

Messaging Cardiovascular Implantable Electronic Device (CIED) Remote Monitoring Data to Patients

Co-Principal Investigators:

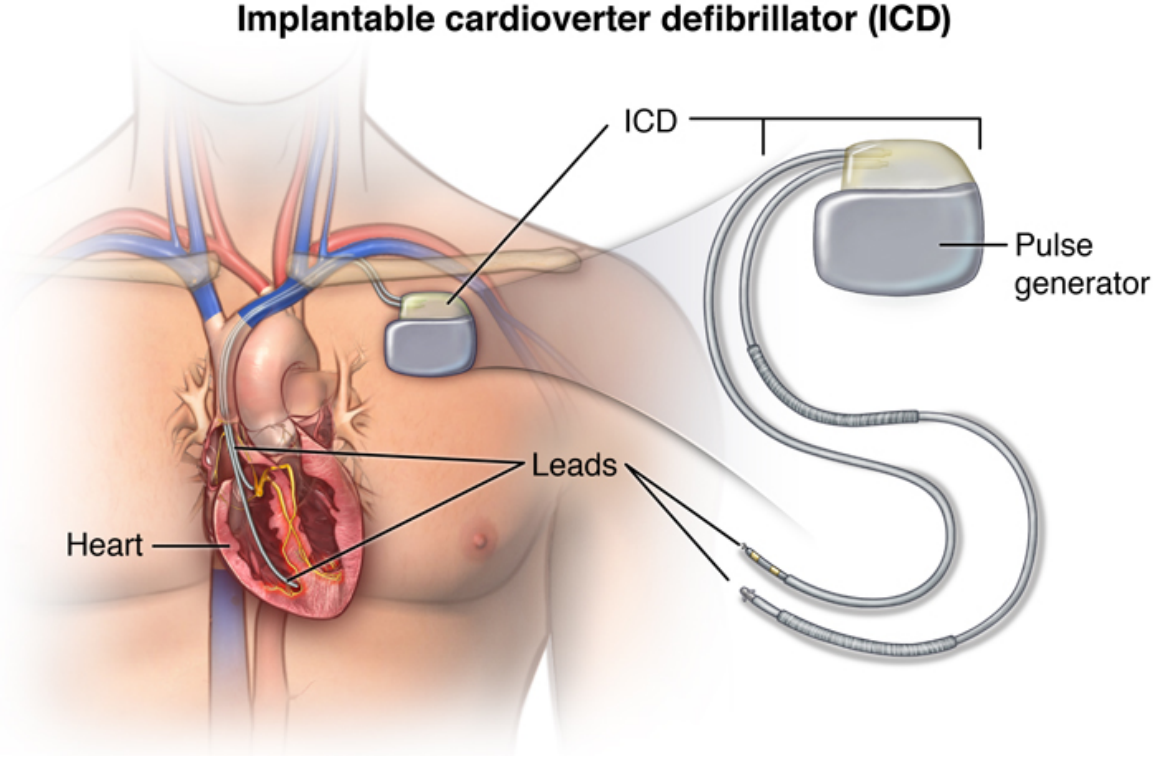
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Study Sponsored by:



Cardiovascular Implantable Electronic Devices (CIED)

Find ways to involve patients with CIED in their health care by providing them with their device information.



CIED Data > Patient Portal to EHR (MyChart®)

