td>Social Vulnerability</td>
</tr>
</tbody>
</table>

**Fig 4.6 – CHI Selection Breakdown Information (Bottom of Page)**

A summary of Current Prescription List (latest per BNF chapter) is also provided on the CHI Breakdown page, as shown in Fig 4.6 above

<table>
<thead>
<tr>
<th>Latest Date</th>
<th>Prescription</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/12/2015</td>
<td>Adcal-D3 Chewable tablets</td>
</tr>
<tr>
<td></td>
<td>Alendronic Acid Tablets 70 mg</td>
</tr>
<tr>
<td></td>
<td>Citalopram Hydrobromide Tablets 20 mg</td>
</tr>
<tr>
<td></td>
<td>Clinitas Carbomer Eye Gel 0.2 %</td>
</tr>
<tr>
<td></td>
<td>Co-Codamol 30/500 Tablets</td>
</tr>
<tr>
<td></td>
<td>Ferrous Fumarate Capsules 305 mg</td>
</tr>
<tr>
<td></td>
<td>Furosemide Tablets 20 mg</td>
</tr>
</tbody>
</table>
5 Printing and Exporting

All report pages and patient listings can be exported to PDF, Excel or Word format by selecting the floppy disk icon on the bar at the very top of the page as shown in Fig 5.1 below. Reports and patient listings can also be printed by selecting the printer icon on this tool bar:

![Figure 5.1 – Navigation Toolbar Information](image)

6 Help

Further information can be found by clicking on the ‘Help’ button. The help button appears on all pages within the report and takes the user to a context specific help page.

These are accessible by selecting the yellow ‘Help’ button on any page of the report:

![Figure 6.1 – Help Button](image)

Select the ‘Back’ button to return to the Home Page.

7 Query Viewer

As well as being accessible via Reports Display, a breakdown of results can be viewed within ‘Query Viewer’ which can be accessed directly from the SPIRE local Homepage by selecting the following icon:

![Figure 7.1 – Query Viewer Icon – SPIRE Local Homepage](image)
The query viewer window will appear as follows:

![Query Viewer Window](image)

**Figure 7.2 – Query Viewer Patient Lists**

The required query (eFrailty Report) can be selected from the ‘Query’ dropdown list at the top left of the page:

- **Query:** eFrailty Report

The date of the query can be changed from the ‘Baseline Date’ drop down box at the top of the page:

- **Baseline Date:**
  - 01/01/2016
  - 01/07/2015

Results for each part of the query can be seen in the box on the left hand side of the page:

![Patient Analysis](image)

**Figure 7.3 – eFrailty Report – View All Queries**
Clicking on the appropriate row in the above box (figure 7.3) will show the patients returned by that search in the Patient List box on the right hand side. For example selecting the ‘Arthritis’ search will show all patients with Arthritis:

![Patient List](image1)

Figure 7.4 – Query Viewer – Patient List Tab

Functions of the buttons at the top of this page are outlined below.

To print the patient list, select this button: 

To export the patient list, as a CSV, select this button:

To perform a mail merge, select the following button:

To view the clinical event(s) that brought the patient into the search, select the patient by clicking on their row and then select the following button:

To view all clinical events for the patient, select the following button:

To view the logic and read codes of any search select the appropriate row in the box on the left hand side and the click on the rationale tab:

![Rationale Tab](image2)

Figure 7.5 – Query Viewer – eFrailty Arthritis Rationale Tab