Optimization of the management of a medical oncology consultation (OM) and decrease of the waiting time linked to the administration of a systemic treatment

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The Marqués Valdecilla University Hospital (HUMV) is the main hospital in Cantabria and is a reference center for the Community and for other geographical areas. The Medical Oncology Service performs its assistance, research and teaching work in the External Consultations and in the Hospitalization.

The medical staff of the Medical Oncology Service is composed of 1 Head of Service, 12 Staff and 2 Residents per year (10 Residents in total)

The activity of external consultations during the year 2017 is detailed below: 1,276 first consultations and 18,332 successive consultations, a figure that has increased in recent years
30% (n = 21) of cancer patients experienced a hospital stay of more than 4 hours in the period from November 15-27, 2018

Oncology patient care must be multidisciplinary and involve different services

The administration of systemic treatment (both oral and intravenous) involves the Oncology Pharmacy units, the Medical Day Hospital and the outpatient clinics of medical oncology

The lack of coordination between these units implies an increase in the hospital stay of outpatients with the consequent impairment in their quality of life
Team Members

Almudena García Castaño and Raquel Jimeno Maté

Virginia Martínez Callejo (Oncology Pharmacy)
Marisol González Sobrado (Consultation nurse)
Carlos Rodríguez de la Vega (Day hospital nurse)
Ignacio Magaldi (administrative assistant of consultation)

Fernando Rivera Herrero (OM chief of service)

Patients and families
Diagnostic Data (I)

- Patient's arrival time (ticket)
- Analytical extraction time
- Time of consultation in medical oncology
- Consultation time in Oncology Pharmacy
- Start time of treatment in the medical day hospital (MDH)

- Time from arrival (ticket) to analytical
- Time from analytics to consultation
- Time from OM consultation to Oncology Pharmacy
- Time from OM consultation to MDH treatment

N = 69
- Oral treatment: 26
- IV. treatment: 43
  - same day 14
Diagnostic Data (II)

- Patients with ORAL treatment (n=26)
  - Pharmacy dispensing time - Ticket pickup time
  - 3h 51min (231 minutes) on average

- Patients with I.V. treatment (N=43)
  - (Time of consultation - time collected ticket) + (day of administration in HDM)
  - Same day = 5h 23 min (323 minutes) on average
  - Different day = 43 hours (2576 minutes)
Decrease the waiting time in the hospital and improve the care and quality of life of the oncological patient in treatment.

In those patients with oral treatment it would be desirable to have a hospital stay of no more than 3 hours (3h51min) and in those with iv treatment a hospital stay of no more than 4 hours (5h23min) (if the treatment is that day).
Measures

- Measure: hour of analytical extraction (theoretical and real), time of consultation (theoretical and real), time dispensation (theoretical and real) and time of administration of endovenous treatment (theoretical and real).


- Methodology of calculation: average waiting time in the HUMV

- Data source: Citation program (Ticares) and computerized clinical history of HUMV (Altamira)

- Frequency of data collection: consultation number 267 on days 15, 19, 21, 22 and 27 of November 2018.
<table>
<thead>
<tr>
<th>Expected times</th>
<th>Identification problem delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ticket → Extraction (15 minutos)</td>
<td>Patients/prescription/nurse</td>
</tr>
<tr>
<td>Extraction → Consulty (60 minutos)</td>
<td>Laboratory/Doctor</td>
</tr>
<tr>
<td>Consulty → Pharmacy (15 minutos)</td>
<td>Pharmaceutical dispensation</td>
</tr>
<tr>
<td>Consulty → Medical Day Hospital</td>
<td>Medical Day Hospital</td>
</tr>
</tbody>
</table>
Baseline Data

Patients with ORAL treatment (I)

MINUTES

PATIENTS NUMBER

231 min
Baseline Data

Patients with ORAL treatment (II)

TICKET- BLOOD TEST (30min)

BLOOD TEST-CONSULTATION (187min)

PATIENTS NUMBER

PATIENTS NUMBER

MINUTES

MINUTES
Baseline Data

Patients with ORAL treatment (III)

- CONSULTATION – PHARMACY (16 minutes)
Baseline Data

Pareto: ORAL TREATMENT

- Consulty → Pharmacy
- Extraction → Consulty
- Ticket → Extraction

PATIENTS
Baseline Data

Patients with I.V. treatment (same day) (I)

MINUTES

PATIENTS NUMBER

323 min
Baseline Data

Patients with I.V. treatment (same day) (II)

TICKET-ANALÍTICA (20 min)

