Quality Training Program

Project Objective:

To analyze the excessive use of systemic treatment such as chemotherapy or targeted therapy in the last phase of life, trying to reduce its use in accordance with the standards of quality assistance.

Participants: Dr. Pablo Álvarez and Dr. Salvador Blanch

Institution: Fundación Instituto Valenciano de Oncología.

Date of Presentation: 8th April of 2019

Institutional Overview

- The Fundación Instituto Valenciano de Oncología (FIVO) is a private **non-profit organization** whose assets and resources are used to fight against cancer in every aspect, such as: **prevention, diagnosis, treatment, research and teaching.**

- Since its inauguration in 1976, the FIVO has been an Oncologic reference institution offering an **integral assistance to all cancer patients.**

Institutional Overview

- The Medical Day Unit, the Medical Oncology Department and the hospital´s pharmacy has been certified by ASCO-QOPI in 2017 (last certification update in 2018).
- The Medical Oncology Staff is composed by:
  - ➢ 12 Specialists in Medical Oncology.
  - ➢ 1 Specialist in Internal Medicine.
  - ➢ 5 Residents in Medical Oncology (1 resident for each year).
- The Medical Day Unit consists of 2 beds and 38 lounge chairs, all with their infusion pumps. Approximately 17,000 intravenous treatments are administered annually.
- The Oncology ward has 30 hospital beds.
- A Medical Oncologist is always on duty and available every day of the year.

Team Members

Team leader: Dr. Salvador Blanch (Medical Oncologist in Fundación Instituto Valenciano de Oncología (FIVO).
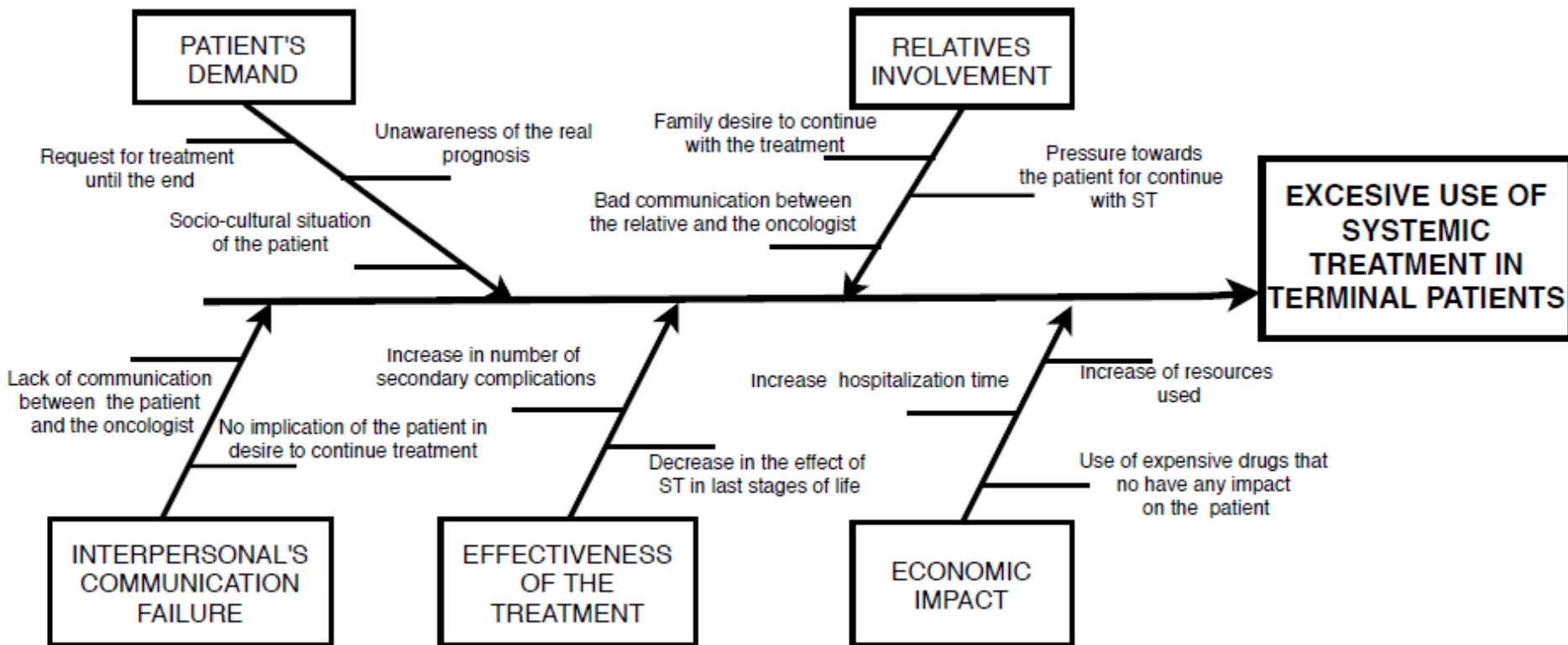
Team Members: Dr. Salvador Blanch (Consultant Medical Oncologist/Specialism Breast in Fundación Instituto Valenciano de Oncología (FIVO) and Dr. Pablo Álvarez (Second Year Resident in Medical Oncology in FIVO).

