Project Title: Reduce time to chemotherapy administration

Presenter’s Name: Sandra M. Soler

Institution: Grupo Oncoclinicas do Brasil – NOB-BA

Date: June 29, 2018
Institutional Overview

- Grupo Oncoclínicas is a conglomerate of more than 50 points of oncological care, present in 11 of 27 Brazilian states, with 1300 employees.

- Annually, the group makes 50,000 consultations and 165,000 chemotherapy infusions.

- The project was developed in one of the units of Oncoclínicas do Brasil: Núcleo de Oncologia da Bahia - NOB-BA.
This unit is located at northeast of the country, in the State of Bahia, Salvador.
• This unit was founded in 1992
• Two buildings divided into administrative and care areas:
  • Four floors
  • 14 doctor's offices
  • Two floors for chemotherapy infusions and small procedures – 3rd and 4th floor
<table>
<thead>
<tr>
<th>Team Members</th>
<th>NOB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marcia Menezes, Executive Medical Director, Sponsor</td>
<td>Sandra Soler, leader, nurse</td>
</tr>
<tr>
<td>Sandra Soler, Leader and focal point NOB, nurse, MSD</td>
<td>Nursing Staff</td>
</tr>
<tr>
<td>Felipe Ades, Medical doctor, MPhD</td>
<td>Pharmacy Team</td>
</tr>
<tr>
<td></td>
<td>Reception Team</td>
</tr>
<tr>
<td></td>
<td>Scheduling Team</td>
</tr>
<tr>
<td></td>
<td>Quality Department</td>
</tr>
<tr>
<td></td>
<td>Samira Mascarenhas and Clarissa Mathias - team member, Doctors</td>
</tr>
</tbody>
</table>
Long waiting time has been a common complaint in the satisfaction questionnaires regularly distributed in the clinics.

During February and March 2018, the mean time from check in at the reception to (fast track) chemotherapy administration or the procedure was 38 minutes.

Excessive wait times negatively impact patient and staff satisfaction.
Each clinic mapped the process for chemo administration. Significant variation in the administration process was noted and can be considered a contributing factor with respect to the wait times.

*Flowcharts to illustrate variation between clinics*
Cause & Effect Diagram

Work Load
- Chemotherapy dilution for the clinic and partners hospitals
- Concentrated patient demand on certain times of the day (early morning and first time in the afternoon).
- Delay for prescription validation (nurse and pharmacy).

Computer and machines
- Computer system training
- Computer system problems – not allowing partial dispensation, first pre chemo and after chemo, it has to be all together. System speed
- Need to transcribe external prescription from partners to the system
- Automatic system blocks in case of missing data (ex: allergy information missing).
- Insufficient number of cryotherapy machines

Procedures not scheduled/changed and appointments times
- Consultations by arrival time (not scheduled)
- Procedures not scheduled
- Prescription/dose change
- Patient delayed
- Patient not scheduled to chemotherapy (extra)
- Appointment mistake

Team size and number of beds/chairs
- Number of chemo chairs
- Number of nurses
- Number of pharmacists

External factors
- Local Holiday
- Parking places
- Traffic Jam.

Workflow organization
- Multiple prescription checks – nurses, medical, financial, pharmacy
- Two prescriptions (paper and system) - sometimes there are discrepancies between them.
- Fast and slow procedures scheduled at the same time (chemotherapy and heparinization for example)
- Medical consultation in the same day of treatment.
- Satellite pharmacy closed during chemotherapy periods
- Miscommunication between clinic sectors
- Pharmacy delay to send medication
- Absence of a tool for previous bed/chair allocation (according to procedure time)
Cause & Effect Diagram 2

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Time to chemotherapy infusion
From February 27 to March 9, 2018 data were collected.

During this period of time all patients who came to the clinic for some type of procedure or medication had to fill out a formulary about the time spent in the clinic.

334 patients answered the survey (includes 47 fast track patients).
Baseline Data

• 47 patients who had fast track procedure or fast medication had wait time data manually collected.

• The mean waiting time was 38 minutes (reception until medication was received).

