Heart Rate Variability (HRV)

Clinician Survey Results

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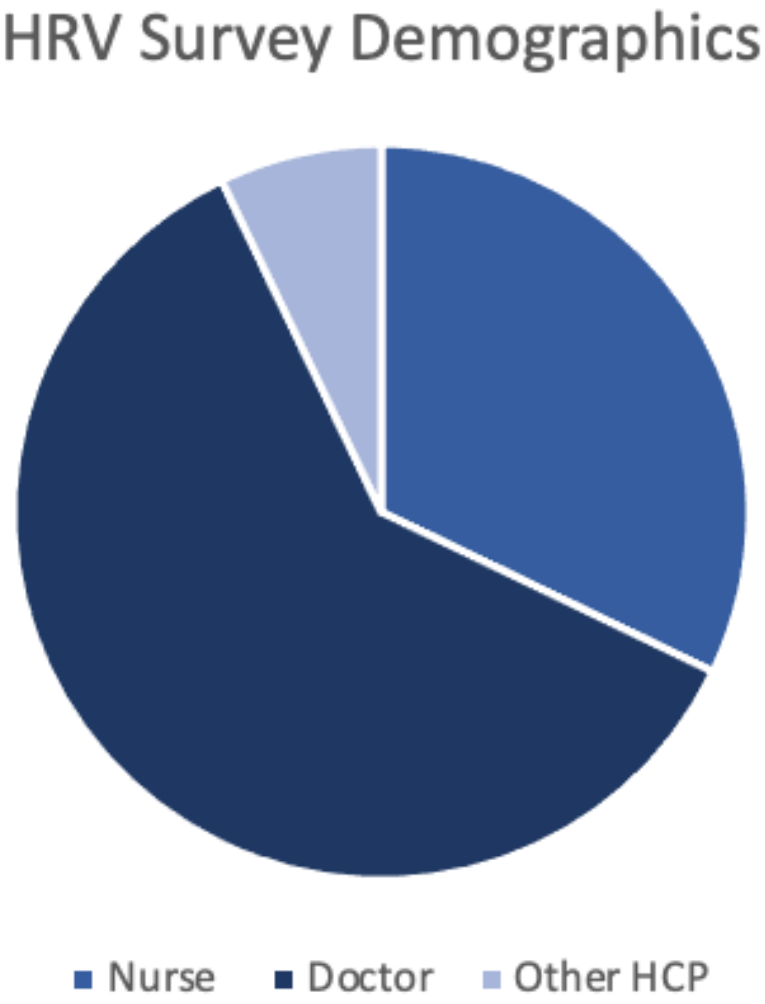
Demographics