Project Promoter: Dr. Vicente Guillem (Head of the Centre for Medical Oncology in the Fundación Instituto Valenciano de Oncología (FIVO).
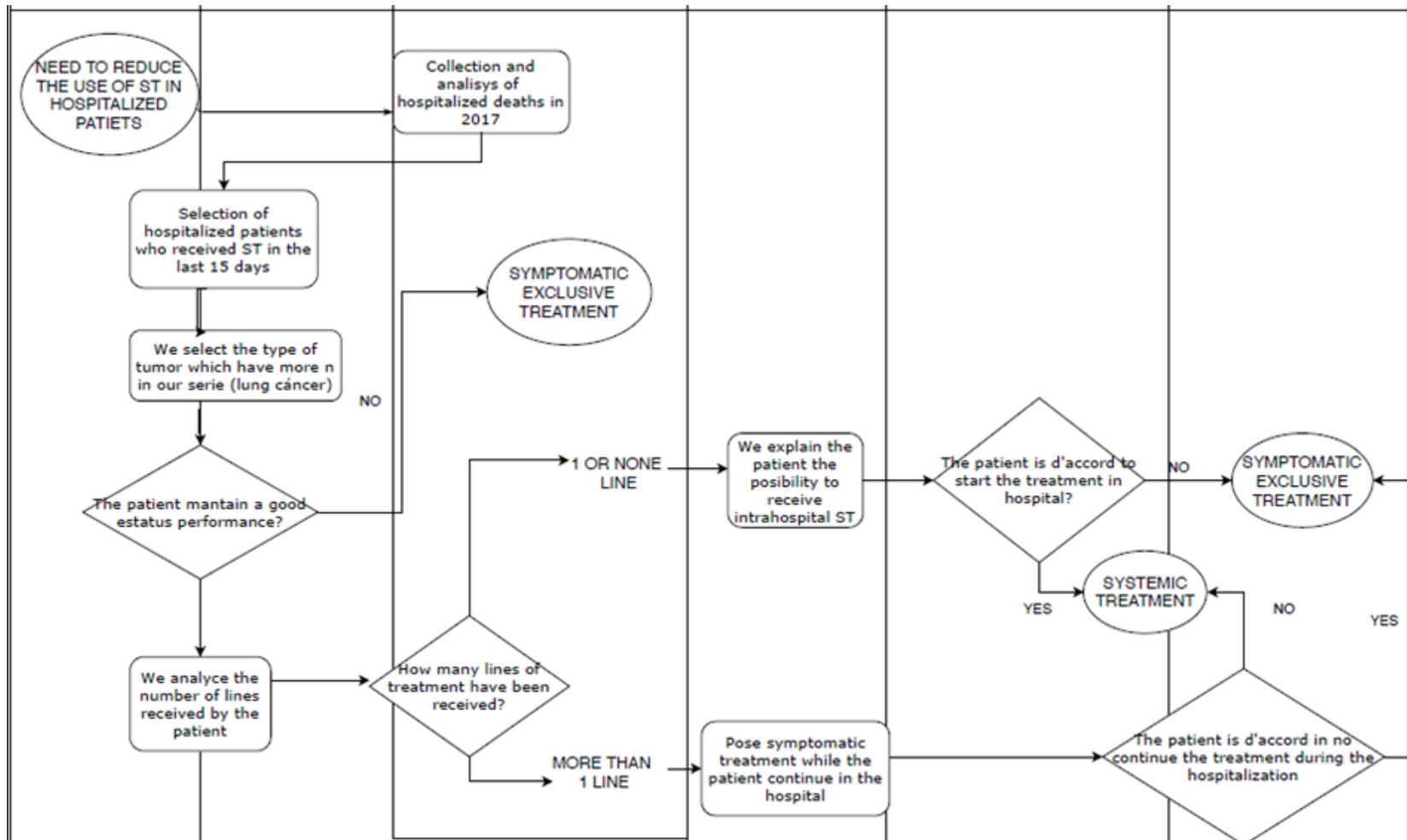
Problem Statement

