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# A patient-centered approach towards designing a novel CIED remote monitoring report

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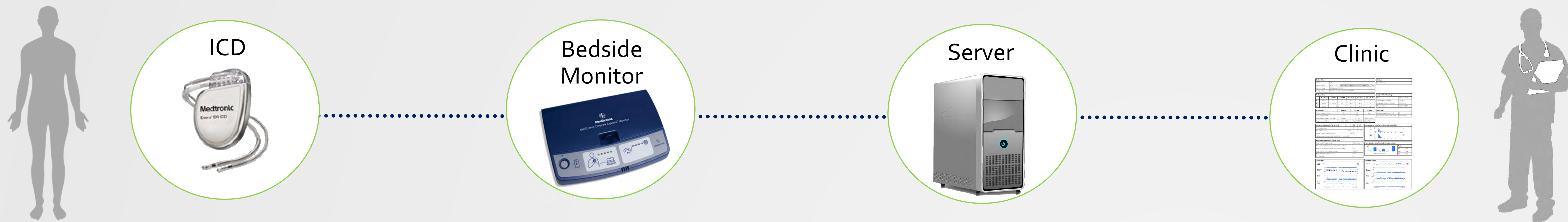
# A Patient-Centered Approach Towards Designing a Novel CIED Remote Monitoring Report

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## BACKGROUND

Individuals with cardiac implantable electronic devices (CIEDs) are not given access to their remote monitoring (RM) data, but they desire it.<sup>1</sup> The information is managed by their cardiology clinic and each center receives a high-level notification if serious abnormalities are detected in CIED function or cardiac rhythm.<sup>2</sup> The ability to access one's own health information can provide an opportunity for self-reflection, engagement and shared decision making with clinicians.<sup>3</sup>



## OBJECTIVE

We sought to identify the CIED remote monitoring device report content for delivery to patients via a Personal Health Record that encompasses all available device data and is responsive to user information needs and preferences.

