

Session III

ASCO Quality Training Program

Proper management of patients using doxorubicin: initial ordering of a Transthoracic Echocardiogram prior to Doxorubicin therapy

Guilherme Malandrini Andriatte, MD

Larissa Zuppari Lacerda Sabino, PharmD

Riguel Jun Inaoka, MD

Tania Michele Barreto Waisbeck, RN

Institutional Overview

The **Sociedade Beneficente Israelita Albert Einstein** strengthens the commitment of the Jewish community to offer to the population of Brazil a respectable standard in the quality of healthcare practices.

Albert Einstein is a reference in treatment with cutting-edge technology and humanized care.

Albert Einstein was the first hospital outside the US (1999) to be JCI accredited. In addition, it has other certifications such as AABB, FACT, ASHI, Magnet, Planetree, etc.

Albert Einstein also is responsible for the administration of the Hospital Municipal Vila Santa Catarina, in partnership with SUS, a public hospital responsible for high volume of oncology assistance.



Team members

Name	Role	Organization
Guilherme Malandrini Andriatte	MD	Hospital Israelita Albert Einstein
Larissa Zuppari Lacerda Sabino	PharmD	Hospital Israelita Albert Einstein
Riguel Jun Inaoka	MD	Hospital Israelita Albert Einstein
Tania Michele Barreto Waisbeck	RN	Hospital Israelita Albert Einstein

Problem Statement

Background:

Some Onco-Hematological diagnoses require treatment with **Doxorubicin**, an antineoplastic agent, whose main adverse event described is **cardiotoxicity**.

Ideally, all patients receiving Doxorubicin should have a baseline **Echocardiogram** done up **to 30 days before the first dose**.

Between the months of August/2021 to July/2022, 306 patients started treatment with Doxorubicin, of these **49% (149)** were inadequately managed, without performing the Echocardiogram within 30 days before the therapy, as recommended by the Brazilian Guideline of Cardio Oncology.