- Approximately 30% of the patients with advanced cancer continue receiving systemic treatments toward the end of life. Among them, about 2-5% receive their last cancer related treatment within 15 days before death.

- We want to assess the percentage of patients who received systemic treatment (ST) in their last 15 days in the Oncology ward of our hospital.

- We believe that an intervention in treatment administration in the last phases of life will have a beneficial impact on the patients, since we will reduce side effects, prolonged admissions and the risk of dying unnecessarily in an intensive care unit.

Cause & Effect Diagram

PATIENT'S DEMAND
- Request for treatment until the end
- Unawareness of the real prognosis
- Socio-cultural situation of the patient

RELATIVES INVOLVEMENT
- Family desire to continue with the treatment
- Pressure towards the patient for continue with ST
- Bad communication between the relative and the oncologist

EXCESIVE USE OF SYSTEMIC TREATMENT IN TERMINAL PATIENTS

INTERPERSONAL'S COMMUNICATION FAILURE
- Lack of communication between the patient and the oncologist
- No implication of the patient in desire to continue treatment

EFFECTIVENESS OF THE TREATMENT
- Increase in number of secondary complications
- Decrease in the effect of ST in last stages of life

ECONOMIC IMPACT
- Increase hospitalization time
- Increase of resources used
- Use of expensive drugs that no have any impact on the patient

Process Map

Diagnostic Data

LUNG CANCER DEATHS IN 2017	42 (100%)
LAST SYSTEMIC TREATMENT ADMINISTERED ≥ 3 MONTHS BEFORE DEATH	3 (7,14%)
LAST SYSTEMIC TREATMENT ADMINISTERED BETWEEN 1-3 MONTHS BEFORE DEATH	7 (16,66%)
LAST SYSTEMIC TREATMENT ADMINISTERED BETWEEN 15 DAYS-1 MONTH BEFORE DEATH	10 (23,8%)
LAST SYSTEMIC TREATMENT ADMINISTERED ≤ 15 DAYS BEFORE DEATH	*10 (23,8%)*

Diagnostic Data

PATIENT CHARACTERISTICS WHO RECEIVED SYSTEMIC TREATMENT IN THE LAST 15 DAYS

Treatment Lines	N(%)
1	6 (60)
2	3 (30)
3	1 (10)

Performance Status	N(%)
1	4 (40)
2	5 (50)
3	1 (10)

Diagnostic Data

**PATIENT CHARACTERISTICS WHO RECEIVED
SYSTEMIC TREATMENT IN THE LAST 15 DAYS**

Treatment Place	N(%)
Medical Day Unit	3 (30)
Oncology Ward	7 (70)

Systemic Treatment	N(%)
Chemotherapy	8 (80)
Immunotherapy	1 (10)
Anti-EGFR	1 (10)

Diagnostic Data

**PATIENT CHARACTERISTICS WHO RECEIVED
SYSTEMIC TREATMENT IN THE LAST 15 DAYS**

Brain Metastases	N(%)
YES	8 (80%)
NO	2 (20%)

