Quality Training Program

Project Title: Analysis of the excessive number of hospital admissions in Medical Oncology compared to other hospitals in the Region of Murcia.

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Institution: Hospital General Universitario Santa Lucía

Date: 30/03/2020

Problem Statement

We have detected, in comparison to other oncology departments, with a similar or greater population area, a disproportionately higher number of hospital admissions.

Institutional Overview

Hospital General Universitario Santa Lucía

- ❑ University Public Hospital
- ❑ Potential patients: 410000 patients
- ❑ All specialties available
- ❑ Medical Oncology Service
    - ❖ 10 Medical Oncologists
    - ❖ 1 Medical Oncology Residents
    - ❖ 24 nurses / nursing assistant
    - ❖ 1040 new patients per year

Institutional Overview

Hospital General Universitario Santa Lucía

❑ Hospitalization rooms

  ❖ 35 beads → 16 double rooms + 3 single rooms

  ❖ Nurse / patient ratio → 11 patients / nurse

  ❖ Doctor / patient ratio → 13 patients / doctor

❑ Clinic

  ❖ 29 seats + 4 beads

  ❖ 10 seats / nurse → 50 treatment administration / day

  ❖ Symptom control office → 0 nurse assigned

Team Members

Sponsor: Dra. Teresa García(Medical Oncology Chief)

Coach: Dra. Ana Blasco (Medical Oncologist)

Leaders

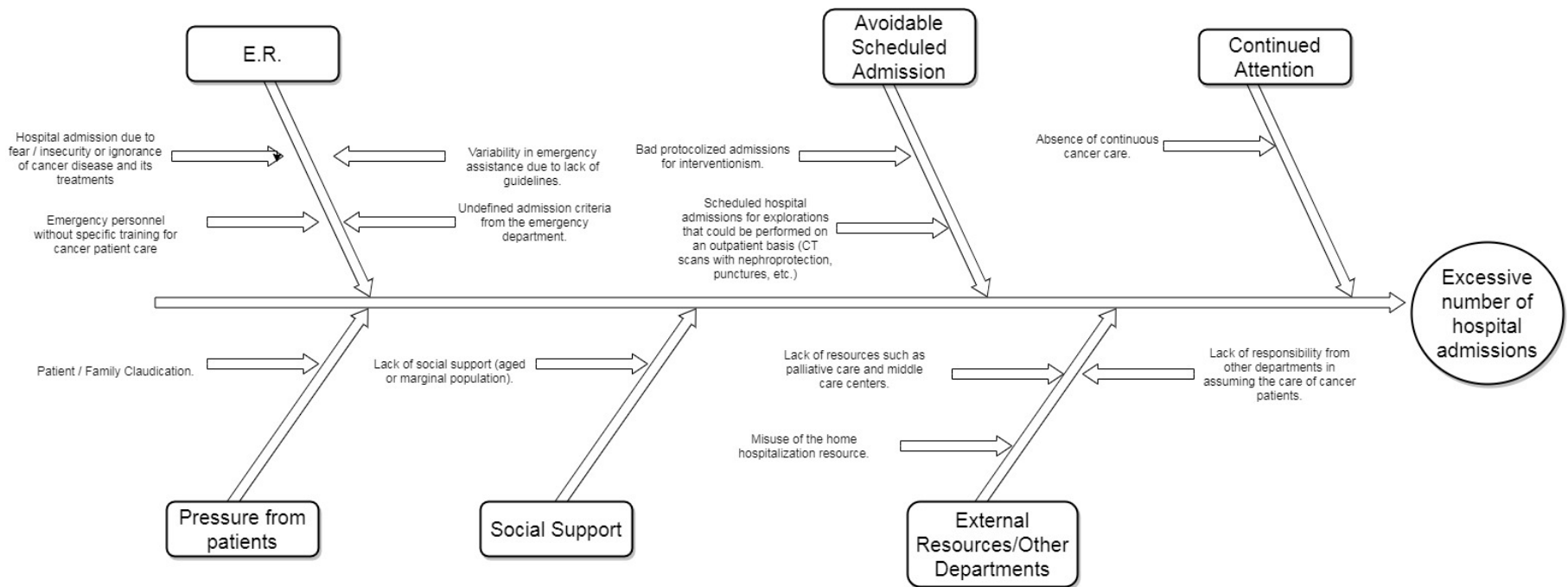Eduardo Feliciangeli (Medical Oncologist)

María José Martínez-Ortiz(Medical Oncologist)

Collaborators

Ana Fernández (Medical Oncologist)

José Balsalobre (Medical Oncologist)

Cause & Effect Diagram

Measures

❑**Measure:**

❖Total hospital Oncology admissions between 11/01/2019 and 01/31/2020.