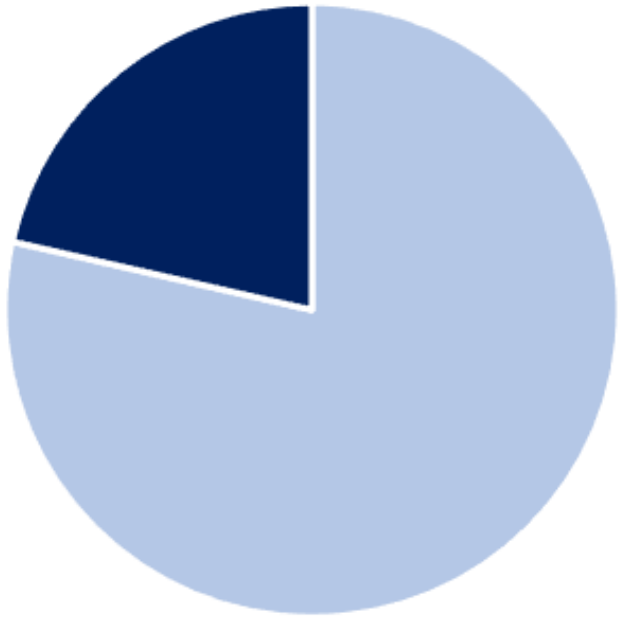


N=28

Doctors: 17
Nurses: 9
Other HCP: 2

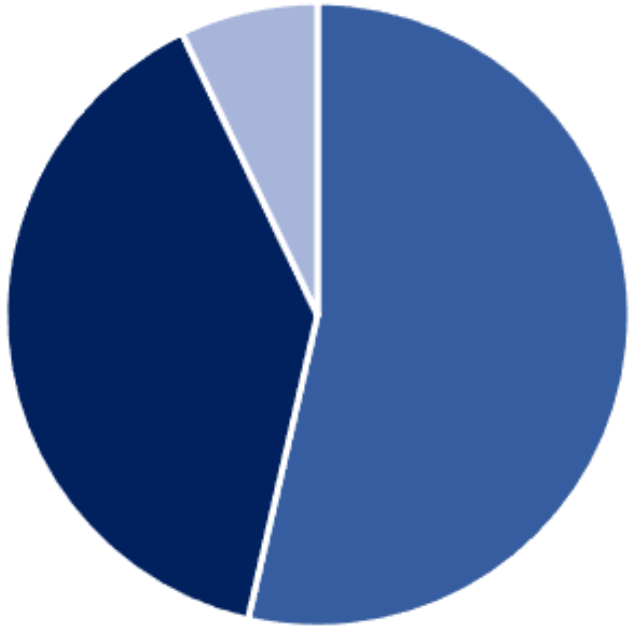
Duties and Responsibilities of Respondents

Are you directly responsible for taking obs?



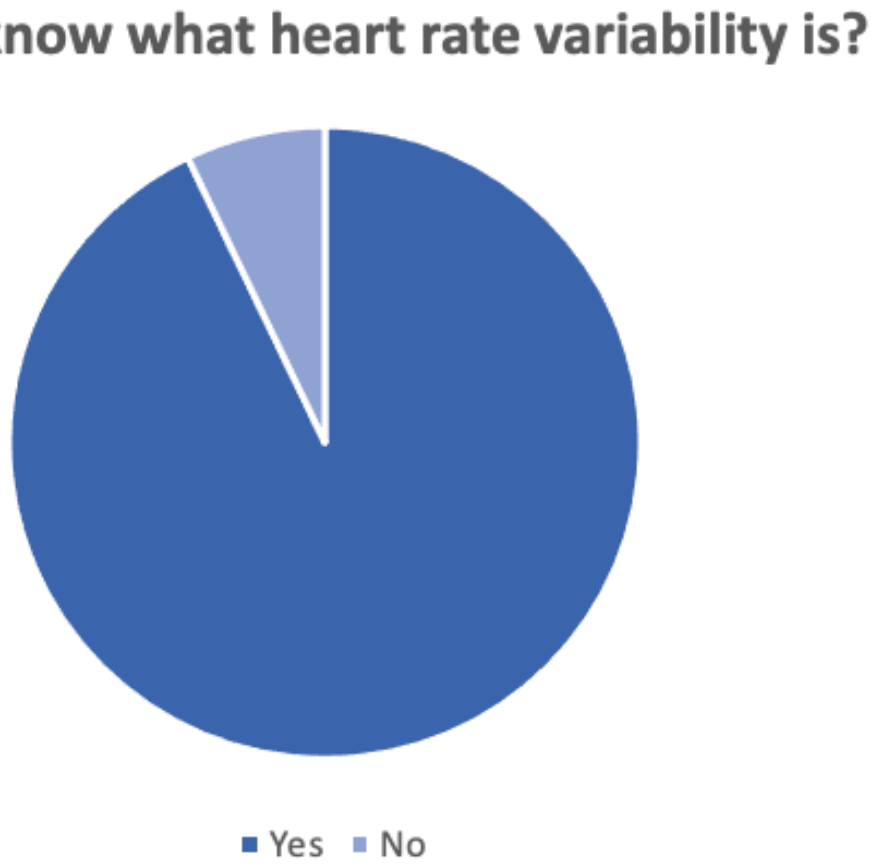
Yes ■ No ■ I do it sometimes

How often do you do ECGs?



