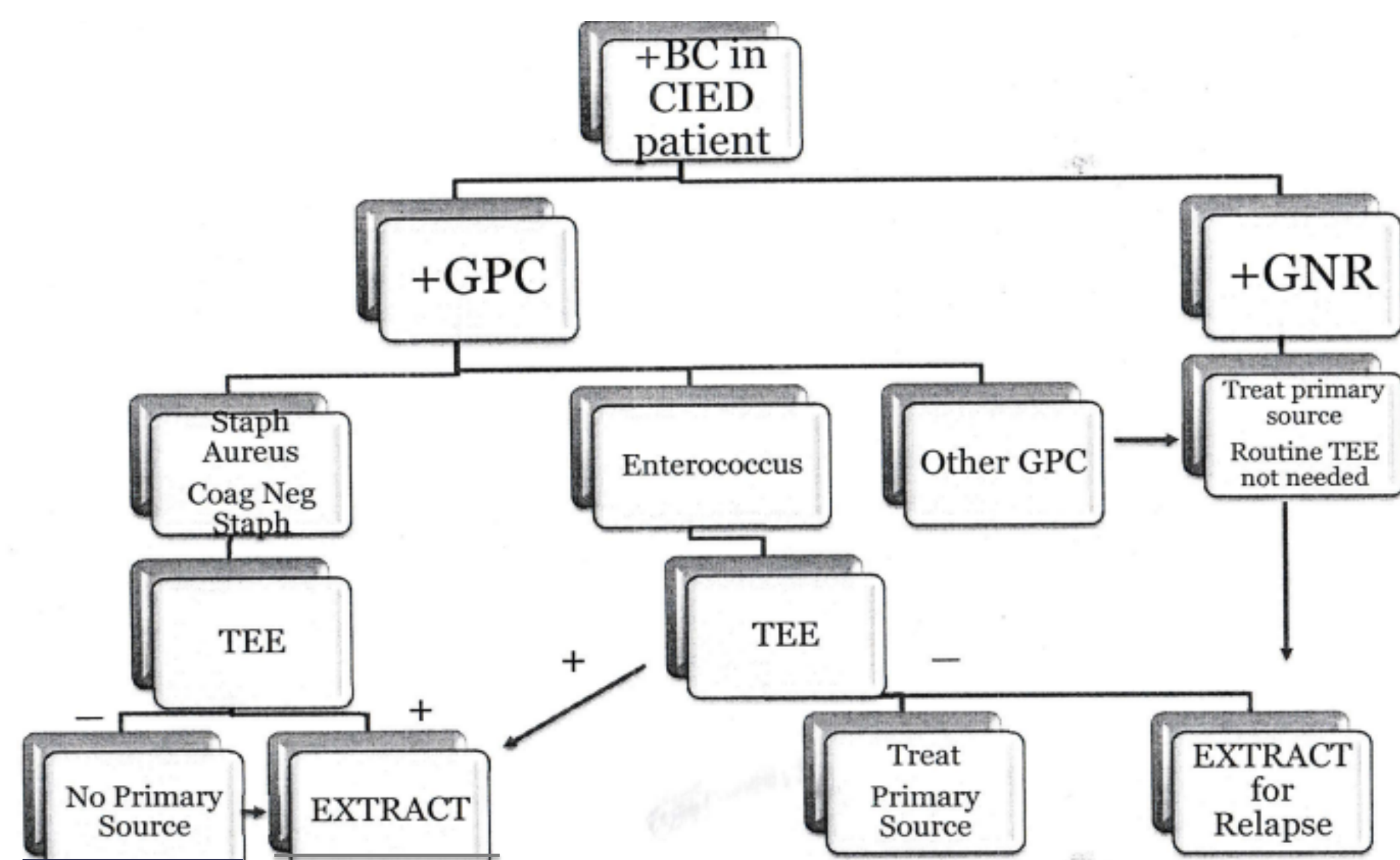


PROBLEM DEFINITION AND BACKGROUND

- Patients with CIED infection have a real risk of device infection when develop bacteremia
- Threefold rise in CIED infection rate has surpassed the growth rate of CIED implantation over the past 20 years
- The presence of systemic infection, pocket infection or endocarditis is a Class I indication to remove the CIED
- 65% of patients with CIED infection are at risk of recurring infection, endocarditis or death