❖Origin (Oncology Clinic / emergency / other departments).

❖Cause of admission (urgent / scheduled / transfer from another center/hospital).

❖Adequacy (inadequate admission in Oncology (avoidable admission and avoidable admission in Oncology) / adequate admission in Oncology).

❑**Patient Population:**

❖All patients admitted in the Oncology Department

Measures

❑**Data Source:**

❖Admissions department. Data collected to an Excel table from the EHRs (Electronic Health Records) through Selene Corporate System.

❑**Data Collection Frequency:**

❖For practical reasons data was collected on a weekly basis.

❑**Data quality(any limitations):**

❖Some patients were wrongly admitted in Oncology (patients admitted for brachytherapy and were supposed to be admitted in Radiotherapy or some lymphomas that were meant to be admitted in Hematology, so data needed to be checked and debugged.

Diagnostic Data

ADEQUATE ADMISSION IN ONCOLOGY CRITERIA:

❖ Infections while in cancer treatment.

❖ Administration of intravenous cancer treatment.

❖ Non-surgical complication of the neoplasm.

❖ Non-surgical symptoms secondary to disease progression (tumor bleeding, tumor superinfection, liver failure, CNS progression, BM infiltration, etc.).

❖ Treatment toxicity.

❖ End of life (impossibility of home management due to family situation, or symptoms refractory to subcutaneous management by ESAD - home palliative care).