■ More than once a week ■ At least once a week ■ Less than once a week

Awareness

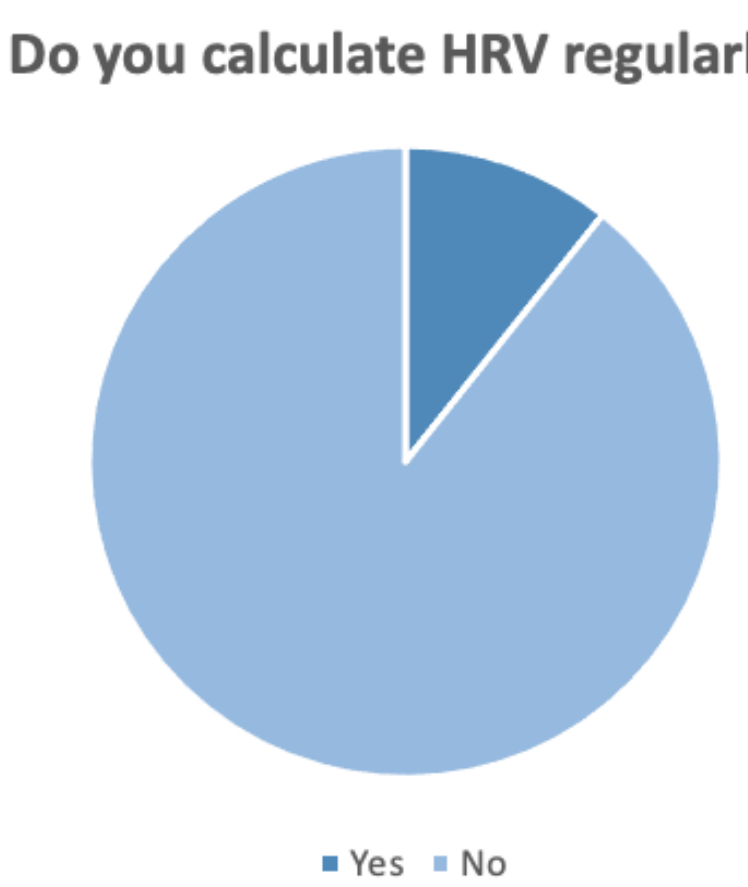


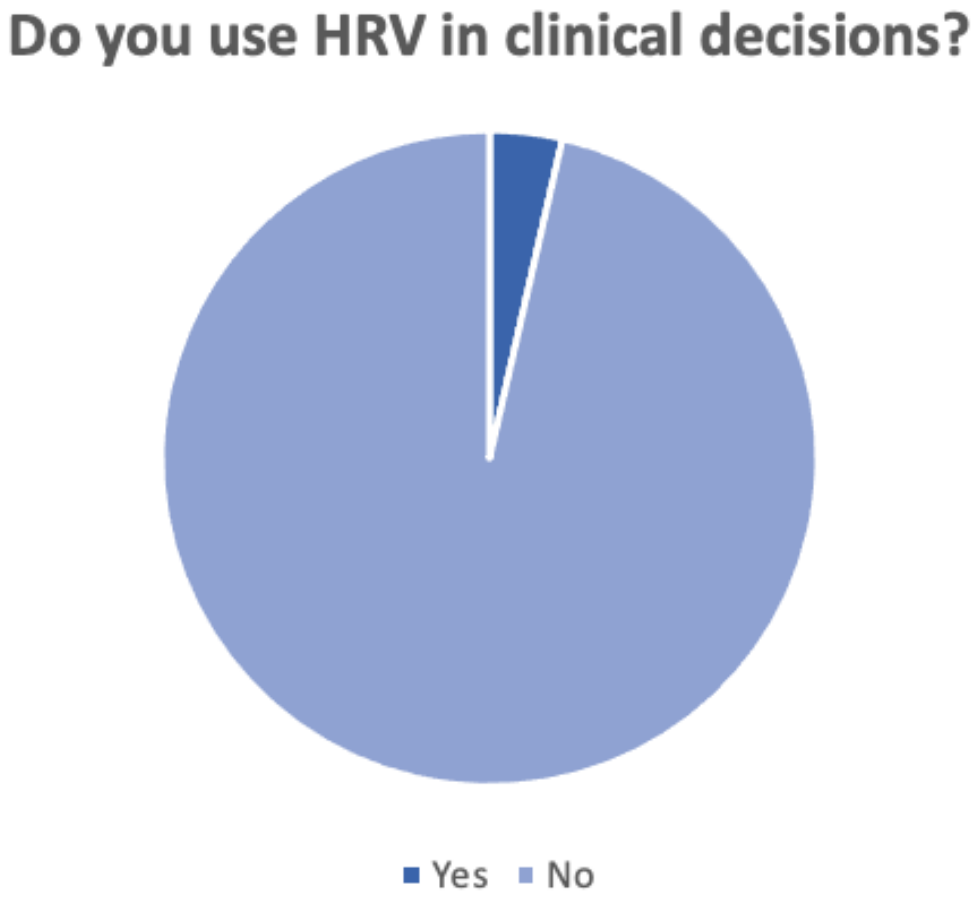
Raw Numbers

Yes = 26

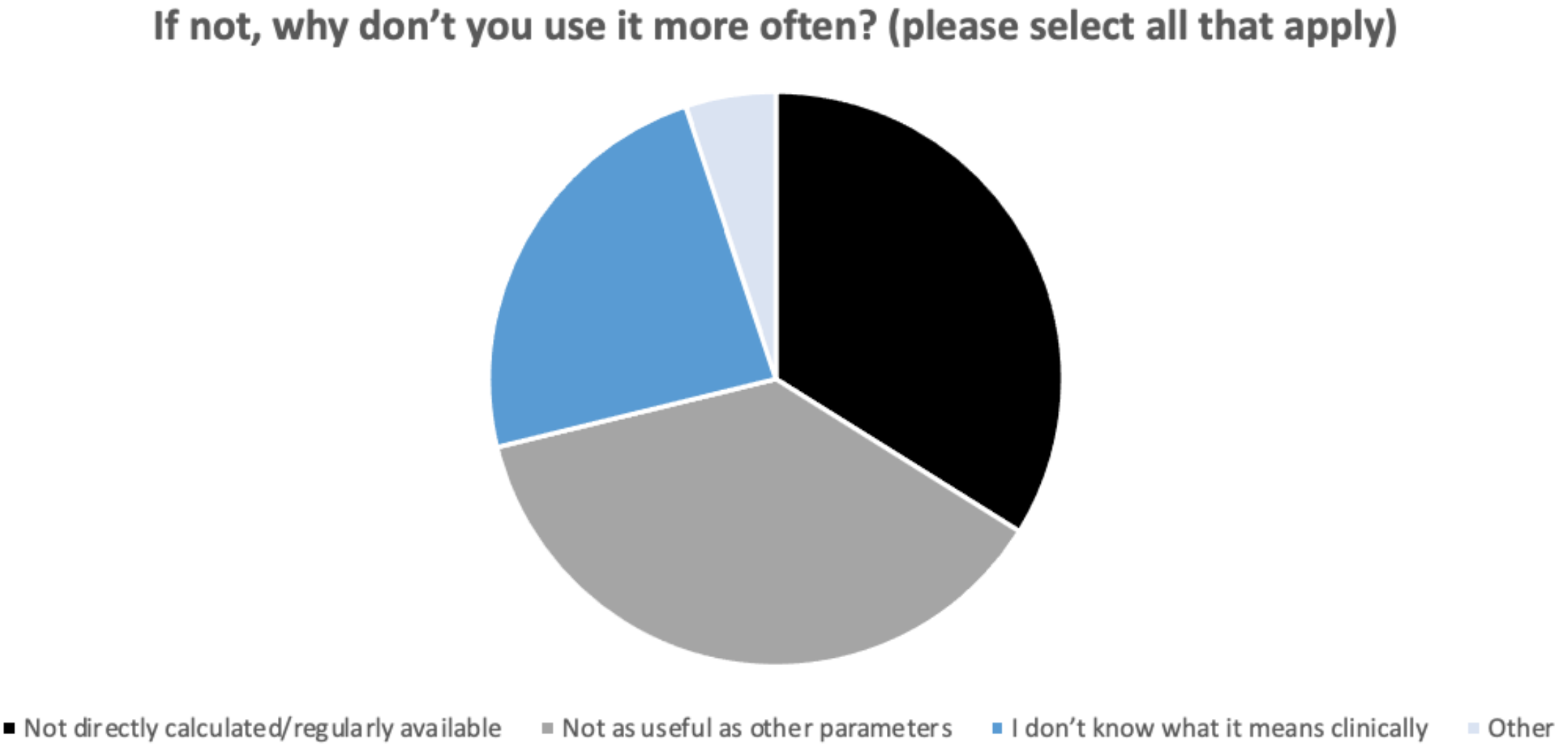
No = 2

Clinical Use





Identification of Issues

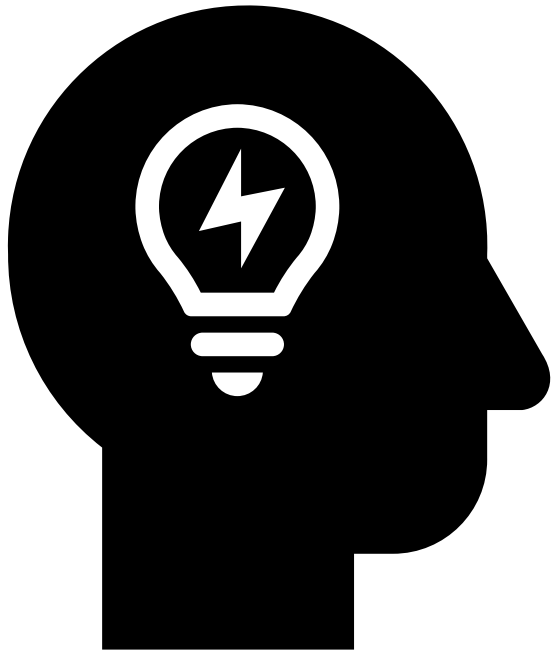


Survey - Issues Identified:

- **Lack of clinical awareness** – haven't been taught how HRV corresponds to clinical conditions? No regular updates on new correlations made between HRV and conditions?

- **Availability** – not automatically calculated as part of a routine ECG and needs to be manually calculated.

- **Usefulness** – related to knowledge levels?



Heart Rate Variability (HRV)

A General Practice POV

Here are some of the questions asked:

Do you routinely carry out ECGs at the GP?

Ans. “We usually refer cardiac patient to specialist facilities, but we do have the capacity to carry out ECGs here and do them occasionally.”

Here are some of the questions asked:

Do you normally calculate Heart Rate Variability from those ECGs?

Ans. “It’s a tricky one – I believe the specialized cardiac centers do in fact look at HRV, but we don’t really do that in general practice. That being said, I do get patients coming in and asking about it specifically after they’ve looked at stats from their watches, but unless I am genuinely concerned about the patient’s wellbeing, these things tend to not be the most accurate. ”