• The original three clinic scope was reduced to one clinic (NOB)
By June 2018, we aim to reduce by 20% the mean time from check in to initiation of chemotherapy at the NOB clinic.
Pre = 38 minutes
Post = 31 minutes
Measures

- Measure: The waiting time between the arrival at the reception of the 4th floor and the beginning of the treatment

- Patient population: Patients included in the fast track medication/procedure – 4th Floor – chemotherapy unit

- Calculation methodology: The intervals of time
  - Time of the arrival at 4th floor chemotherapy reception (front desk)
  - Front Desk to Nursing Reception (chemotherapy chair)
  - Beginning of the treatment

- Data source: Formulary filled out by patients who came to the clinic for fast procedure or medication

- Data collection frequency: Daily from April 6th to June 6th

- Data quality (any limitations): potential for human error, sample size, find the right place for the data collection.
Prioritized List of Changes (Priority/Payoff Matrix)

- **Easy**
  - Separate and prioritize ‘fast track’ appointments
  - Revise nurse work schedules
  - Provide patient education on wait times

- **Difficult**
  - Assign a nurse to work with appoints and schedule for QT
  - Buy a computer program to performance the appointments
  - Assign a specific nurse to administer fast medication only
  - Reserve a room for fast track medication only

- **High Impact**
  - Store materials for procedures (fast track) at the nursing station
  - Establish time periods for ‘fast track’
  - Separate patient appts. by type

- **Low Impact**
  - Leave the fast track medication separated at the pharmacy the day before
  - Assign a nurse to work with appoints and schedule for QT
  - Buy a computer program to performance the appointments
  - Assign a specific nurse to administer fast medication only
  - Reserve a room for fast track medication only
## PDSA Plan (Test of Change)

<table>
<thead>
<tr>
<th>Date of PDSA Cycle</th>
<th>Description of Intervention</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/2/18</td>
<td>Separate chemotherapy appointments to identify those eligible for ‘fast track’. These are appointments for simple procedures or single agent administrations where pharmacy review is simplified. These patients are prioritized for treatment.</td>
<td>See Change Data slide</td>
</tr>
<tr>
<td>4/2/18</td>
<td>Create a physical space on the counter at the nursing station to put the medical records of patients eligible for fast track</td>
<td>See Change Data slide</td>
</tr>
<tr>
<td>5/7/18</td>
<td>Establish set time periods for ‘fast track’ patients. This will refine the process for identifying these patients and help level-load the appointment arrival rate during the day. This should have a positive impact on the ‘complex patients’ though the focus is on ‘fast track’.</td>
<td>See Change Data slide</td>
</tr>
<tr>
<td>5/28/18</td>
<td>Revise the work schedules for the chemotherapy treatment unit nurses. This will allow some staff to arrive/leave early and other to arrive/leave late. The purpose is to match the nursing capacity with the varying patient volume throughout the day.</td>
<td>See Change Data slide</td>
</tr>
</tbody>
</table>
PDSA Plan (Test of Change)
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<tr>
<td>06/15/18</td>
<td>Hire a nurse for the nursing staff</td>
<td>See Change Data slide</td>
</tr>
<tr>
<td>06/25/18</td>
<td>Store material for procedures (fast track) at the nursing station - 4th floor chemotherapy unit</td>
<td>See Change Data slide</td>
</tr>
<tr>
<td>08/18</td>
<td>Revise scheduling template to better schedule appointments by need. Specifically addressing the needs for appointments by ‘Chemotherapy only’, ‘Physician appointment only’, and ‘Physician appointment followed by chemotherapy’</td>
<td>See Change Data slide</td>
</tr>
</tbody>
</table>
**FICHA DE COLETA DE INFORMAÇÕES**

**DATA DA COLETA:** __________________

**NOME DO PATIENTE:** __________________

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**MÉDICOS RÁPIDOS SEM INTERVENÇÃO DO FARMACÊUTICO**

1. Faslodex (fulvestrant)
2. Zolidex (gossorrelina)
3. Prolia (denosumab)
4. Eprex (enfrotropina)
5. Granulocyte (filgrastim)
6. Aranesp (darbepoetina alfa)
7. Claixane (enoxapirina)
8. Humira (adalimumabe)
9. Enbrel (etanercepte)
10. Simponi (golimumabe)
11. Firmagex (degarelix)
12. Citonemurum IM
13. Neulasta (pegfilgrastim)
14. Degarelix (leuprolereina, leuproliota)
15. Sendoget (Ocrevus)

**OBS:** O agendamento da consulta médica deve ser seguido do agendamento aplicação da medicação levando em consideração o intervalo entre a consulta e o agendamento de medicação (por ex.: consulta médica às 8:00 – agendamento e TRATAMENTO: 09:40; 09:00 – Tratamento e Intervalo de 40 min a 1h).

