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Improving waiting time for chemotherapy with ahead-of-time drug preparation

Dra. Sonia Elizabeth Benitez.

Head of Research & Technology Innovation,
Department of Health Informatics.

Hospital Italiano de Buenos Aires.





Work Team

- Juan Marcos DESCALZO
- Eliana Ludmila FRUTOS
- Javier Ignacio CASTRO
- Victoria Regia LOMBARDO
- Cintia Lorena GIMENEZ

- Carlos Martín OTERO
- Sonia Elizabeth BENITEZ
- Paula Daniela OTERO
- Daniel Roberto LUNA



Presentation Journey

1. Introduction
2. Methods
3. Results
4. Discussion & Conclusions



Hospital Italiano de Buenos Aires (HIBA)

- **HIMSS Level 7+ organization** with an in-house developed HIS.
- EHR with a **CPOE** for the chemotherapy therapy.
- HMO called **Plan de Salud (PS)** with over 150,000 affiliates.





Introduction

Context

- Preparation delays of chemotherapy infusions increase patient waiting times.
- Waiting time for chemotherapy infusion is an important measure of quality of care
- We redesigned the chemotherapy infusion workflow : pharmacies have the necessary medications prepared and available when patients arrive.

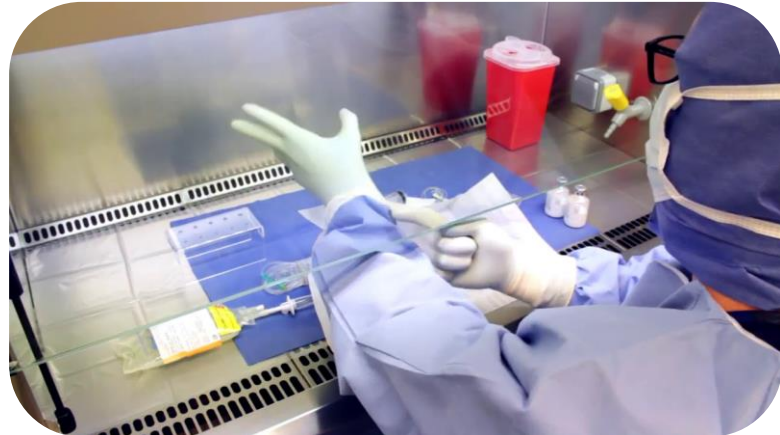
Objective

Evaluate if there were any modifications on outpatient chemotherapy waiting times as a result of the workflow redesign intervention.



Ambulatory chemotherapy process

- **25 outpatient chemotherapy stations.**
- More than **800** treatment administrations monthly.
- With **specialized pharmacy** for chemotherapy preparation.





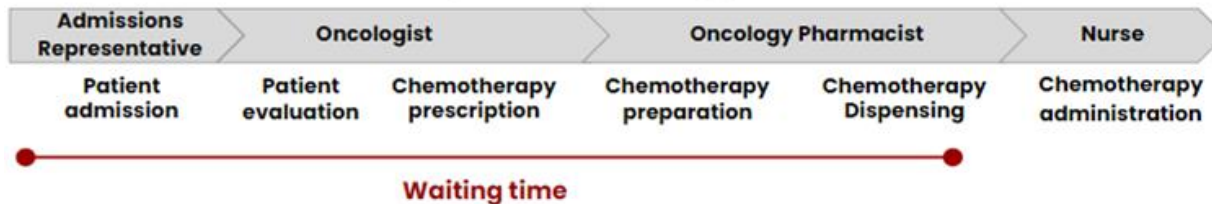
Adaptations to HIBA Health Information System.

Admission, discharge and transfer (ADT)	Electronic Health Record (EHR)
Development of a virtual space to organize and identify patients.	Advanced prescription before the patient's scheduled appointment. (Oncologist)
Opening a Chemotherapy Episode* before the patient attendance.(Admissions Representative)	Triggering the Oncology Pharmacy workflow.



BEFORE Implementation

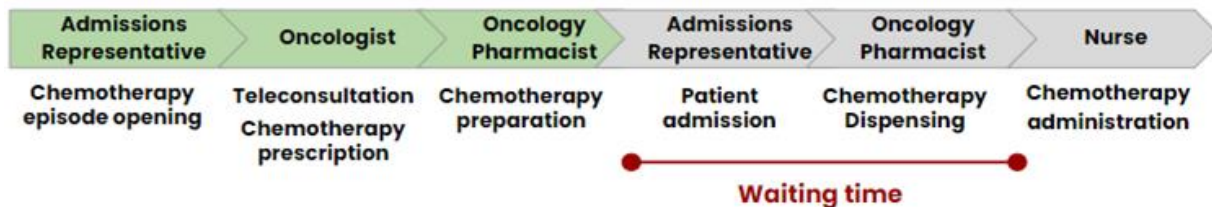
Day of Chemotherapy



AFTER Implementation

Day Before of Chemotherapy

Day of Chemotherapy





Methods

Retrospective observational, descriptive and analytical cross-sectional study.

Inclusion Criteria:

Outpatient chemotherapy episodes
> 18 yo adults from the HIBA HMO (PS)

<p><i>Pre-intervention</i> (April - October 2020) 2500 POC*</p>	<p><i>Post-intervention</i> (November 2020 - March 2021) 2100 POC*</p>
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* **POC (Programmed outpatient chemotherapies):** suitable for ahead-of-time preparation considering drug stability, safety and cost.



Methods

Patient waiting time for chemotherapy

- key performance measure
- defined as the time elapsed from when a patient checked into the ambulatory unit until that patient's treatment started



Results

	Pre-Intervention (N=2500)	Post-Intervention (N=2100)	Percent decrease	p value
Baseline characteristics				
Patients	504	410	-	-
Female sex	68.83% (346)	65% (266)	-	0.52
Age, in years*	72 (IQR 15)	69 (IQR 17)	-	0.07
Waiting times (minutes)**	72 (SD 32)	58 (SD 25)	26.5%	<0.02

*Median (Interquartile Range)

**Mean (Standard Deviation)



Results

Chemotherapy regimens suitable for ahead-of-time preparation considering

- drug stability,
- safety and
- cost

Paclitaxel	18%
Carboplatin	15%
Gemcitabine	12%
Pemetrexed	9%
Docetaxel	6%



Discussion & Conclusion

- Reducing waiting times for chemotherapy infusion is an important topic.
- This study shows a reduction of patient wait time for chemotherapy of 26.5% relative to the baseline.



Discussion & Conclusion

- With lower waiting times, we expect that general satisfaction of the process will improve, and the efficiency will increase.
- Valuable and actionable data for our pharmacy and oncology units.



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Thank you!
Any questions?

javieri.castro@hiba.org.ar

investigacion.informatica@hiba.org.ar