ANALÍTICA-CTA (174 min)
Baseline Data

Patients with I.V. treatment (same day) (III)

CONSULTATION-DAY HOSPITAL (149 minutes)
Baseline Data

Pareto: I.V. treatment (same day)

Extracción-cta Ticket-extracción Consulta-HDM

Baseline Data

Extraction → Consulty
Ticket → Extraction
Consulty → DMH

Frecuencia
% Acumulada
### Prioritized List of Changes

**Priority/Pay –Off Matrix**

<table>
<thead>
<tr>
<th>Impact</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Analytic outside the hospital (in clinic)</td>
<td>• Check treatment day before</td>
</tr>
<tr>
<td></td>
<td>• Analytic every 15 minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Stepped extractions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Do not duplicate information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Medical Day Hospital united to Oncology</td>
<td>• More sites in medical day hospital</td>
</tr>
<tr>
<td></td>
<td>• Prioritize oncology analytics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• support doctor</td>
<td></td>
</tr>
</tbody>
</table>

**Ease of Implementation**

- **Easy**
- **Difficult**
<table>
<thead>
<tr>
<th>Date of PDSA Cycle</th>
<th>Description of Intervention</th>
<th>Results</th>
<th>Action Steps</th>
</tr>
</thead>
</table>
| 15 – 27 / Nov / 2018 | • Patient identification  
  • Data collection  
  • Identification of the problem (waiting time of patients in the consultation of excessive medical oncology)  
  • Identification of medical services involved in the problem  
  • Creation of work group | • Base-line data  
  • Identification problem delay | • Analysis of obtained data  
  • Improvement measures  
  • Brainstorming |
| 21-25 / Jan / 2019 | • Working group meeting  
  • Data presentation  
  • Brainstorming  
  • Chief service meeting  
  • Responsible laboratory meeting  
  • Nurses meeting | • Plan of action  
  • Patients with oral treatment  
  • Patients with i.v. treatment (same day)  
  • Decide order of improvement measures | • Analysis of obtained data |
| 4-8 / Feb / 2019 | • Adapt laboratory use  
  Analytical extractions outside the hospital in patients with oral treatment (some days before) | Decreased waiting time in the hospital | • Analysis of obtained data  
  • Evaluation of results |
| 25 – 28 / Feb / 2019 | • Adapt laboratory use  
  Analytical extractions inside the hospital in patients with i.v. treatment  
  Send analytical steps to the laboratory (every 15 minutes)  
  Stepped analytical extraction (citation of patients every 30 minutes) | Decreased waiting time in the hospital | • Analysis of obtained data  
  • Evaluation of results |
| 1 – 5 / Apr / 2019 | • Working group meeting  
  • Data presentation  
  • Plan reevaluation | Plan of action  
  Creation meetings  
  Periodic group work |
Baseline Data

Patients with ORAL treatment (I)

Change Data

Patients with ORAL treatment (I)

MINUTES

0  50  100  150  200  250  300  350

1  3  5  7  9  11  13  15  17  19  21  23  25

PATIENTS NUMBER

231 min

MINUTES

0  50  100  150  200  250  300

1  3  5  7  9  11  13  15  17  19  21  23  25

PATIENTS NUMBER

158 min

Series2
Change Data

Patients with ORAL treatment (III)

CONSULTY – PHARMACY (15 minutes)
Baseline Data

Change Data

Patients with I.V. treatment (same day)

Baseline Data

Change Data

Patients with I.V. treatment (same day)
Conclusions

• For the implementation of this project it has been fundamental
  – Creation of a working group
  – Coordination of services involved
  – Identification of the problem
  – Improvement medical identification
  – Implementation of improvement measures
  – We have been able to meet our objective
Next Steps/Plan for Sustainability

• Listen to patients
• Quality surveys
• Improve outside hospital coordination
• Regular group meetings for improvement
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**AIM:** Decrease the waiting time in the hospital and improve the care and quality of life of the oncological patient in treatment

**TEAM:** Almudena García Castaño and Raquel Jimeno Maté
- Virginia Martínez Callejo (Oncology Pharmacy)
- Marisol González Sobrado (Consultation nurse)
- Carlos Rodríguez (Day hospital nurse)
- Ignacio Magaldi (administrative assistant of consultation)
- Fernando Rivera Herrero (OM chief of service)

**INTERVENTION:**
- Analytic outside the hospital (in clinic)
- Analytic every 15 minutes
- Stepped extractions

**CONCLUSIONS:**
Teamwork is key in improving the process
Coordination
General practisian

**NEXT STEPS:**
Listen to patients
Quality surveys
Regular group meetings for improvement