Process Map
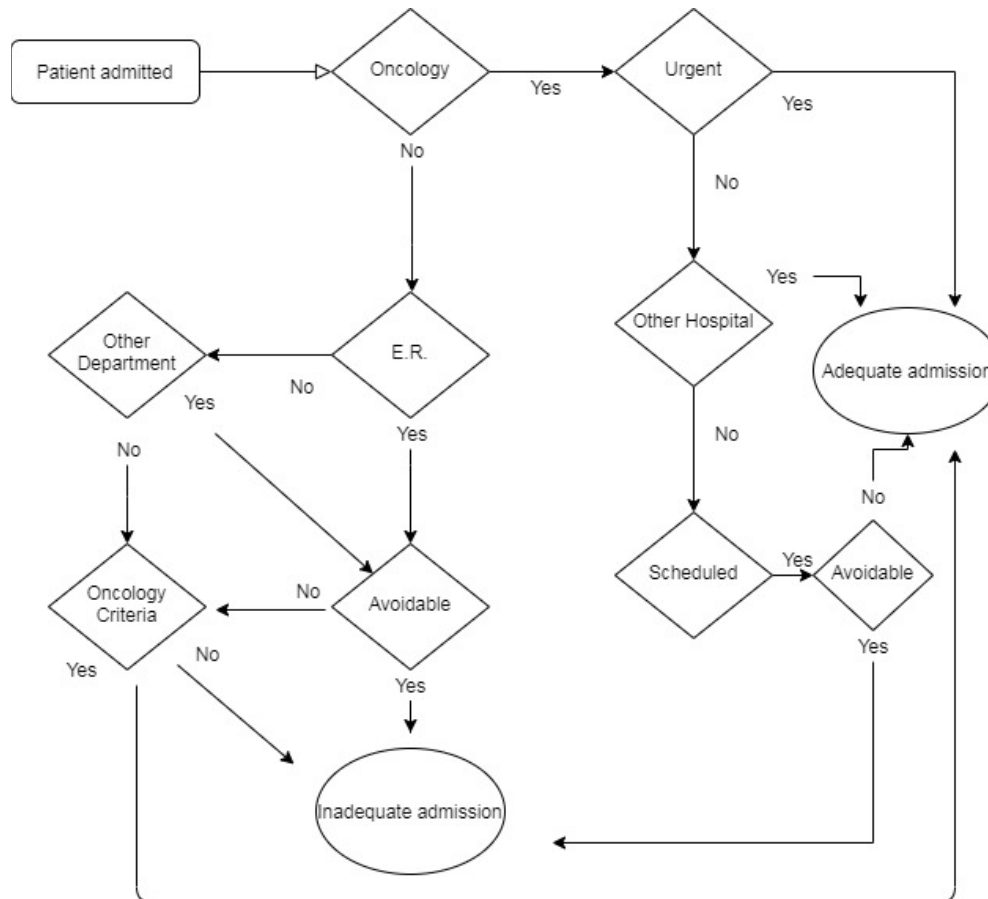
Diagnostic Data

	Data Chart n=172			
Sex	M: 105 (61.05%)		F: 67 (38.95%)	
Age (years)	Mean: 63.34		Median: 64	
Type of Admission	Urgent: 139 (80.81%)		Programmed: 33 (19.19%)	
Adequacy	Avoidable: 66 (38.38%)		Avoidable Oncology: 43 (25%)	Adequate: 106 (61.62%)
Destination at Discharge	Home: 138 (80.24%)	Exitus: 30 (17.44%)	To Another Hospital: 3 (1.74%)	Voluntary Discharge: 1 (0.58%)

Pareto Chart

Adequate	106	62
Avoidable	66	100

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Oncología
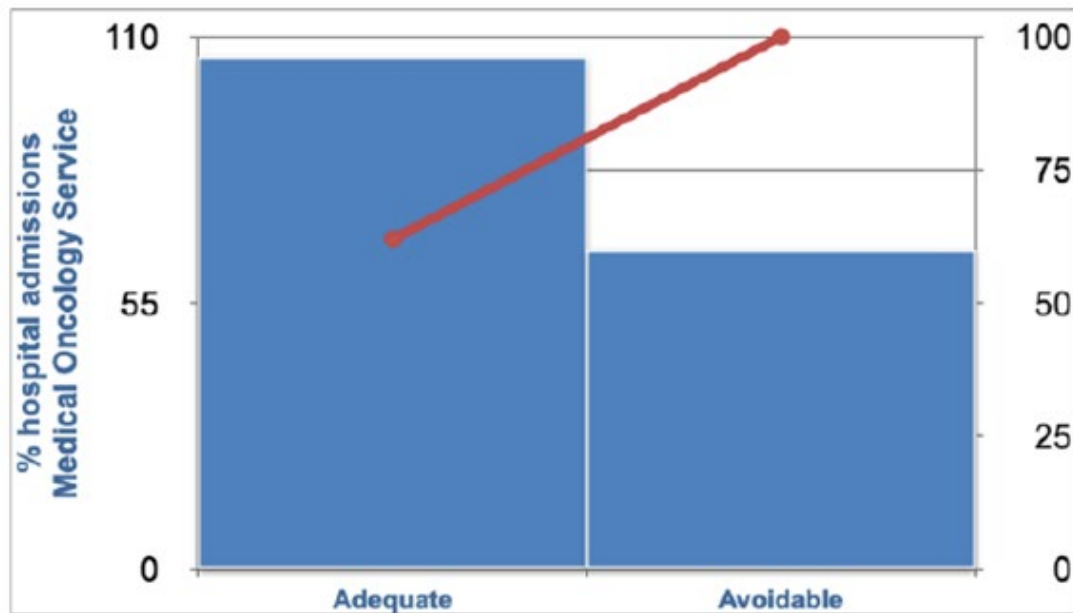
Aim Statement

Reduce the number of inappropriate admissions in 40% of Medical Oncology patients of the "General University Hospital Santa Lucia" of Cartagena in the period between 01/09/2020 and 31/10/2020, in order to reduce the workload of health personnel and the risk and discomfort of the patient and family.