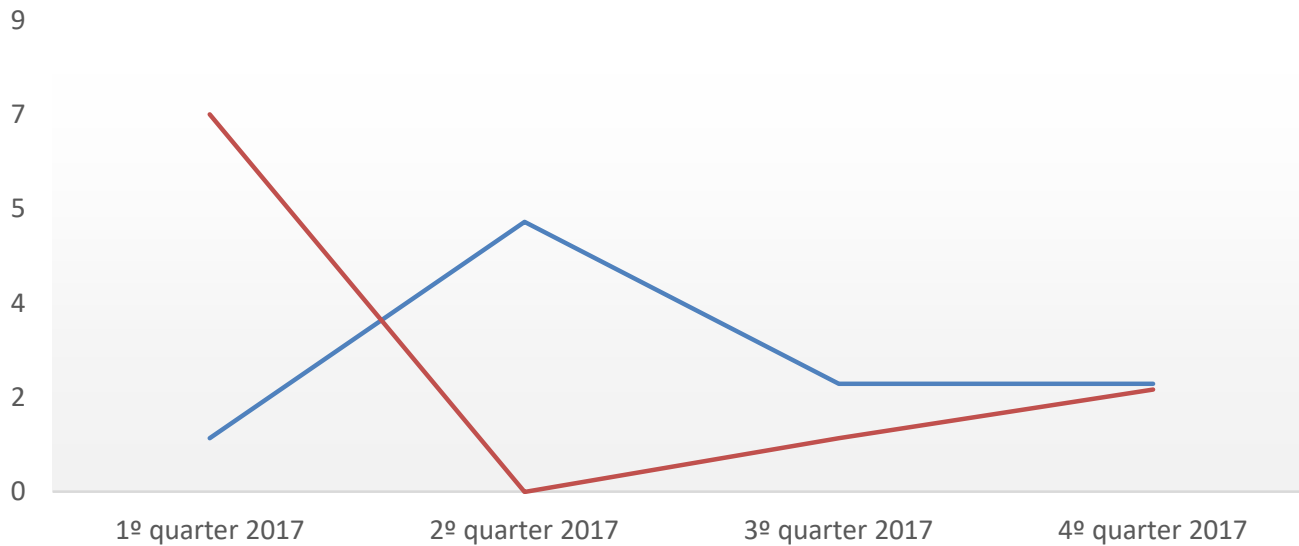| Histology	N(%)
SCLC	1 (10%)
NSCLC	9 (90%)