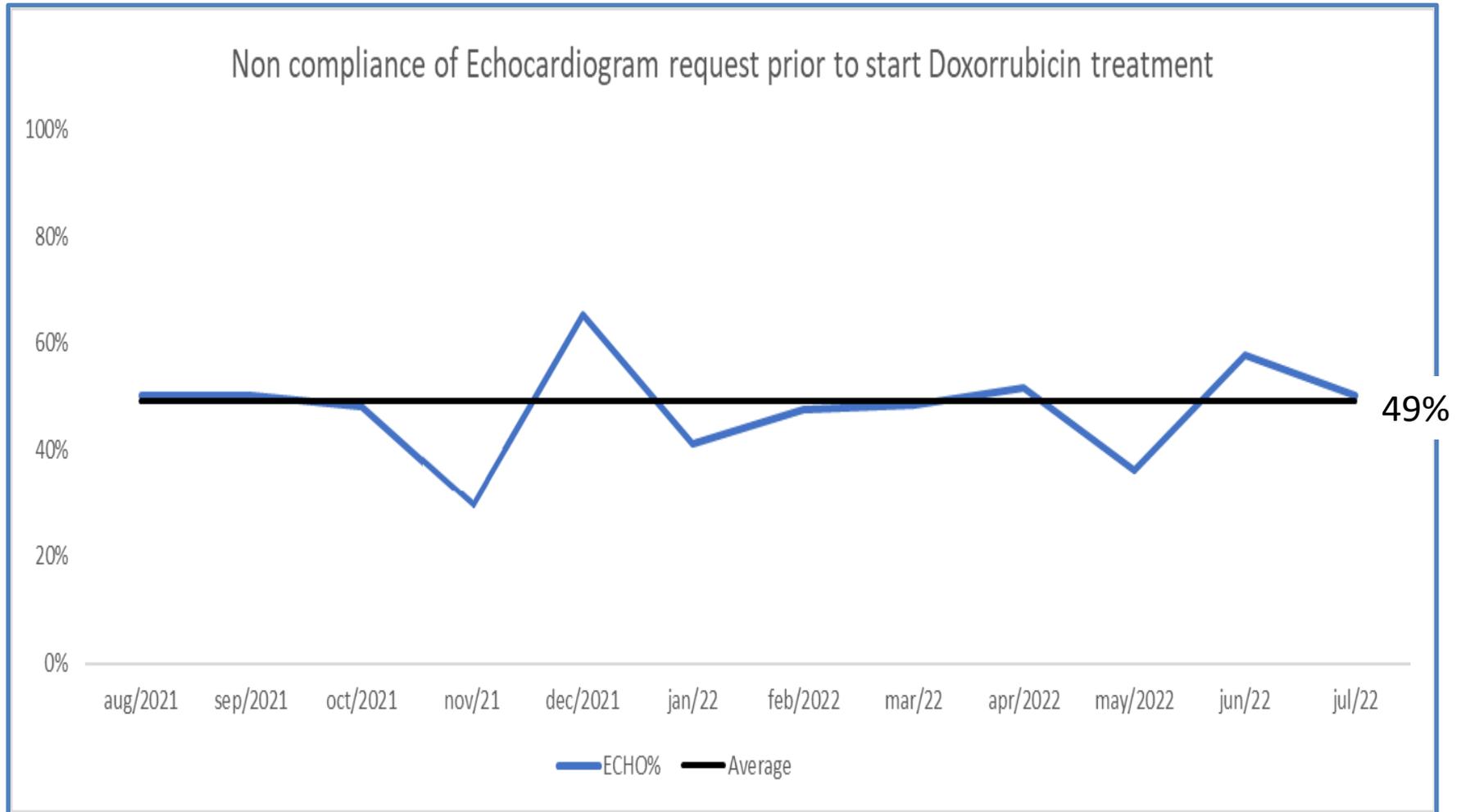
Outcome Measure

Baseline data summary

Item	Description
Measure:	% of Patients without a Transthoracic Echocardiogram prior to initial Doxorubicin therapy
Patient population: (Exclusions, if any)	Patient treated with antracyclin, Doxorubicin who are required to have a Transthoracic Echocardiogram examination performed within 30 days before the start of treatment was considered.
Calculation methodology:	Numerator: Total number of patients who did not undergo a Transthoracic Echocardiogram prior to initial treatment with Doxorubicin. Denominator: All patients treated with antracyclin, Doxorubicin
Data source:	Source: Electronic Medical Record (EMR) Sites: Hospital Albert Einstein Morumbi, Perdizes and Hospital Vila Santa Catarina.
Data collection frequency:	Once (August 2021 – July 2022)
Data limitations: (if applicable)	None