Prioritized List Changes (priority/Pay-Off Matrix)

	Ease — Difficulty of Implementation — **Difficulty**
High Impact	**Creation of guidelines for correct admission criteria.** **Admission protocols for radiodiagnostic procedures.**	**Education to ER physicians** **Reorganization with Radiology of observation criteria after radiodiagnostic procedures (core biopsies, fna biopsies, tumor radiofrequency, ect)**
Low Impact	Clinical sessions discussing admission adequacy in our own department.	Education on admission criteria to other centers/hospitals that refer patients.

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Measures: Process

We decided after the second meeting to reduce the percentage of the aim statement to something more realistic (from 90% to 40% reduction in inadequate admissions). We also decided, in order to avoid confusion, to unify "avoidable admission" and "avoidable admission in oncology" into "inadequate admission".

Measures: Process

Through July to August 2020 we presented the correct admission criteria in Oncology to the E.R. as well as to other Departments . The criteria were the following:

- Infections while in cancer treatment.
- Administration of intravenous cancer treatment.
- Non-surgical complication of the neoplasm.
- Non-surgical symptoms secondary to disease progression (tumor bleeding, tumor superinfection, liver failure, CNS progression, BM infiltration, etc.).
- Treatment toxicity.
- End of life (impossibility of home management due to family situation, or symptoms refractory to subcutaneous management by ESAD - home palliative care).

During that time we spoke and organized with the Radiology Department to only admit in the ward, those patients that need a 24 hour observation period. The other procedures that needed less observation time, were to be admitted in the Clinic.

Measures: Process

Thoughout September and October of 2020, we solicited to the admissions department a record of all the patients admitted in Oncology from the 01/09/2020 to the 31/10/2020 and then we described if the patients were admitted in Oncology correctly or incorrectly based on the criteria described previously.

In total we reviewed 193 total patients admitted in Oncology during that period of time.

PDSA Plan

| Date of PDSA Cycle	Description of Intervention	Results	Action Steps
February/2020 to April/2020	Collection of data (patients admitted in Oncology thoughout Nov/2019-Jan/2020)	Confirmed our thought that we have a very large amount of admissions when compared with other centers we contacted.	Analyzed causes of admission on each patient
May/2020	Created the Oncology Admission Criteria		Spoke with Direction and Management of our Center to start an Education programme.
June/2020	Discussed with Radiology observation criteria for hospitalization or clinic (as out-patient)	Created new criteria and discussed it with Management.	Start implementing the new criteria in September/2020
July/2020 to August/2020	Presentation of the correct admission criteria in Oncology to the E.R. as well as to other Departments and Centers.	Overall acceptance. We decided to start using new criteria in September/2020.	Planned the collection of new data in November (admissions in Oncology throughout September and October/2020).

Measures: Outcome

The measures adopted by the Medical Directorate for the optimal care of COVID patients by Internal Medicine and Pneumology, have led to assume patients by the Oncology department that were even still waiting for anatomo-pathological diagnosis of cancer, as well as admissions from the E.R. of patients that would not meet our criteria of adequacy.