Here are some of the questions asked:

Why do you think we don't use this parameter more often in general practice?

Ans. "Another tricky question. We are obviously here to provide a more wholesome, total approach to healthcare and aren't cardio specialists, but there hasn't really been a lot of training around what to do with it, so unless you've done extra research as part of your CPD or so on, it can be difficult to navigate. "

Here are some of the questions asked:

If it was to become routinely available, do you think there is potential for application in GP?

Ans. “Absolutely. From personal interest, I know that HRV is generally a good reflection of cardiac health, and we look after a lot of patients with these chronic conditions. So yeah, I think it would be useful to have that for extra insight into how our patients are really doing.”

Here are some of the questions asked:

How do you think we could improve HRV awareness and use in GP?

Ans. “Just through your bog-standard signposting. Posters, leaflets, informational emails – we skip through a lot of emails everyday, but if it’s something that’s likely to make us better doctors, we’ll look at it. ”

Recommendations

Based on the survey results, as well as the GP consultation

Awareness

Improve awareness, both in hospitals and general practice.

WHY?

- One of the major issues with the use of HRV and why it wasn't more standardized was because a lot of clinicians didn't really know what to do with it.

HOW?

- Posters, flyers, leaflets, emails, campaigns…etc.

FEASIBLE?

- Absolutely – may not be directly related to our project, but would improve the chances of its success as would increase reach.

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Availability

Currently, it needs to be manually calculated, or requires equipment not routinely available.

WHY?

- HRV is routinely available through a lot of “smart” devices, e.g. Apple Watches. Need to extend that availability to hospital and GP settings.

HOW?

- Update ECG devices to allow incorporation of software updates and algorithms such as the one we are currently developing.
- Introduce new devices specifically made to measure HRV.

FEASIBLE?

- Not very cost-effective and requires funding and manpower not necessarily available to the NHS right now.
- On the other hand, in more ‘modern’ hospitals and environments, could be easily added to systems that accept software updates.