HOW REMOTE MONITORING WORKS



1 SCHEDULE
Clinic schedules dates for the patient to send information from their device to the clinic.

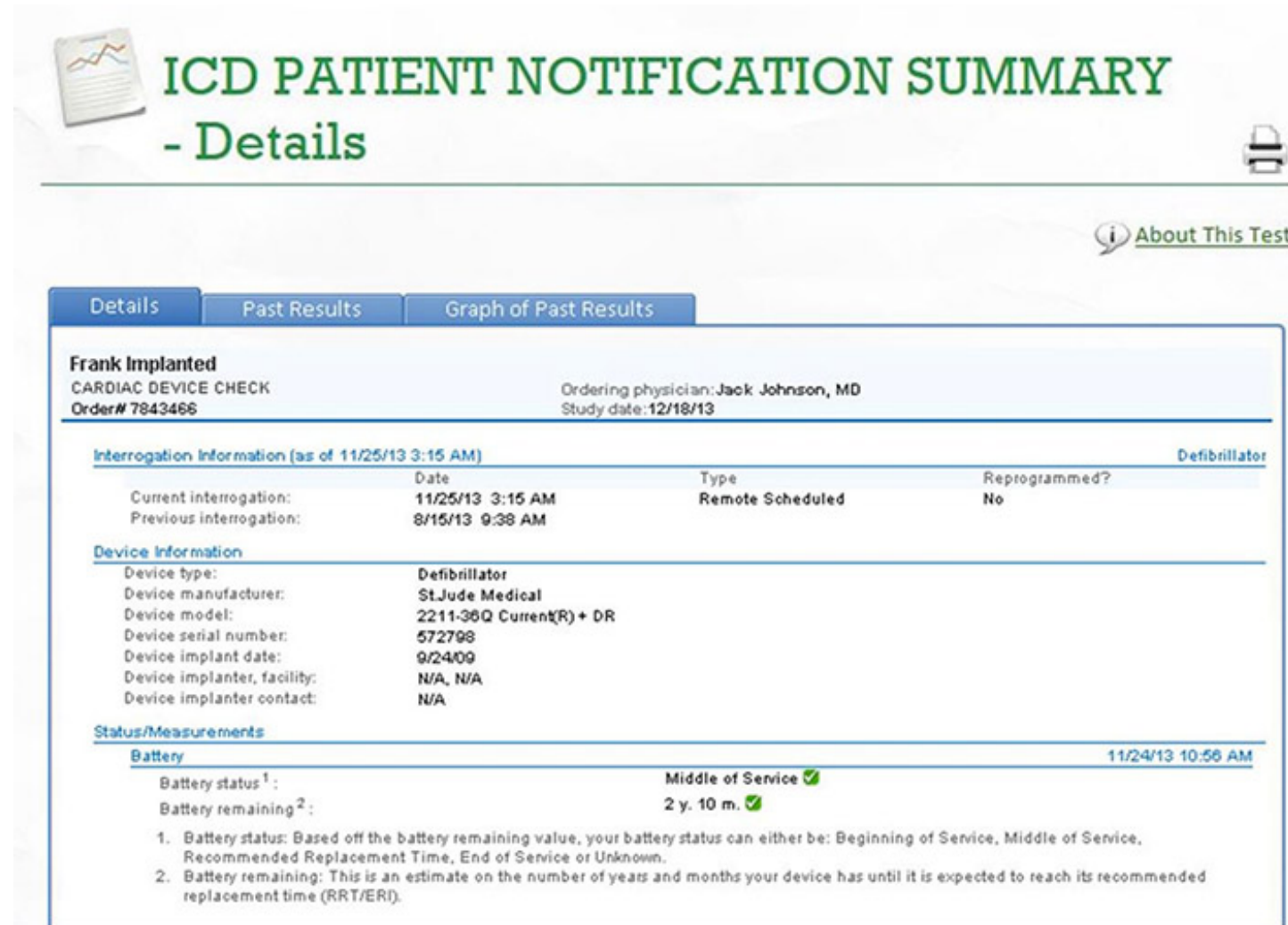
2 SEND
Device information is sent automatically (for wireless ICDs) or manually by the patient (for pacemakers).

3 TRANSMIT
Device information travels from the remote monitor to the clinic.

4 REVIEW
The clinic reviews the device information on a secure website.

PHR DASHBOARD
Present up-to-date device data in patient's MyChart.

Example of ICD Patient Notification Summary: *hundreds of data points*



The screenshot displays a patient notification summary for an ICD. The title is "ICD PATIENT NOTIFICATION SUMMARY - Details". It includes a printer icon and an "About This Test" link. The main content is organized into tabs: "Details", "Past Results", and "Graph of Past Results". The "Details" tab is active, showing patient information: "Frank Implanted", "CARDIAC DEVICE CHECK", "Order# 7843466", "Ordering physician: Jack Johnson, MD", and "Study date: 12/18/13". Below this is a table for "Interrogation Information (as of 11/25/13 3:15 AM)" with columns for Date, Type, Reprogrammed?, and Defibrillator. The table shows two rows: "Current interrogation" (11/25/13 3:15 AM, Remote Scheduled, No) and "Previous interrogation" (8/15/13 9:38 AM). Underneath is "Device Information" listing details like device type (Defibrillator), manufacturer (StJude Medical), model (2211-36Q Current(R) + DR), serial number (572798), and implant date (9/24/09). The "Status/Measurements" section shows "Battery" status as "Middle of Service" with a green checkmark and "Battery remaining" as "2 y. 10 m." with a green checkmark. A date "11/24/13 10:56 AM" is also present. At the bottom, there are two numbered footnotes explaining the battery status and remaining time.