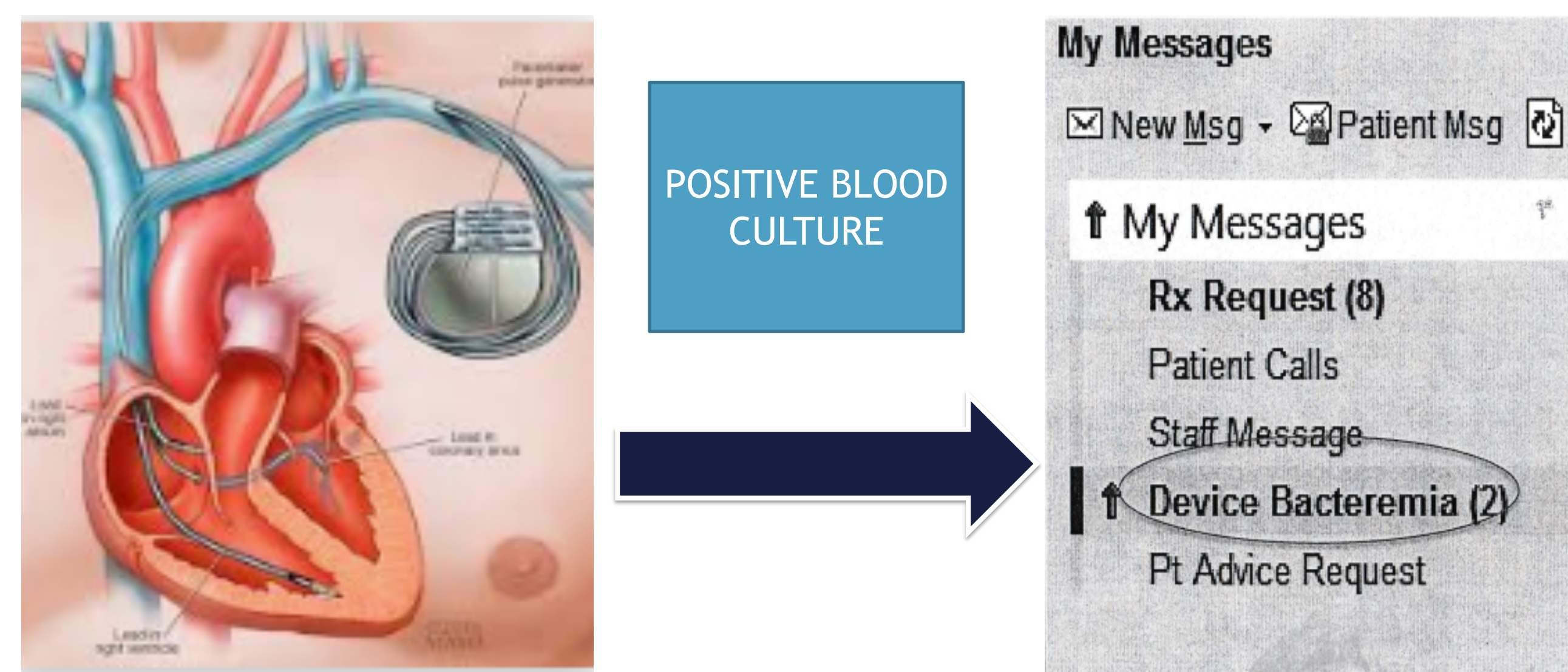


OBJECTIVES

- Aim of our project was early identification of 100% of patients with a CIED IMPLANT presenting with bacteremia
- Process involves use of EPIC EMR to automatically identify patients with positive blood cultures
- Traditionally, cardiologists are alerted by the care team using the CONSULT system for management of these patients
- EPIC EMR as an adjunct to the CONSULT system