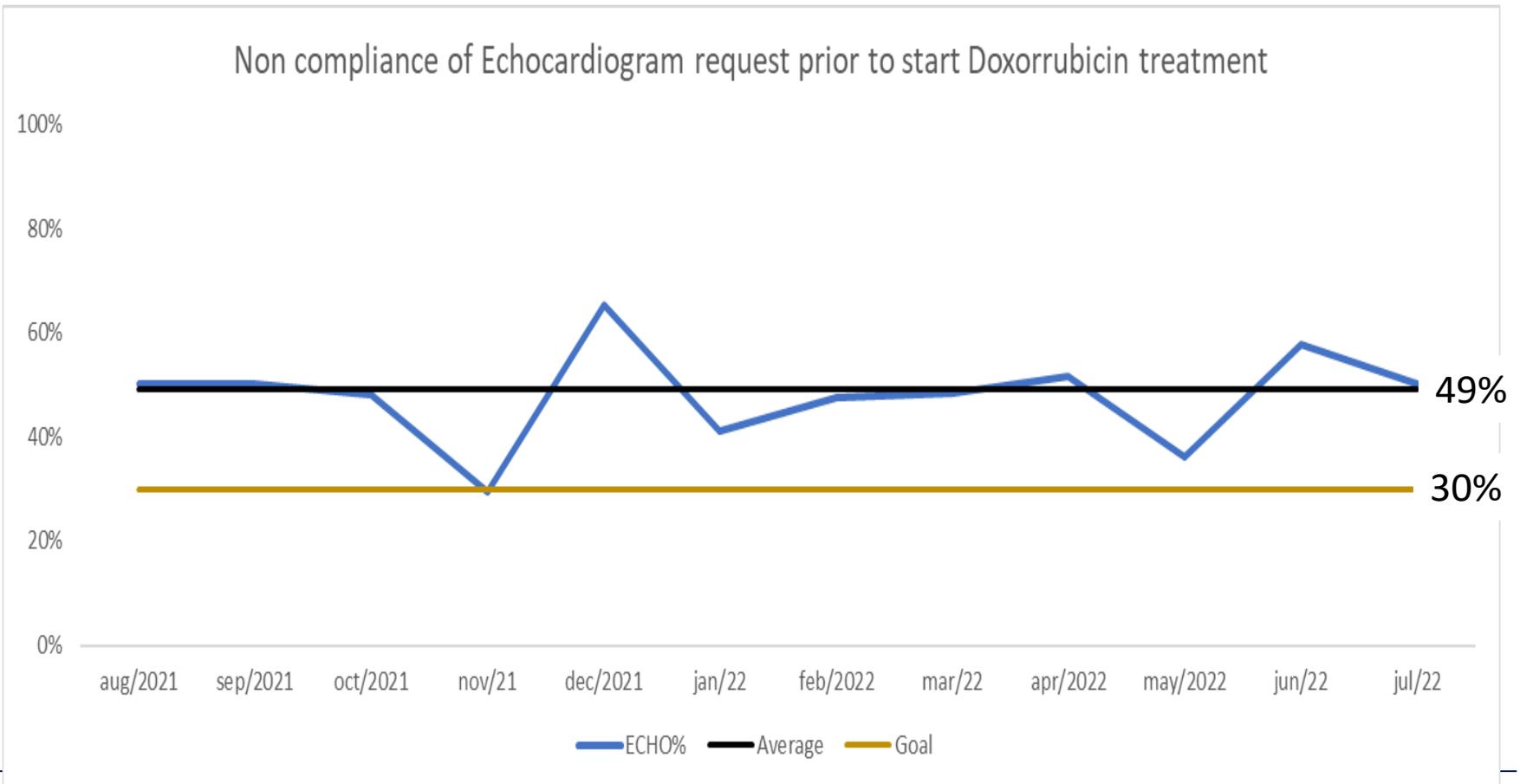
Outcome Measure

Baseline data

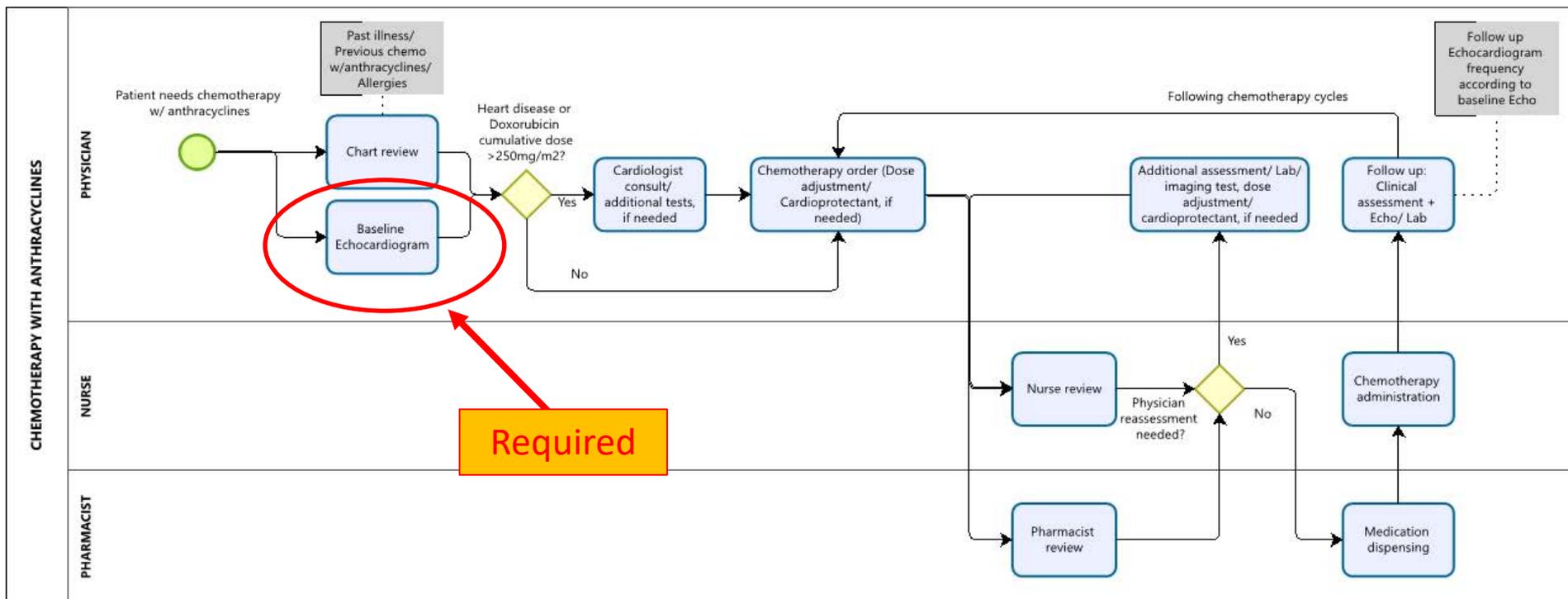


Aim Statement

Reduce non-compliance in performing Echocardiogram pre-initiation of Doxorubicin therapy from **49% to 30%**, by December/2022.