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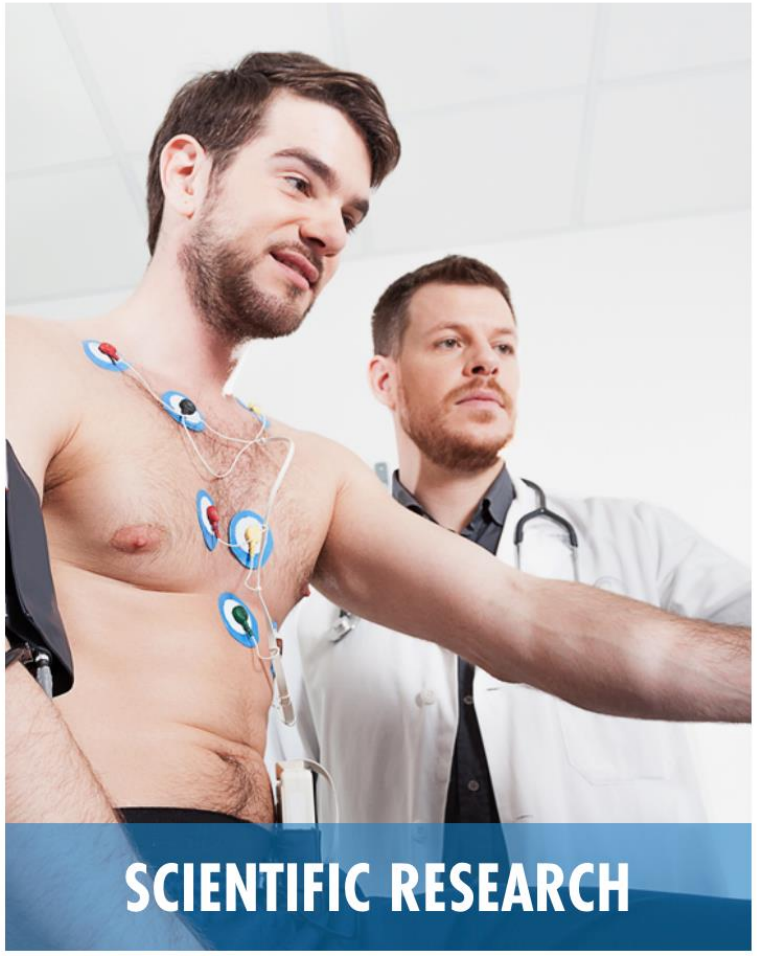
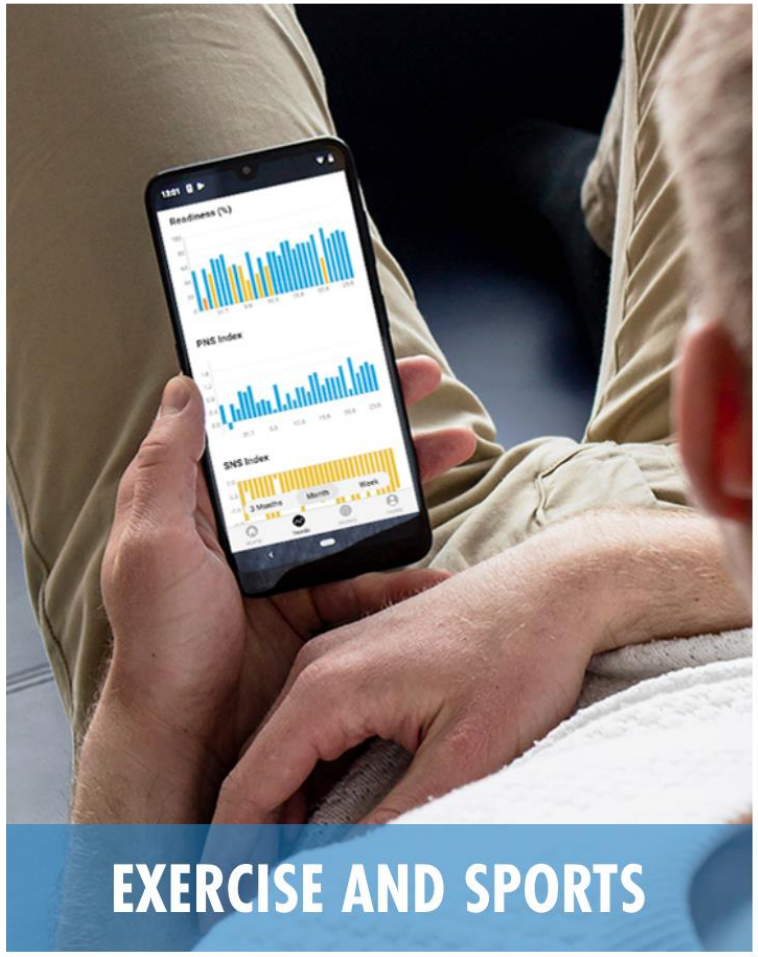