Pareto Chart

Principal features of patients with lung cancer who received a systemic treatment within the last 15 days of life.
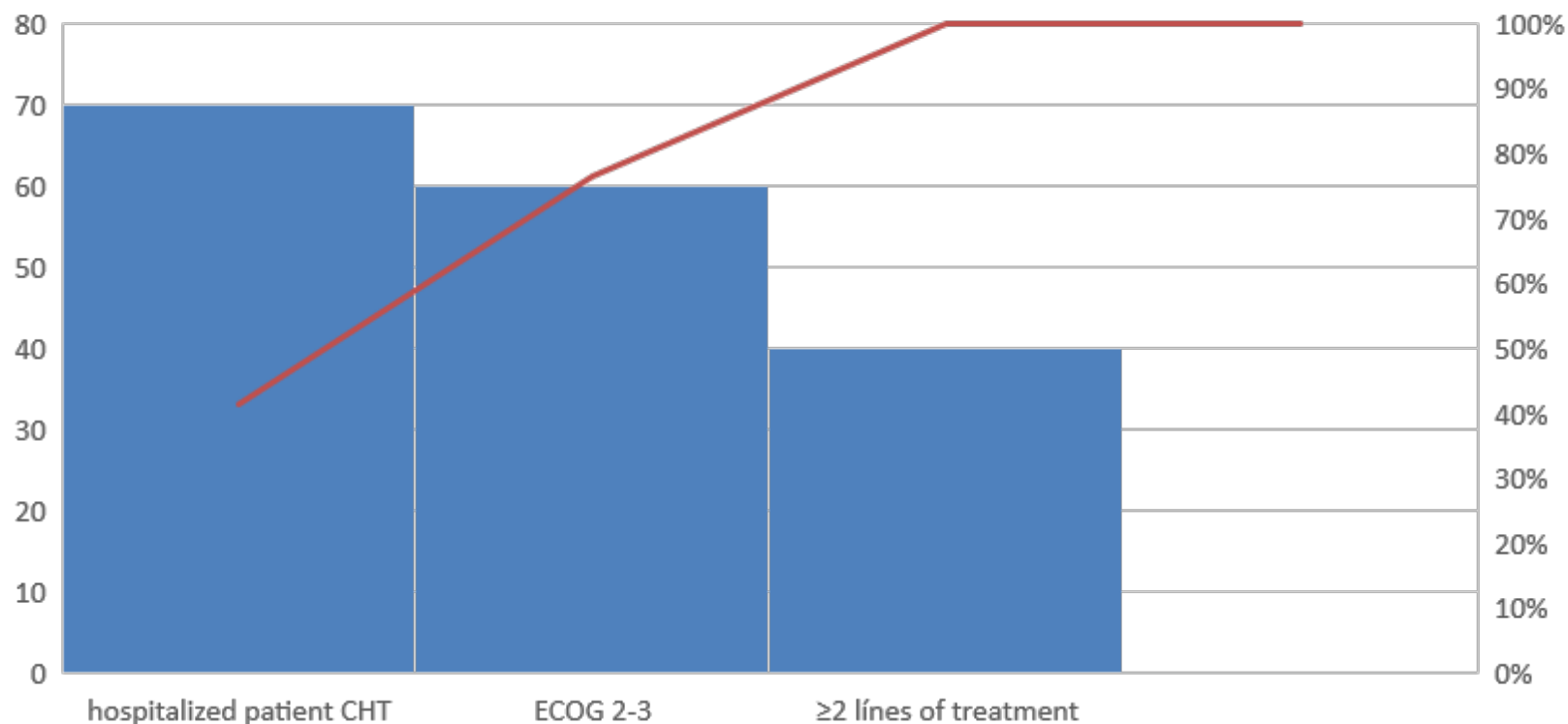
Baseline Data

Patients with Lung cancer who received systemic treatment in the last 15 days of life.

CHT<15 days   QT 15 d-1 month

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Aim statement

To reduce the incidence of systemic treatment to less than 5% in patients with lung cancer in an end of life setting.

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Outcome

- Measure: Incidence of systemic treatment in end of life setting, ECOG-Performance Status, treatment lines, brain metastases and histology.

- Patient population: Patients with metastatic lung cancer who stay in the Oncology ward.
- Data source: Patient's clinical record.

- Data collection frequency:15th January- 15th March

- Data quality(any limitations): None.

Prioritized List of Changes (Priority/Pay–Off Matrix)

	Easy	Difficult
High	- Inform real prognosis. - Psychological evaluation and palliative care doctors involvement.	- Detect patient with ECOG 2 an multiple lines of treatment: - Multidisciplinary session with the patient, oncologist and palliative care professionals.
Low	- How to give bad news courses.	- Speak with relatives about the patient´s prognosis.

Impact

Ease of Implementation

PDSA Plan (Test of Change)