**MEDICAÇÕES RÁPIDAS COM INTERVENÇÃO DO FARMACÊUTICO**

1. Herceptin SC (trastuzumab)
2. Velcade SC (bortezomibe)
3. MTX IM (metocritico)
4. VIDAIA (zolatimibe)
5. MASTHERA SC (rituximabe)

**MÉTODO DE MARCAÇÃO:**

- **AGENDAR DAS 07:30 ÀS 08:30 AS MEDICAÇÕES RÁPIDAS** – criaremos um fluxo rápido para essas medicações no período da manhã (principalmente para Heparinizações de CVC_7). Será atendimento exclusivo (07:30, 08:00, 08:30 – total de 6 pacientes – 2 a cada meia hora).

- A partir das 08:30 dar preferência para agendamento protocolos longos, como: FOLFOX, FOLFIRI, FPIF, etc.

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**INSTRUMENTO DE COLETA DE TEMPO DO PACIENTE**

**DATA:** ____________  **Nº DO PRONTUÁRIO:** ________________

**PASSOU POR CONSULTA MÉDICA HOJE?**

( ) SIM  ( ) NÃO

**TIPO DE TRATAMENTO** (injeção IV, SC, heparinização, heparinização do cateter, retirada da bomba infusora)

_________________________

**HORÁRIO DE CHEGADA NA RECEPÇÃO: **__________________________

**HORÁRIO DE LIBERAÇÃO (ENCAMINHAMENTO) PARA O POSTO DE ENFERMAGEM: **__________________________

**HORÁRIO DE CHEGADA NA POLTRONA OU LEITO: **(realização e verificacao dos sinais vitais): ________________

**HORÁRIO DO INÍCIO TRATAMENTO** (injeção IM, SC, hidratação, heparinização do cateter, retirada da bomba infusora): ________________

**DURANTE O PERÍODO DE TRATAMENTO TEVE ALGUMA INTERCORRÊNCIA?**

( ) SIM  ( ) NÃO

**Intercorrências: por favor, anotar:**

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**ASCO®**
Materials Developed

Post deployment process

1.2 - PROCESSO DE ENCAMINHAMENTO DO PACIENTE DA PORTARIA PARA O 2º ANDAR

INÍCIO

RECEPÇÃO 2º ANDAR

Paciente com hora marcada

Atende-se paciente

Confere-se documentação

Afreia guia para consulta

Encaminha paciente para consulta

Após a consulta paciente é encaminhado para tratamento ao 3º ou 4º

FIM

Paciente sem hora marcada

Atende-se paciente

Confere-se documentação

Afreia guia para consulta

Encaminha paciente para a consulta ao 3º para consulta de intercorrência

FIM

Paciente sem consulta e tratamento em outros dias

Atende-se paciente

Confere-se documentação

Afreia guia para consulta

Encaminha paciente para consulta

FIM

Paciente é consultado e retorna à recepção com atendimento

Atende-se paciente

Confere-se documentação

Afreia guia para consulta e tratamento

Atende-se paciente

Paciente recebe alta

Paciente retorna a portaria com nota retirada da portaria

FIM

O paciente é encaminhado para atendimento de intercorrência ao 3º

FIM
Change Data

XbarR chart: Fast Track Wait Times – NOB Clinic

Mean wait time (mins)

Intervention

Treatment Day

Pre – 38.30 Minutes  Target 31 minutes  Post 24.59 minutes
Conclusions

• Important to reduce the scope (from three clinics to one and from the whole chemotherapy agenda to FAST TRACK medication) in order to be successful

• Extremely important to clearly communicate the scope and the goals of the project to be able to measure the outcomes

• Crucial to find the right population and right measures for the data collection of a specific project

• Once the project started with fast track medication, people came with new ideas to improve the patient's waiting time in the clinic

• One change at a time to make sure the change has settled
Conclusions

- Changes are not easy, even the small ones
- Prepare people for the changes that are going to happen
- People need to know exactly what and why they are doing the changes and the advantage of it to get involved
- The project should involve people who know and work in the process to have a chance of success
- Be open to hear positive and negative criticism regarding the project
- Be flexible to change ideas
- Be focused, enthusiastic, positive, study hard and set realistic goals
- Small and simple changes can make a difference in our daily work
Next Steps/Plan for Sustainability

• Continue the project implementing additional actions as planned in the beginning (work with chemotherapy agenda)
• Measure the results over time
• Apply the methodology of this program to solve problems in our institution
• Development of small/simple projects in other departments and among other clinics spreading the concept of continuous quality program
• Participation of others institutions within Oncoclínicas do Brasil in the One day Workshop –QTP/ASCO (July 18th, 2018)
Thank You!