ICD PATIENT NOTIFICATION SUMMARY - Details

[About This Test](#)

Details | Past Results | Graph of Past Results

Frank Implanted
CARDIAC DEVICE CHECK
Order# 7843466

Ordering physician: Jack Johnson, MD
Study date: 12/18/13

Interrogation Information (as of 11/25/13 3:15 AM)

	Date	Type	Reprogrammed?	Defibrillator
Current interrogation:	11/25/13 3:15 AM	Remote Scheduled	No	
Previous interrogation:	8/15/13 9:38 AM			

Device Information

Device type: Defibrillator
Device manufacturer: StJude Medical
Device model: 2211-36Q Current(R) + DR
Device serial number: 572798
Device implant date: 9/24/09
Device implanter, facility: N/A, N/A
Device implanter contact: N/A

Status/Measurements

Battery 11/24/13 10:56 AM

Battery status¹: Middle of Service ✓
Battery remaining²: 2 y. 10 m. ✓

1. Battery status: Based off the battery remaining value, your battery status can either be: Beginning of Service, Middle of Service, Recommended Replacement Time, End of Service or Unknown.
2. Battery remaining: This is an estimate on the number of years and months your device has until it is expected to reach its recommended replacement time (RRT/ERI).

Study Groups and Characteristics

N = 191

Group A

- N = 73
- Patient Notification Summary via MyChart®

Group B

- N = 71
- Patient Notification Summary via postal mail

Group C

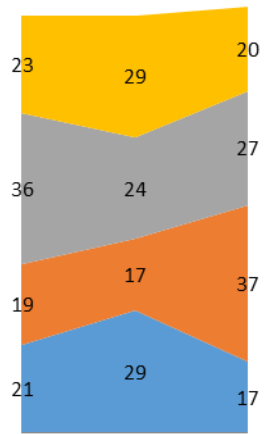
- N = 47
- Standard of Care only

Group C had significantly:

- Lower
 - Level of Education ($p = 0.004$)
 - Income ($p = 0.0006$)
 - Computer Skills ($p < 0.0001$)
- Higher level of comorbidities
 - Heart Failure ($p = 0.0015$)
 - Diabetes ($p = 0.0001$)
 - Chronic Lung Dz ($p = 0.0033$)
 - Ischemic Heart Dz ($p = 0.0081$)
 - History of CABG ($p = 0.0024$).

nt Activation Measure (PAM): Baseline, 3-, 6-months

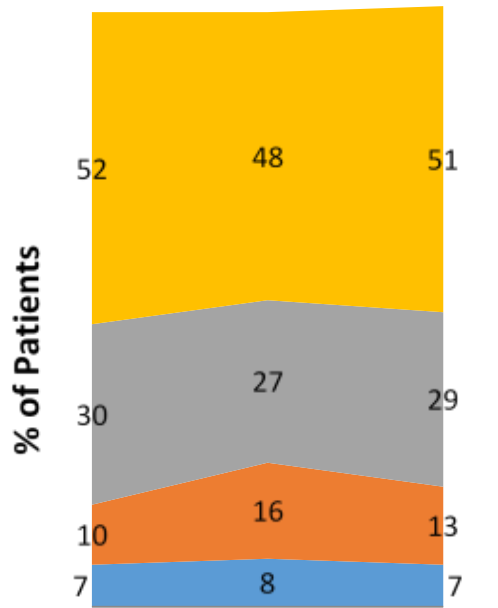
Group C



Baseline Three month Six month

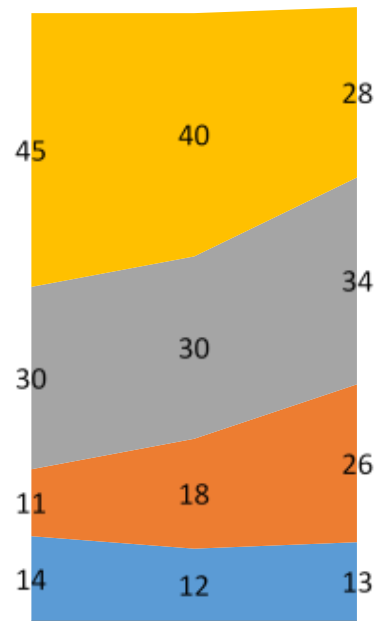
Level 1 Level 2
Level 3 Level 4

Group A



Baseline Three month Six month

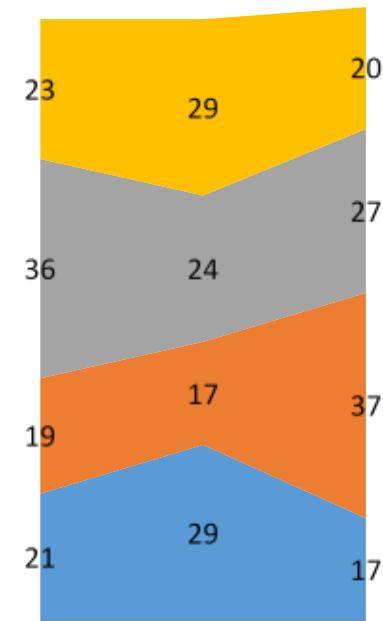
Group B



Baseline Three month Six month

Level 1 Level 2
Level 3 Level 4

Group C



Baseline Three month Six month