In spite of everything we could see a reduction of 6%, a fact that has surprised us and that indicates that both the education given as well as the presentation of new criteria for admission to both the emergency room and radiology have served despite the situation we are all facing.
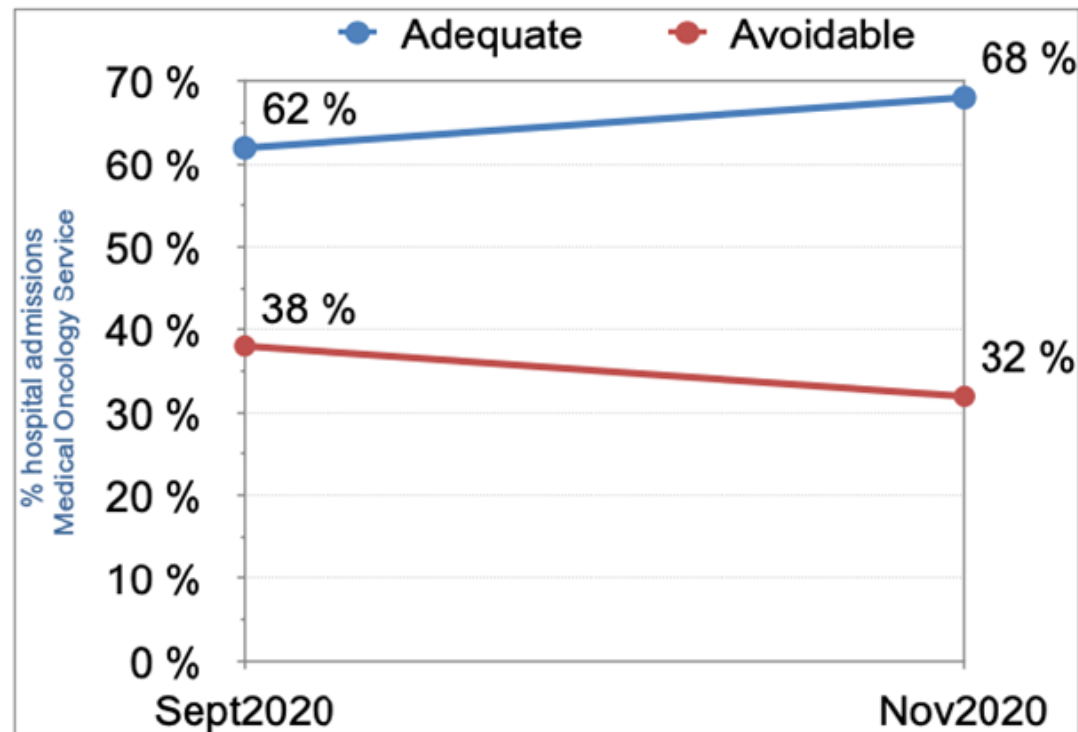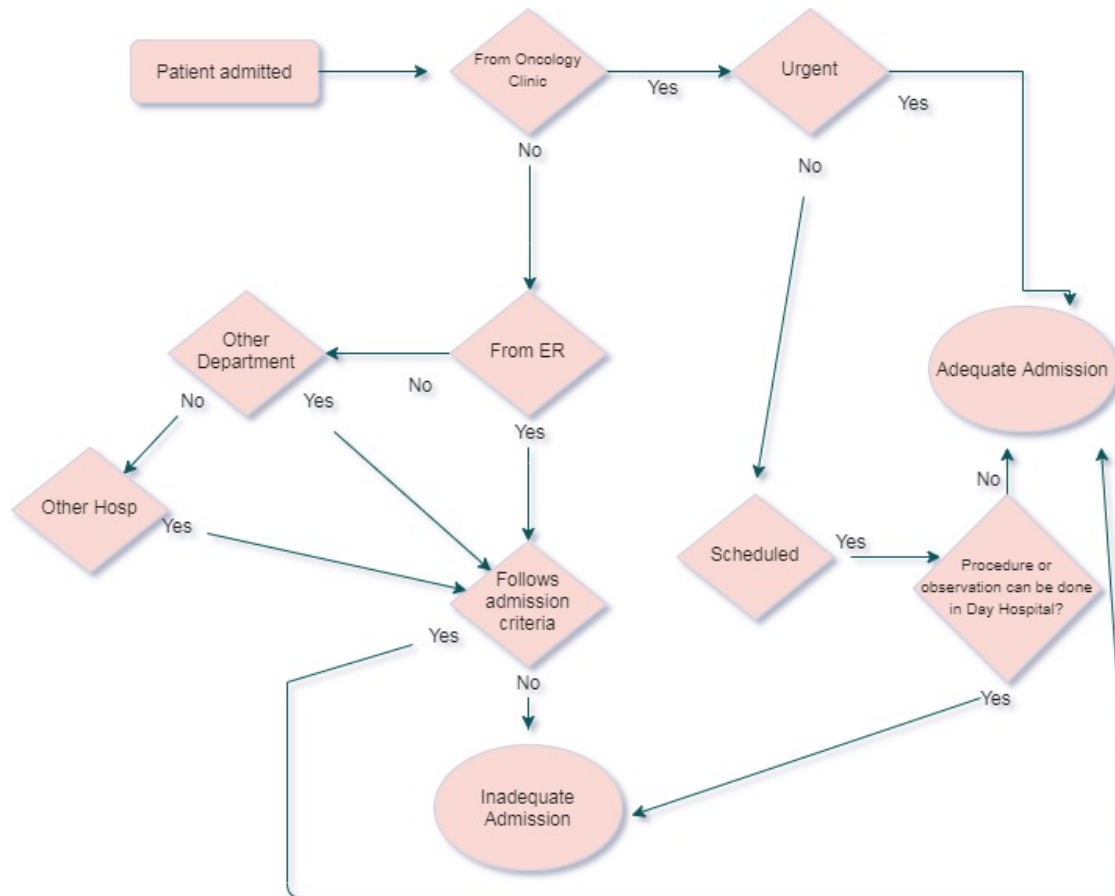
Pareto Chart: Before and After
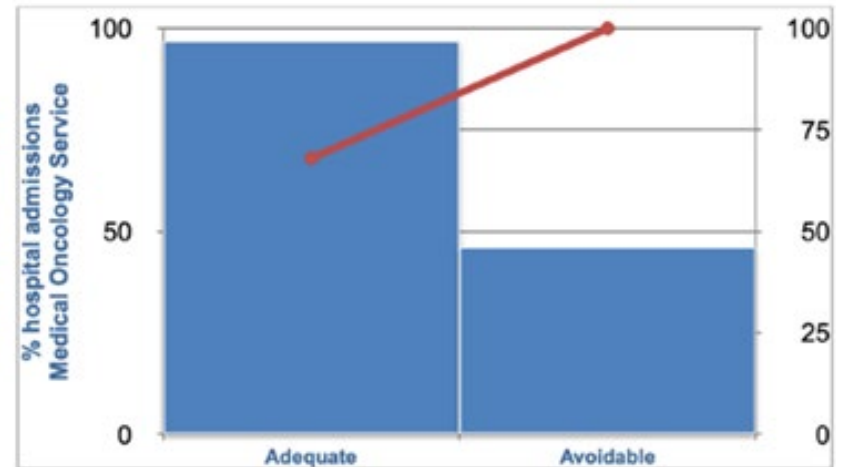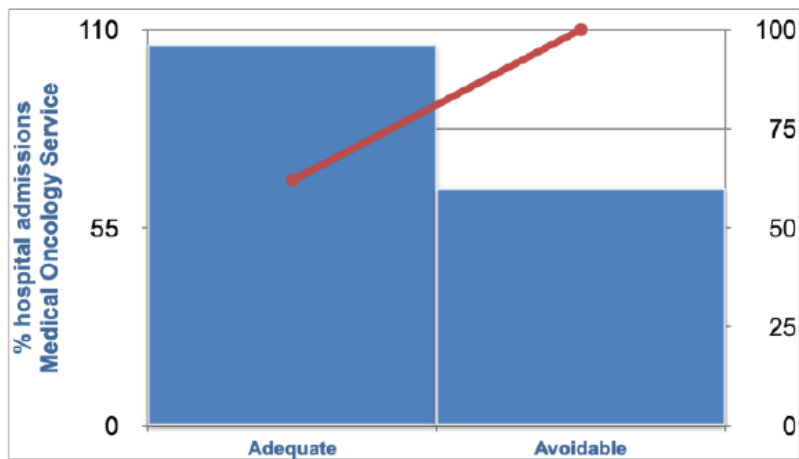
Measures: Outcome

Run Chart

Process Map: Future State

Conclusions

After working with the E.R. and Radiology we find that this project is feasible even though we did not achieve our goals.

Our results indicate we need to continue giving education on admission criteria to the hospital staff.

We have to emphasize the difficulty that has been carrying out this project in a pandemic situation. We consider that this same project in a normal situation of habitual care burden, the data obtained would have been a lot better.

Next Steps/Plan for Sustainability

We will restart the education of the emergency room staff for the correct fulfillment of the criteria for admission in Medical Oncology when the pandemic improves, since at the present time it is not viable. We will also resume the organization of scheduled admissions for diagnostic and therapeutic tests with Radiology.

Once we restart the plan in the previous point, we believe it is convenient to collect data on a quarterly basis to see the evolution over the next year.

We will also try to establish in other departments the criteria for adequate admission in Oncology through more education to the staff.