For Scientific Research

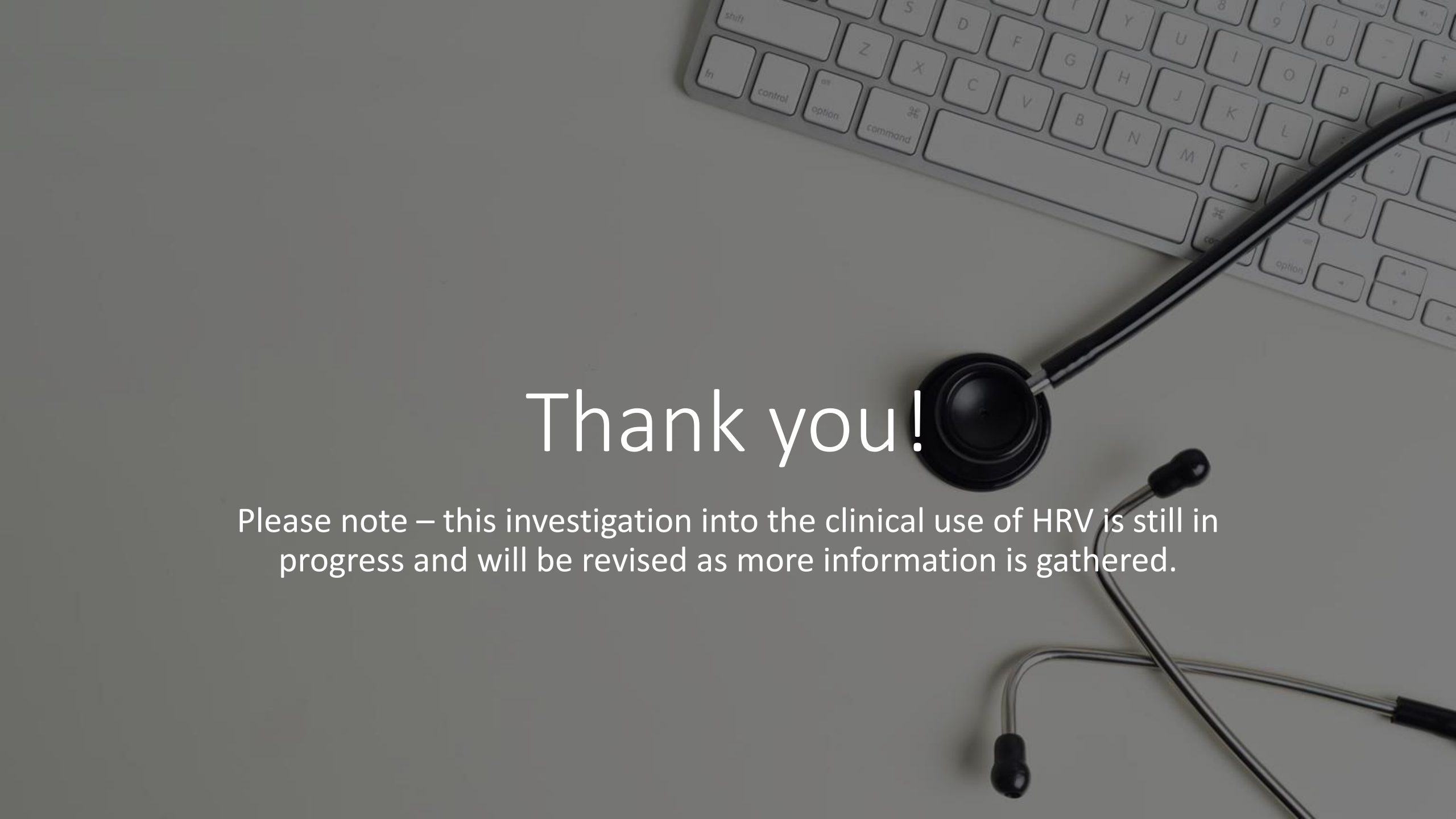
Market leader software for researchers using heart

For Wellbeing and Health

Heart rate variability (HRV) is a measure of cardiac

For Exercise and Sports

Heart rate variability (HRV) is an accurate method to



Thank you!

Please note – this investigation into the clinical use of HRV is still in progress and will be revised as more information is gathered.