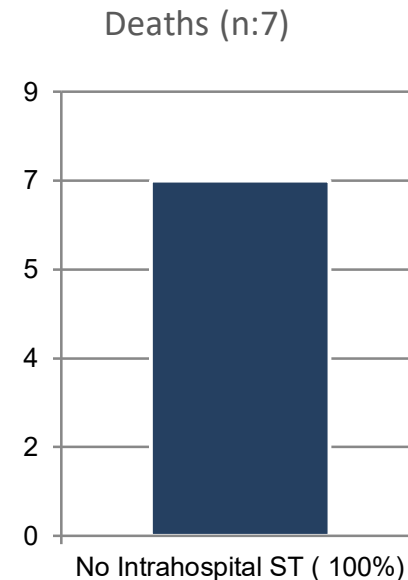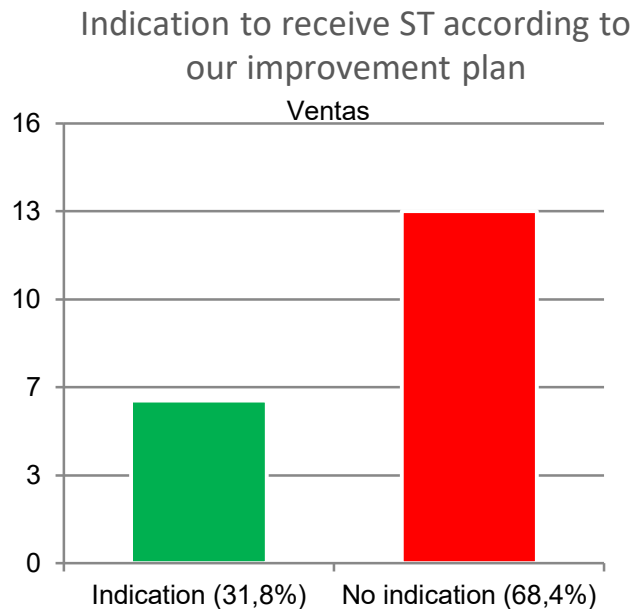| Date of PDSA Cycle	Description of Intervention	Results	Action Steps
October 2018	Mortality data recollection in the oncology ward during 2017.	208 deaths of all tumors were obtained.	We selected the tumor with highest mortality incidence (Lung cancer N42)
November 2018-December 2018	Analyze the characteristics of lung cancer patients that received a ST in the last 15 days.	We obtained the following characteristics of poor prognosis (ECOG, treatment lines)	
January 2019	Inform clinical department about the improvement plan (psychologist and medical team).	Develop a committee of nurses, psychologists and oncologists to explain to patients and family the limited benefit of ST at an end of life situation.	
January 2019-March 2019	Select lung cancer patients who were admitted in oncology ward and select those with poor prognosis.	Reduce the administration of unnecessary cancer related treatments in the last phases of life.	

Measures: Processes

Analysis of Metastatic Lung Cancer Patients in active treatment or about to start one who were admitted in the hospital between January 15 and March 15, 2019

Lung Cancer Patients admitted between January 15 and March 15, 2019 (n:19)

Last treatment received

Recent diagnosis (15,8%) 1 line of treatment (31,6%) More than 1 line of treatment (52,6%)

No treatment (15,8%) Chemotherapy (42,2%) Inmunotherapy (21%) Anti-EGFR (21%)
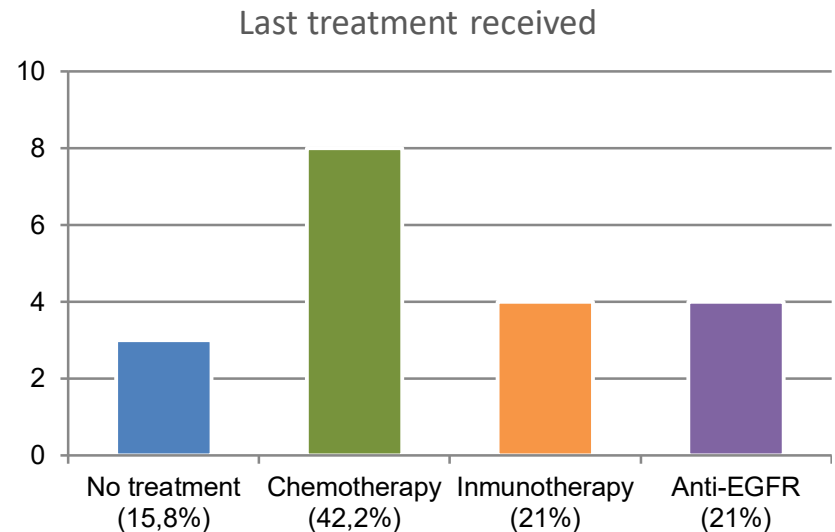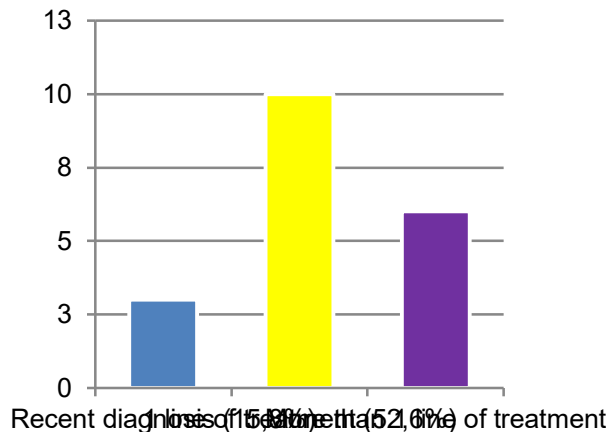
Measures: Processes

