The GARFIELD-AF Score

What is the GARFIELD-AF Score?

- A novel computer-generated machine learning risk model that predicts all-cause mortality, ischaemic stroke/systemic embolism (SE) and haemorrhagic stroke/major bleeding in low-risk atrial fibrillation (AF) patients

Why is a new score needed?

- Real-world data from the GARFIELD-AF registry demonstrate that around half of low-risk patients are receiving often unnecessary anticoagulation treatment
- A more accurate and user-friendly method is needed to assess patients according to their risk of death, stroke and major bleeding to help physician decisions on anticoagulation treatment
- Appropriately prescribed therapy can help reduce the incidence of stroke in AF patients

How was it developed?

The GARFIELD-AF Score was calculated using a computer-generated (machine learning) risk modelling approach, which included a more comprehensive factor inclusion compared with CHA₂DS₂-Vasc

Models were trained on indicators for three events
- all-cause mortality
- ischaemic stroke/thromboembolism
- haemorrhagic stroke/major bleed

The performance was compared with CHA₂DS₂-VASC in patients with a low risk of stroke
What did the model demonstrate in low risk patients?

<table>
<thead>
<tr>
<th>Performance measure</th>
<th>Events</th>
<th>GARFIELD-AF Score</th>
<th>CHA₂DS₂-VASc</th>
</tr>
</thead>
<tbody>
<tr>
<td>C statistic</td>
<td>All-cause mortality</td>
<td>0.72</td>
<td>0.56</td>
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<tr>
<td></td>
<td>Ischaemic stroke/thromboembolism</td>
<td>0.62</td>
<td>0.56</td>
</tr>
<tr>
<td></td>
<td>Haemorrhagic stroke/major bleed</td>
<td>0.72</td>
<td>0.57</td>
</tr>
</tbody>
</table>

- The design of the GARFIELD-AF Score was based on 38,984 patients enrolled in GARFIELD-AF between 2010 and 2015 for the listed events that occurred one year after enrolment.

What are the next steps?

- A simplified GARFIELD-AF Score is under development for web-based and mobile device applications, which may help physicians assess the appropriateness of anticoagulation in low-risk patients.
- The new GARFIELD-AF website (www.garfieldregistry.org) will include ongoing updates regarding the score.

For more information, please contact:
Rae Hobbs
Thrombosis Research Institute
E: RHobbs@tri-london.ac.uk