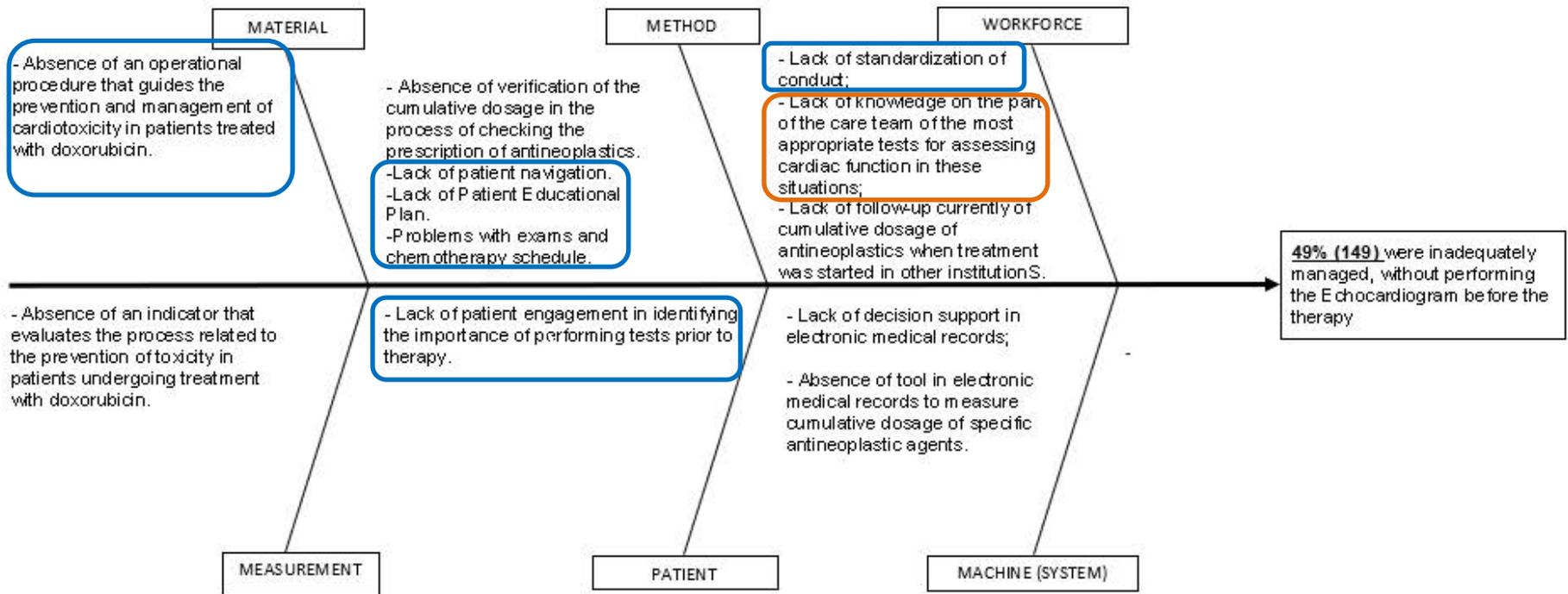


Process map



Powered by
bizagi
Modeler

Cause and Effect diagram



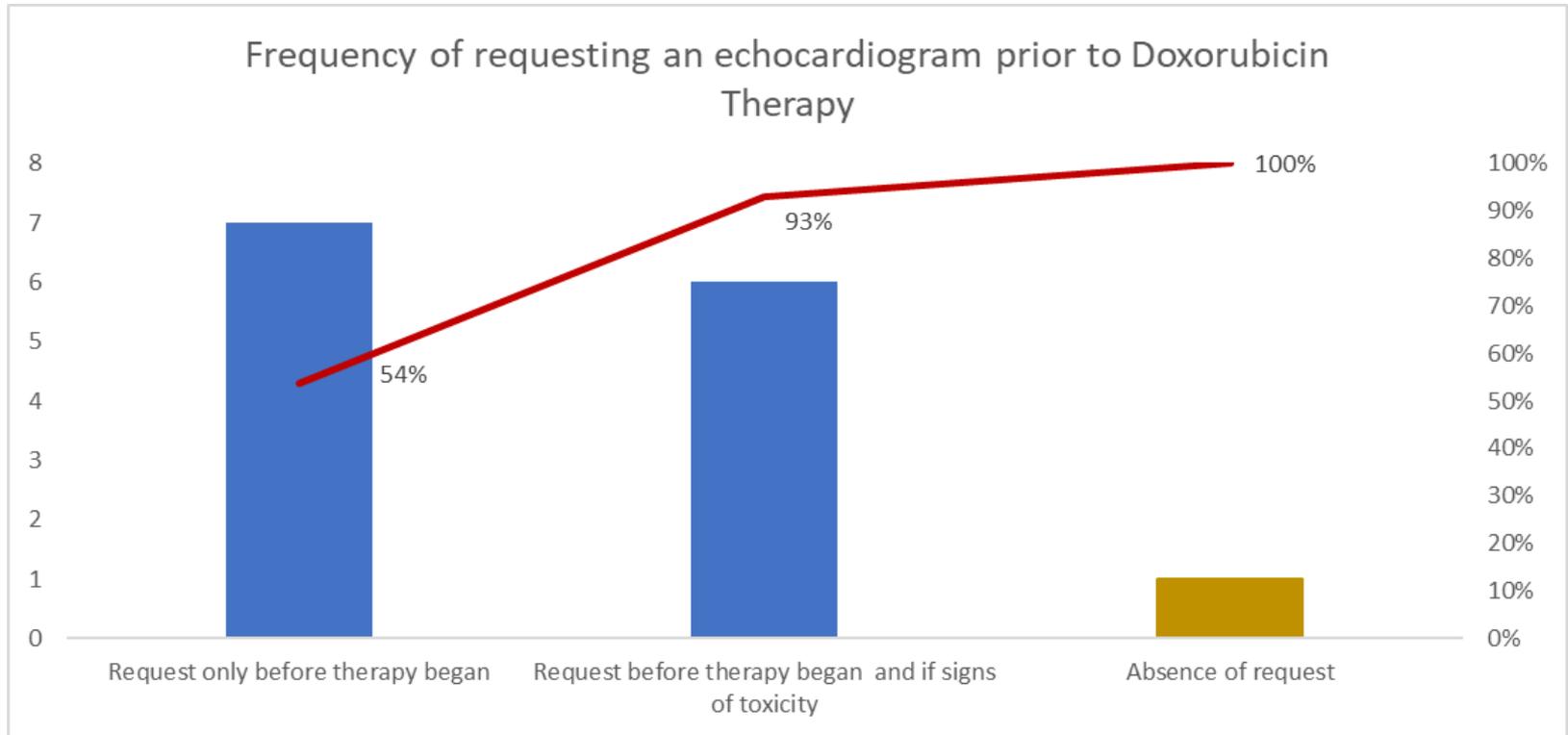
Process Measure - 1

Diagnostic Data summary

Item	Description
Measure:	MD ordering Echocardiogram
Population: (Exclusions, if any)	All MDs who provide treatment with Doxorubicin
Calculation methodology:	Survey Response <ul style="list-style-type: none">Do you order a Transthoracic Echocardiogram for patient prior to starting their Doxorubicin therapy?
Data source:	MD Survey
Data collection frequency:	1 time survey (22 MDs)
Data limitations: (if applicable)	14 responses (63%) Self reporting