Analysis of Lung Cancer Patients in active treatment or about to start one who were admitted in the hospital between January 15 and March 15, 2019

Indication to receive ST according to our improvement plan

Ventas

Indication (31,8%) No indication (68,4%)

Deaths (n:7)

No Intrahospital ST (100%)

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Measures: Processes

PATIENT CHARACTERISTICS WHO DIED DURING THE IMPROVEMENT PLAN

Treatment Lines	N(%)
0	3 (42,8)
1	1 (14,6)
2>	3 (42,8)

Systemic Treatment	N(%)
None	3 (42,8)
Chemotherapy	3 (42,8)
Anti-EGFR	1 (14,6)

Histology	N(%)
SCLC	1 (14,3)
NSCLC	6 (85,7)

Brain Metastases	N(%)
YES	2 (28,6)
NO	5 (71,4)

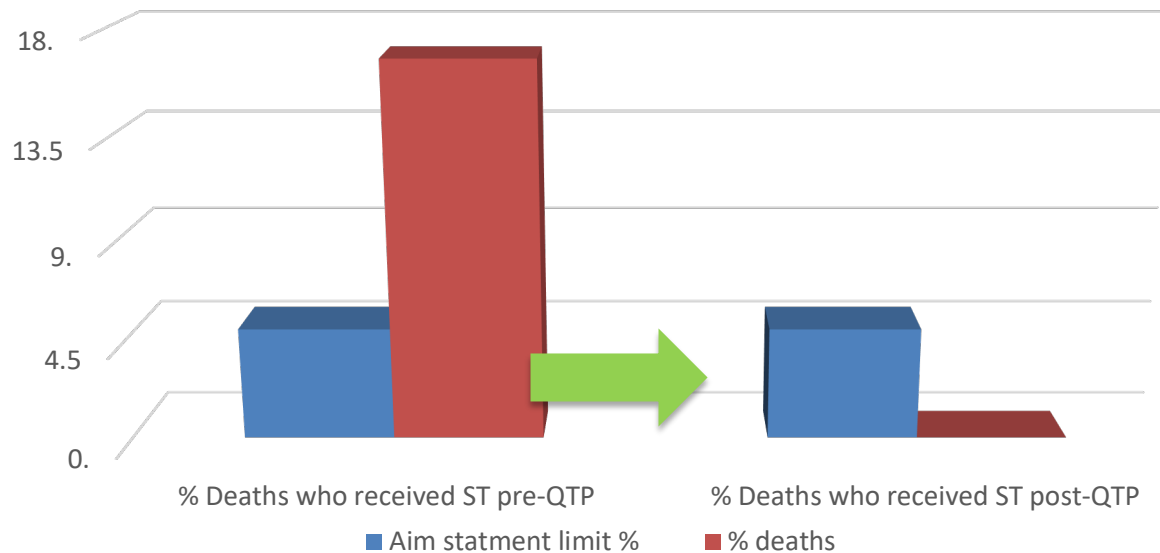| Performance Status	N(%)
0-1	0 (0)
2	1(14,3)
3-4	6 (85,7)