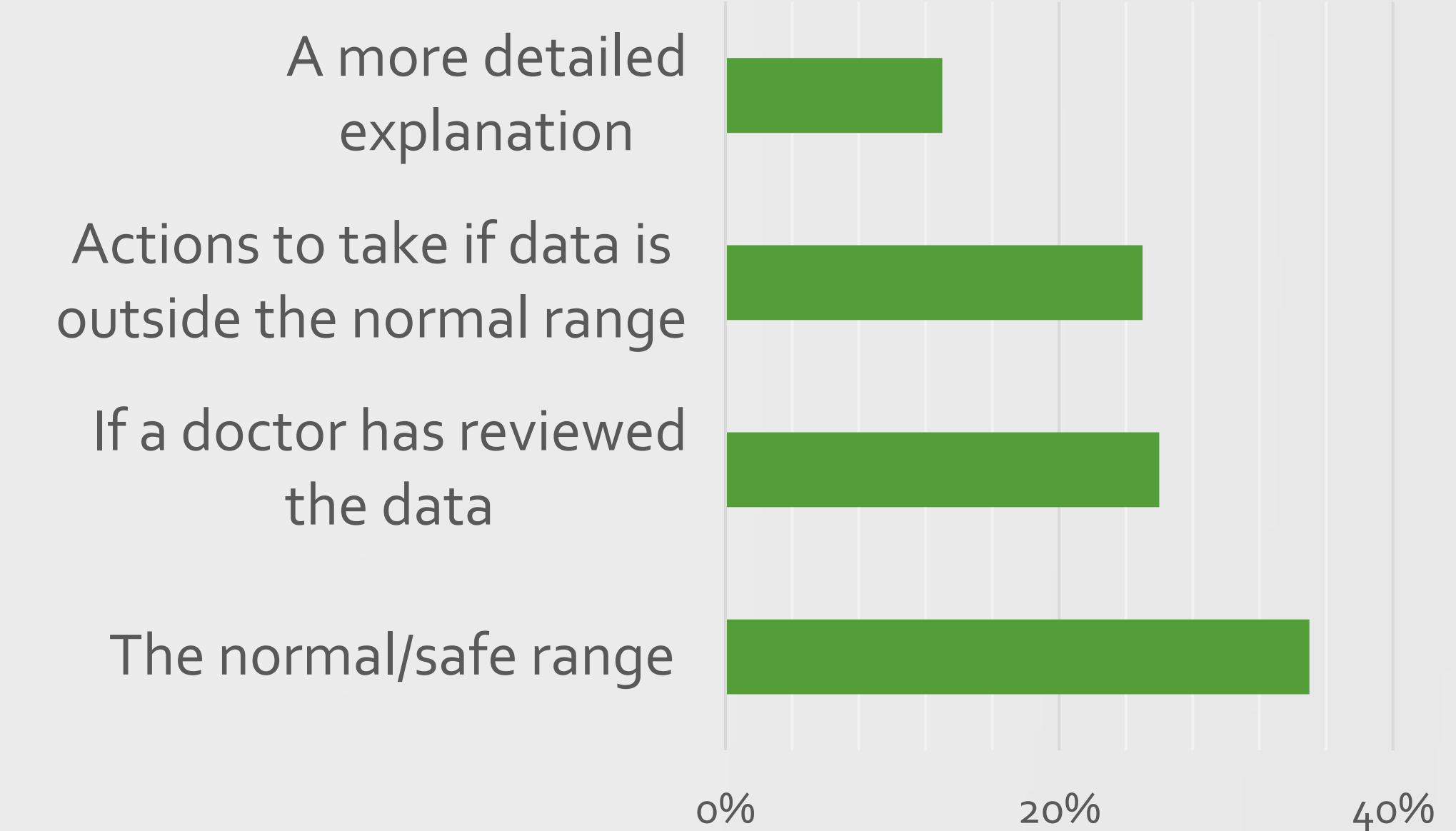
## RESULTS

Categories Most Preferred	Categories Most Discarded
Device Therapy – 80% (e.g., total shocks and ventricular pacing)	Device Settings – 58% (programmed parameters)
Cardiac Episodes – 72% (e.g., monitored and treated episodes)	Device Information – 48% (e.g., capture threshold)

9 Most Preferred Data from ICD	9 Most Preferred Data from Pacemaker
Monitored AT/AF episodes	Atrial Sensing (AS)
RV Defibrillation Impedance	Monitored AT/AF Episodes
SVC Defibrillation Impedance	Atrial Pacing Impedance
Atrial Pacing Impedance	Pace-Terminated AT/AF Episodes
RV Pacing Impedance	Observations
Aborted Charges AT/AF	Average V. Rate during AT/AF
Total Ventricular Pacing (VP)	Treated AT/AF Episodes
Treated AT/AF Episodes	Atrial Pacing (AP)
Pace-Terminated VT/VF Episodes	Recommended Replacement Time (RRT)

- ☐ Reasons for discarding:
  - Insufficient understanding
  - Unclear relevance to health condition
  - Information overload
  - Difficulty interpreting numbers
- ☐ Most patients wanted to receive data every 3 months (56%)

### Additional Information Desired



## CONCLUSIONS

- Patients do not wish to receive all RM data
- Interested in receiving device activity and cardiac episode data
- Not interested in device settings or information
- Shared preferences are useful for a novel patient-centered RM report
- Current study extends our previous work confirming the patient desire for RM data<sup>4</sup>