Process Measure - 1

Diagnostic data



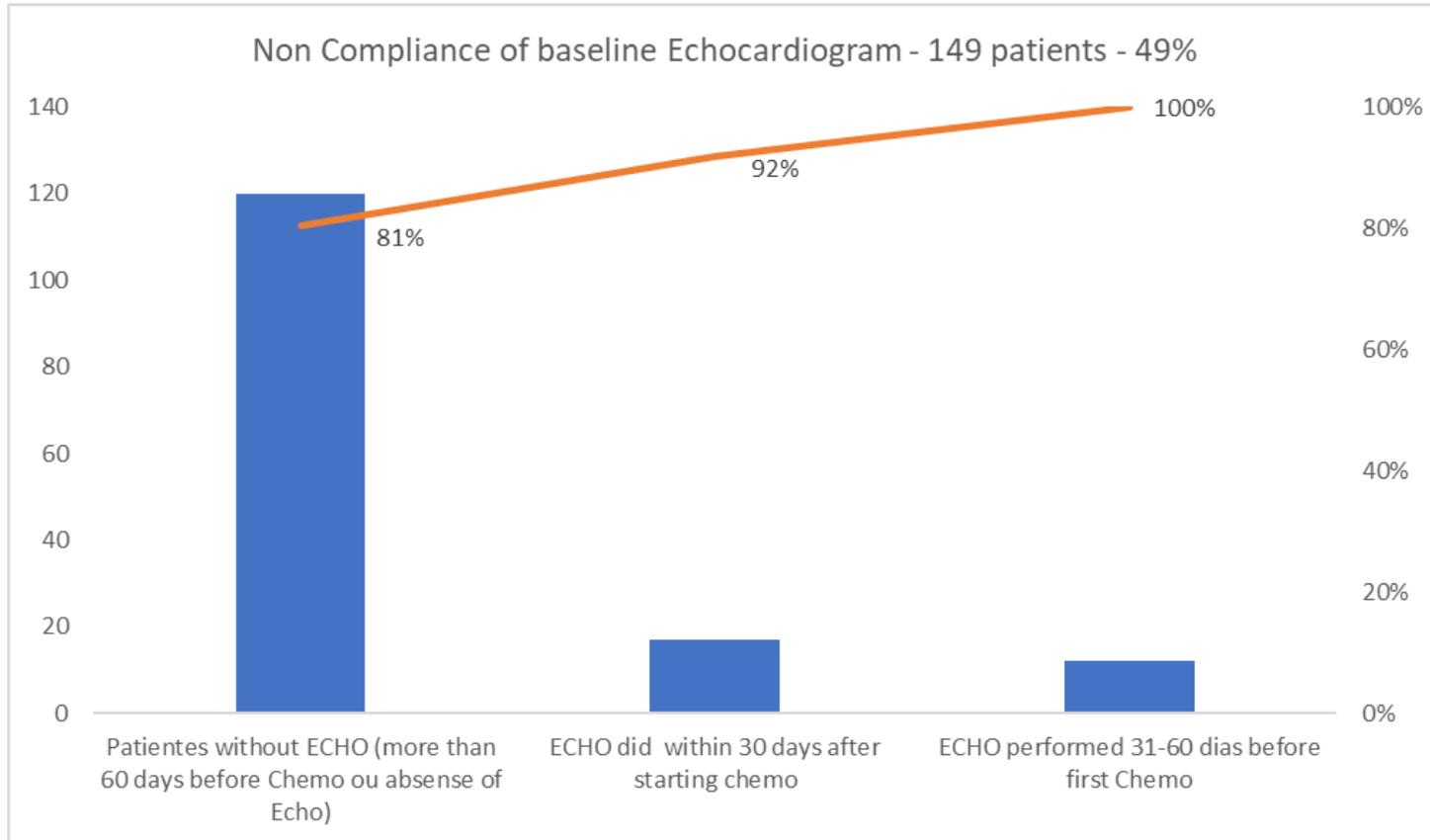
N = 14

Diagnostic Data summary

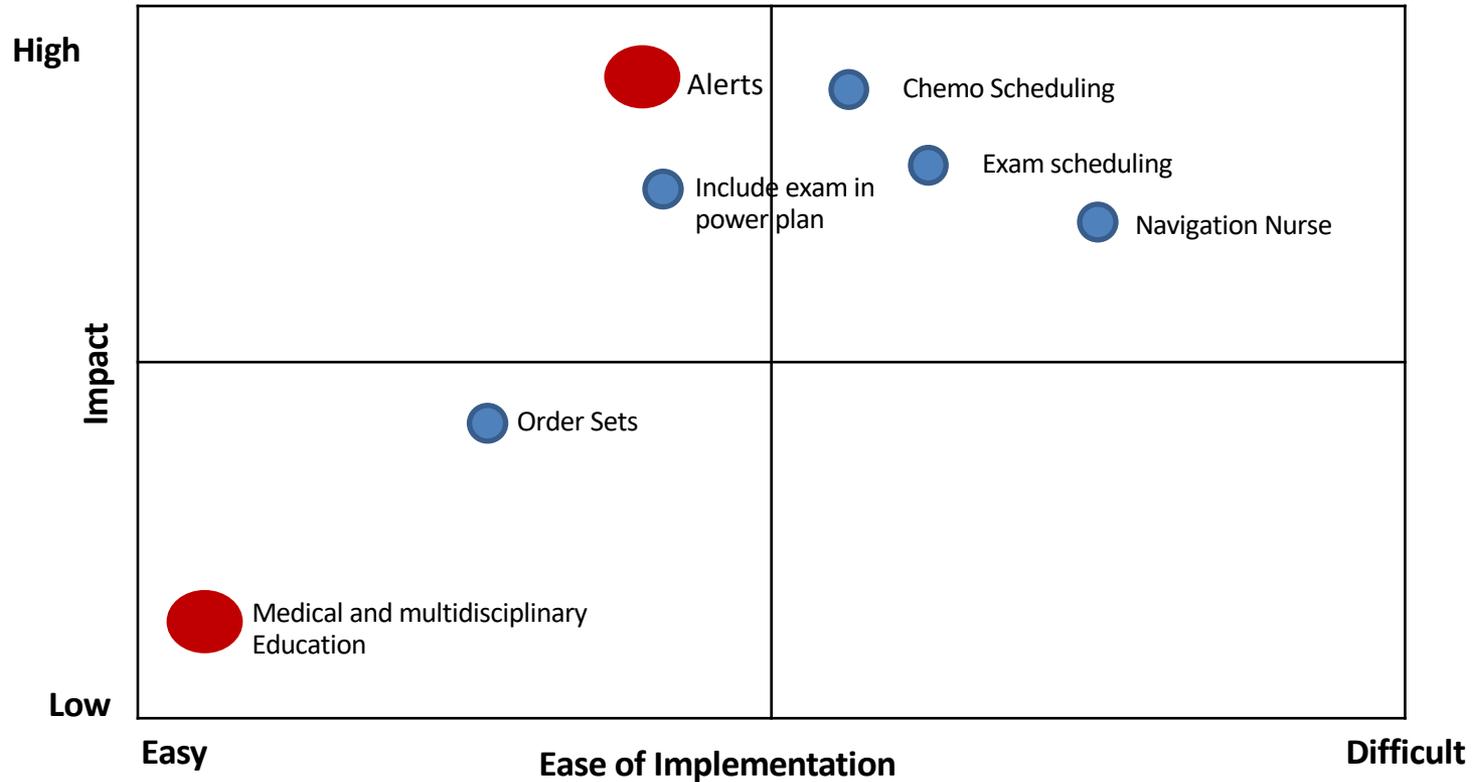
Item	Description
Measure:	ECHO performed before first Chemotherapy with Doxorubicin
Population: <i>(Exclusions, if any)</i>	All patients treated with Doxorubicin
Calculation methodology:	Analysis of Non Compliance Absence of Echocardiogram before first chemotherapy or ECHO performed in inappropriate period.
Data source:	EMR – Electronic Medical Records
Data collection frequency:	Once (August 2021 – July 2022)
Data limitations: <i>(if applicable)</i>	Considered patients that performed exams in our Institution

Process Measure - 2

Diagnostic data



Countermeasures



PDSA Plan

Date	Description	Learning / Results	Next Steps
August 2022	Medical Education	Reduction of non-compliance in performing the pre-initiation Doxorubicin Echocardiogram	<ul style="list-style-type: none">• Write institutional documentation for decision support• Evaluate the sizing of oncology, including physical area and headcount
September 2022	Multidisciplinary Education	Reduction of non-compliance in performing the pre-initiation Doxorubicin Echocardiogram	<ul style="list-style-type: none">• Performance of the multiprofessional team as a safety barrier, including verification of the previously echocardiogram in the first step of checking the prescription

PDSA - Example

Inpatient

Discern: (1 de 2)

 **Atenção**

Paciente com nova prescrição de protocolo quimioterápico contendo DOXORRUBICINA, sem ECOCARDIOGRAMA BASAL realizado nos últimos 30 dias.