Baseline Data

Patients with Lung cancer who received ST in the last days of life
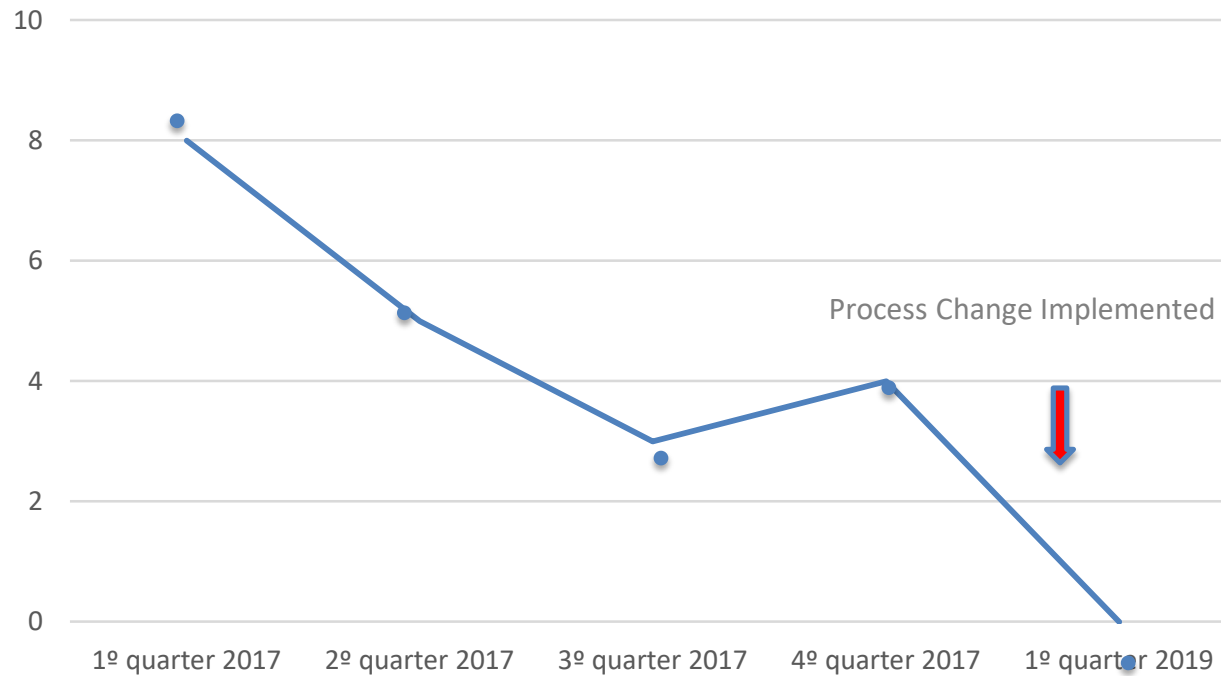
Change data

Comparison between de % of deaths seen in the oncology ward who had a systemic treatment in the last 15 days after the implementation of the improvement plan

Legend:
- Aim statment limit %
- % deaths

X-axis: % Deaths who received ST pre-QTP, % Deaths who received ST post-QTP

Y-axis: 0., 4.5, 9., 13.5, 18.

Conclusions

- During 2017 16,6% of the patients with lung cancer received systemic treatment in the last 15 days.

- Our initial objective was to reduce the percentage of systemic treatment administration during hospitalization **under 5%** in order to decrease side effects and complications related to treatment.

- With the improvement strategies developed and implemented in 2 months, we have achieved a **100% decrease** in administering intrahospitalary treatment.

Next Steps/Plan for sustainability

- In spite of the good results obtained, it would be <u>convenient to extend the improvement strategy to estimate a better correlation</u> with the initial data.

- Export this strategy to <u>other groups of tumors</u> that could benefit in the global reduction of the systemic treatments administered in the hospital.

- Specific surveys to identify potential patients and relatives that may demand intrahospitalary chemotherapy/targeted therapies despite its indication, to provide an early psychological evaluation.

- To elaborate a new protocol or strategy to identify those patients at risk to receive a systemic treatment in the medical day unit.