INTERVENTION

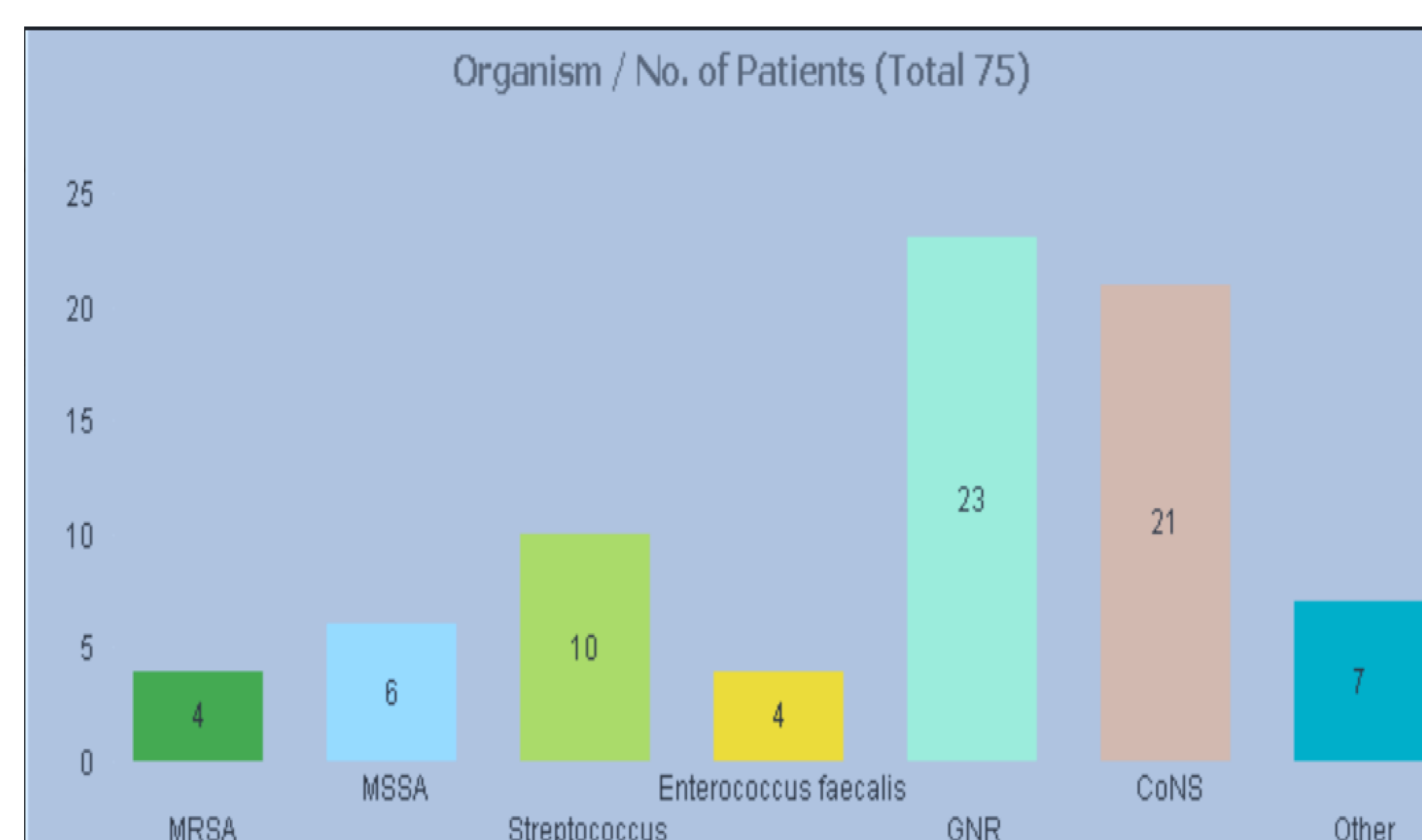
- We worked with TJUH EPIC team to develop a rule that looks for the presence of CIED (PPM, ICD, BivICD) and first POSITIVE BLOOD CULTURE result in patient's chart
- When these criteria are met a BPA In Basket message is sent with relevant patient information