Recomendamos realização de ECOCARDIOGRAMA COM STRAIN

Ação de alerta

Não prescrever

Adicionar prescrição para:

Ecocardiograma com Strain

OK

Outpatient

Discern: (1 de 3)

 **Atenção**

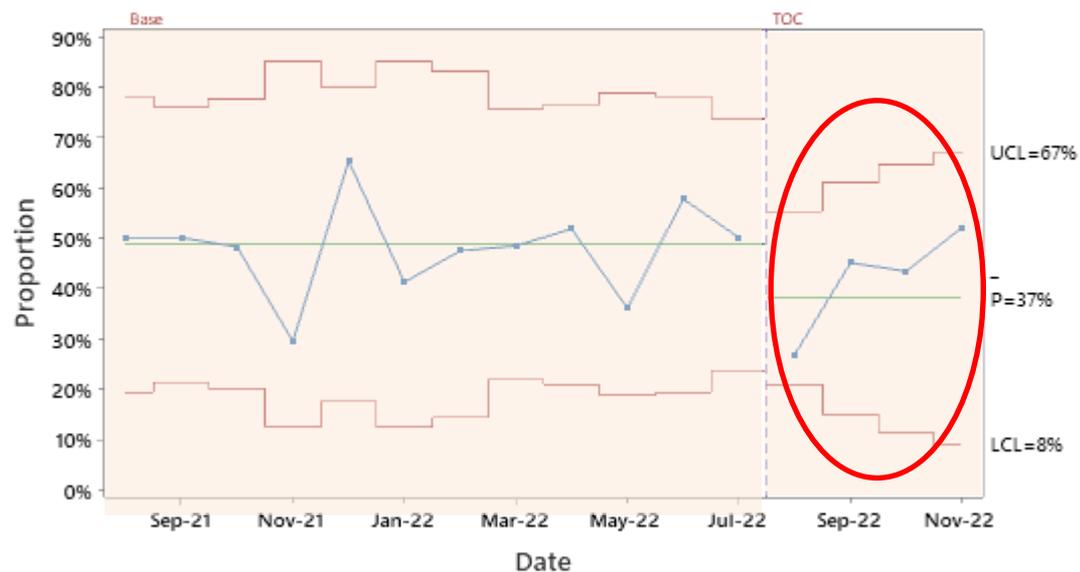
Paciente com nova prescrição de protocolo quimioterápico contendo DOXORRUBICINA, sem ECOCARDIOGRAMA BASAL realizado nos últimos 30 dias.

Recomendamos solicitação de ECOCARDIOGRAMA COM STRAIN

OK

Post Countermeasure

Sociedade Beneficente Israelita Albert Einstein (% of patients without Transthoracic Echocardiogram prior to initial Doxorubic)



P-Chart (3 Sigma)

Summary:

- Initial Baseline date in statistical control
- Medical Education started in Aug 2022
- 3 months of data indicate a potential 'shift'
- Need more data to confirm

Next Steps

Item	Owner
Develop an institutional policy for prevention and management of toxicities for specific antineoplastic agents (Including anthracyclines)	Guilherme, Larissa, Riguel e Tania
Include the assessment of the baseline echocardiogram in the Multidisciplinary double check (nursing and pharmacist) after prescription of antineoplastic drugs with cardiac toxicity	Larissa e Tania
Implement systematized monitoring with electronic medical record support for cumulative toxicities	Riguel
Stratify the data related to the two sites (public and private) for targeted assessment of difficulties like scheduling exams and patient navigation	Guilherme, Larissa, Riguel e Tania
Insert in the patient's educational plan the care related to the prevention of cardiotoxicity	Larissa e Tania

Conclusion

This project was fundamental for the group to develop situational awareness about the subject and to encourage the team regarding cardiotoxicity prevention and management. No doubt, the lessons learned will be applied to other improvement projects.

Thank you very much.