## REFERENCES

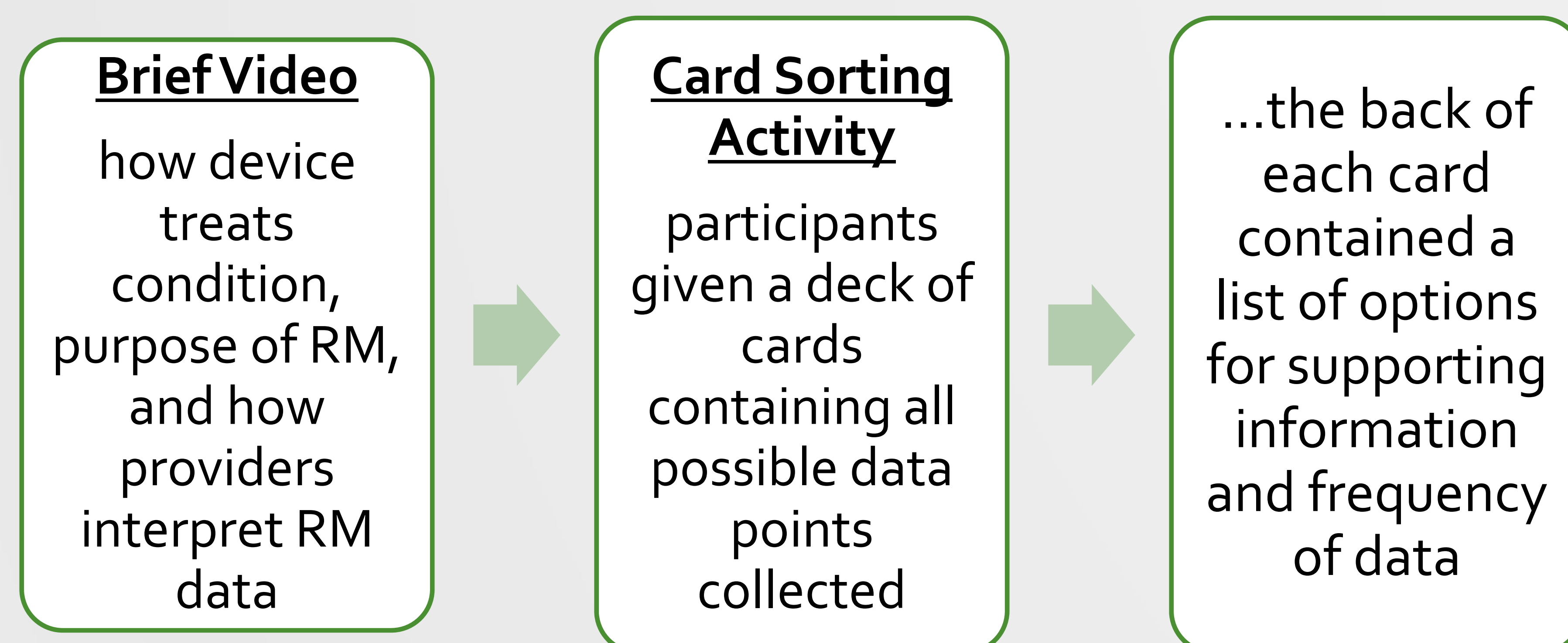
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## METHODS

4 focus groups:

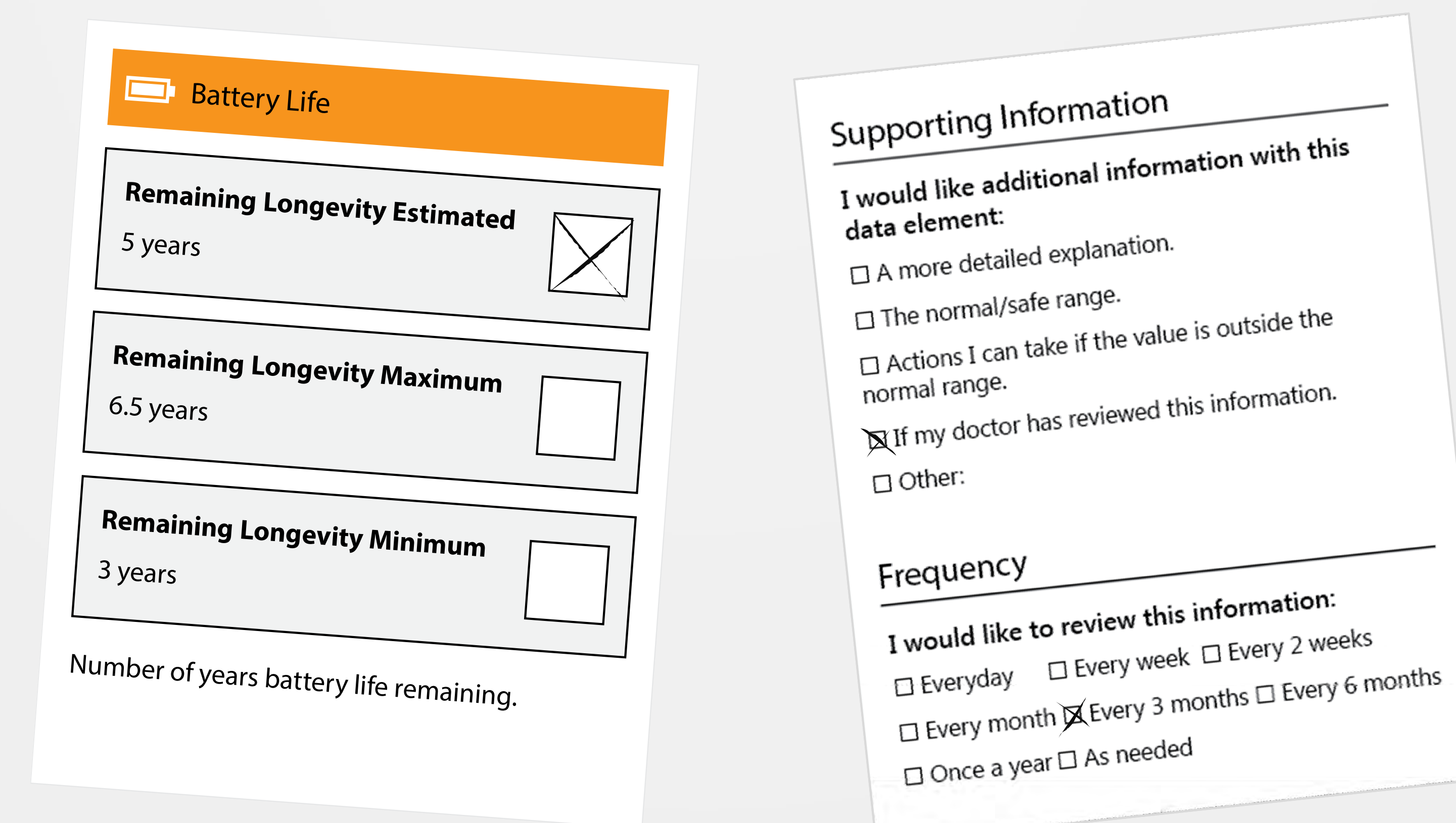
- 2 for patients with implantable cardioverter defibrillators (ICDs) (N= 13, 9 patients and 4 caregivers) (55 data points)
- 2 for patients with pacemakers (N = 14, 10 patients and 4 caregivers) (37 data points)

Patients selected which data points within categories they would find useful, sorted the cards into 3 piles, and indicated how frequently they would like to receive the data and what, if any, additional information they desired.



Cards were grouped into meaningful categories:

Health Information	Cardiac Episodes	Device Therapy
Device Settings	Device Integrity	Battery Life



**Battery Life**

Remaining Longevity Estimated 5 years ☒

Remaining Longevity Maximum 6.5 years ☐

Remaining Longevity Minimum 3 years ☐

Number of years battery life remaining.

**Supporting Information**

I would like additional information with this data element:

☐ A more detailed explanation.

☐ The normal/safe range.

☐ Actions I can take if the value is outside the normal range.

☒ If my doctor has reviewed this information.

☐ Other:

**Frequency**

I would like to review this information:

☐ Everyday ☐ Every week ☐ Every 2 weeks

☐ Every month ☒ Every 3 months ☐ Every 6 months

☐ Once a year ☐ As needed