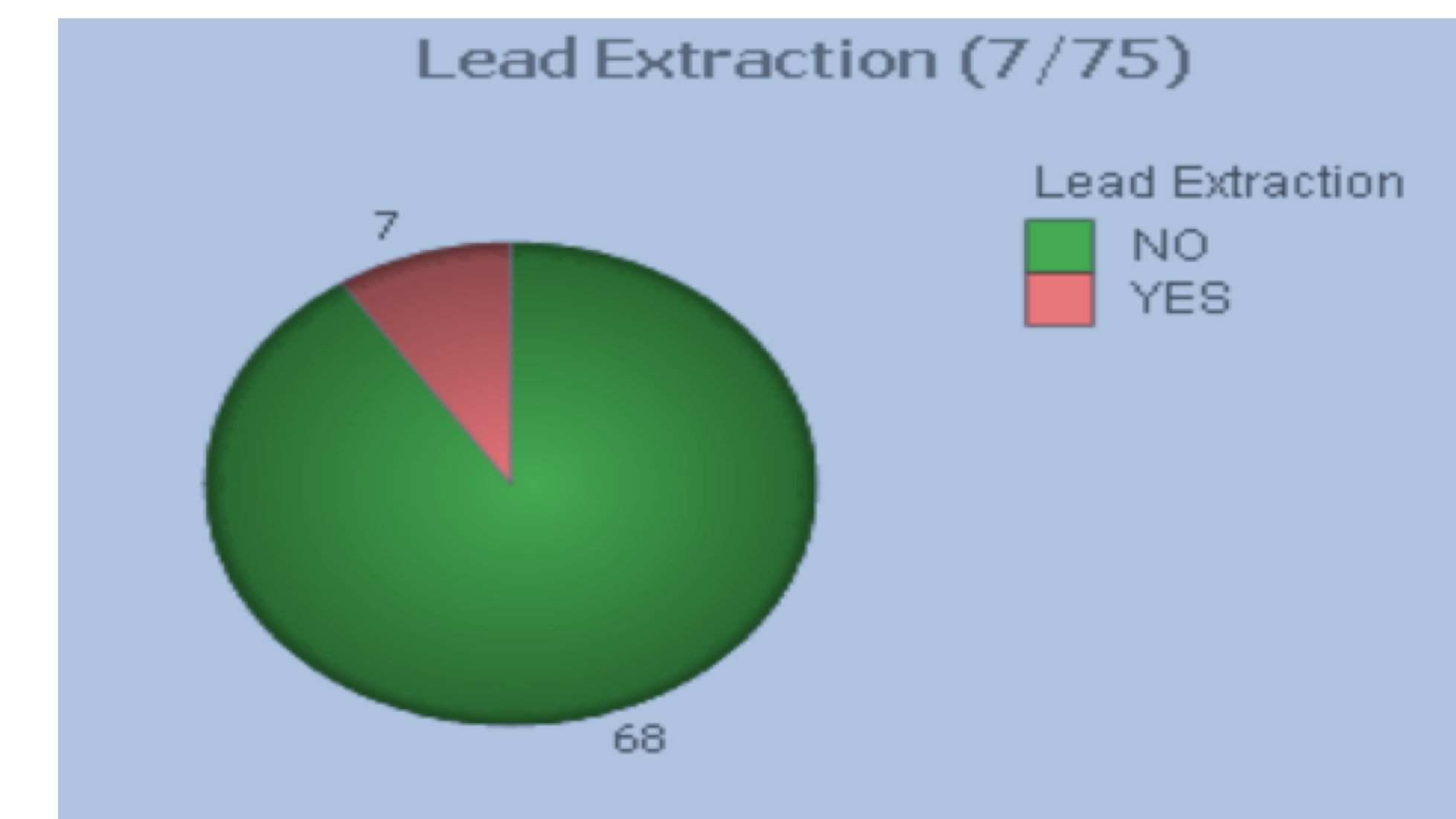
- We review chart, co-ordinate care with care team to determine if CIED is infected and perform lead extraction
- Project has been functional from January 2019 till date

RESULTS

- 75 In basket messages were received from January 2019 to February 2020



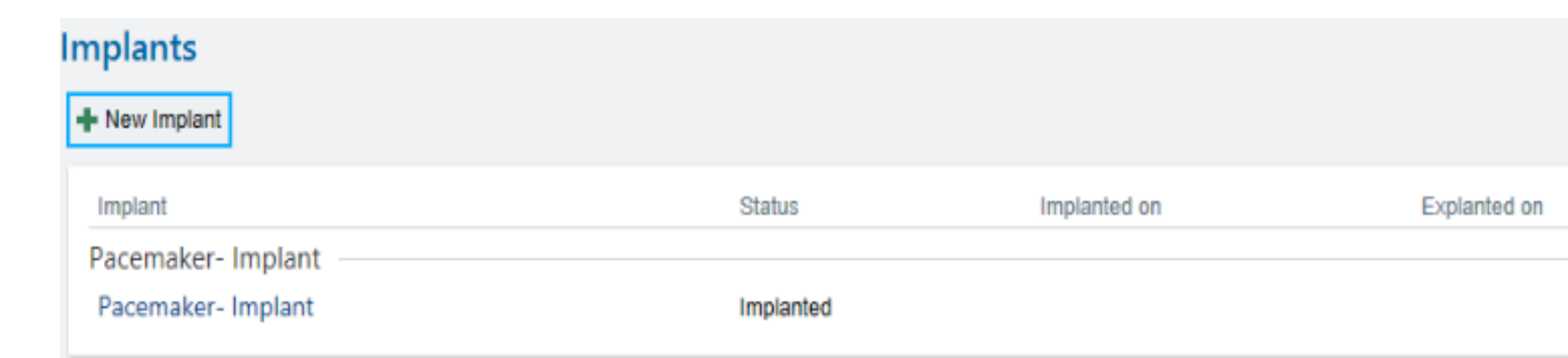
RESULTS



- 10% Patients underwent lead extraction for lead endocarditis

LESSONS LEARNT AND NEXT STEPS

- Implementation of this workflow involves building a rule, building a BPA and creating an In basket message sent to an assigned physician
- Minimal training and with assurance of notification at the first possible moment
- Classic example of use of technology to avoid human error or ignorance fail point
- Could be easily expanded to orthopedic implants, ports or dialysis catheters
- Main barrier is that an In Basket message is triggered only if the EPIC IMPLANTS tab is recorded for the presence of a CIED



Implant	Status	Implanted on	Explanted on
Pacemaker- Implant			
Pacemaker- Implant	Implanted		

- Recording IMPLANTS in every patient with a CIED in EPIC could be the next PDSA cycle for this project

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