



Lung Cancer UPDATES

ASCO HIGHLIGHTS

29-31 MAYO 2020

C H I C A G O

Iniciativa científica de:

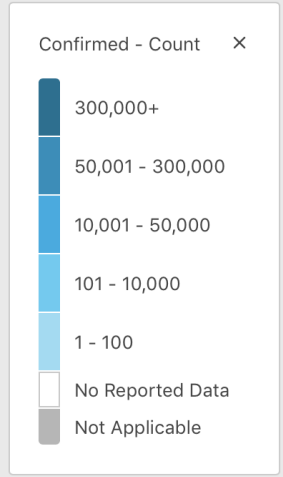
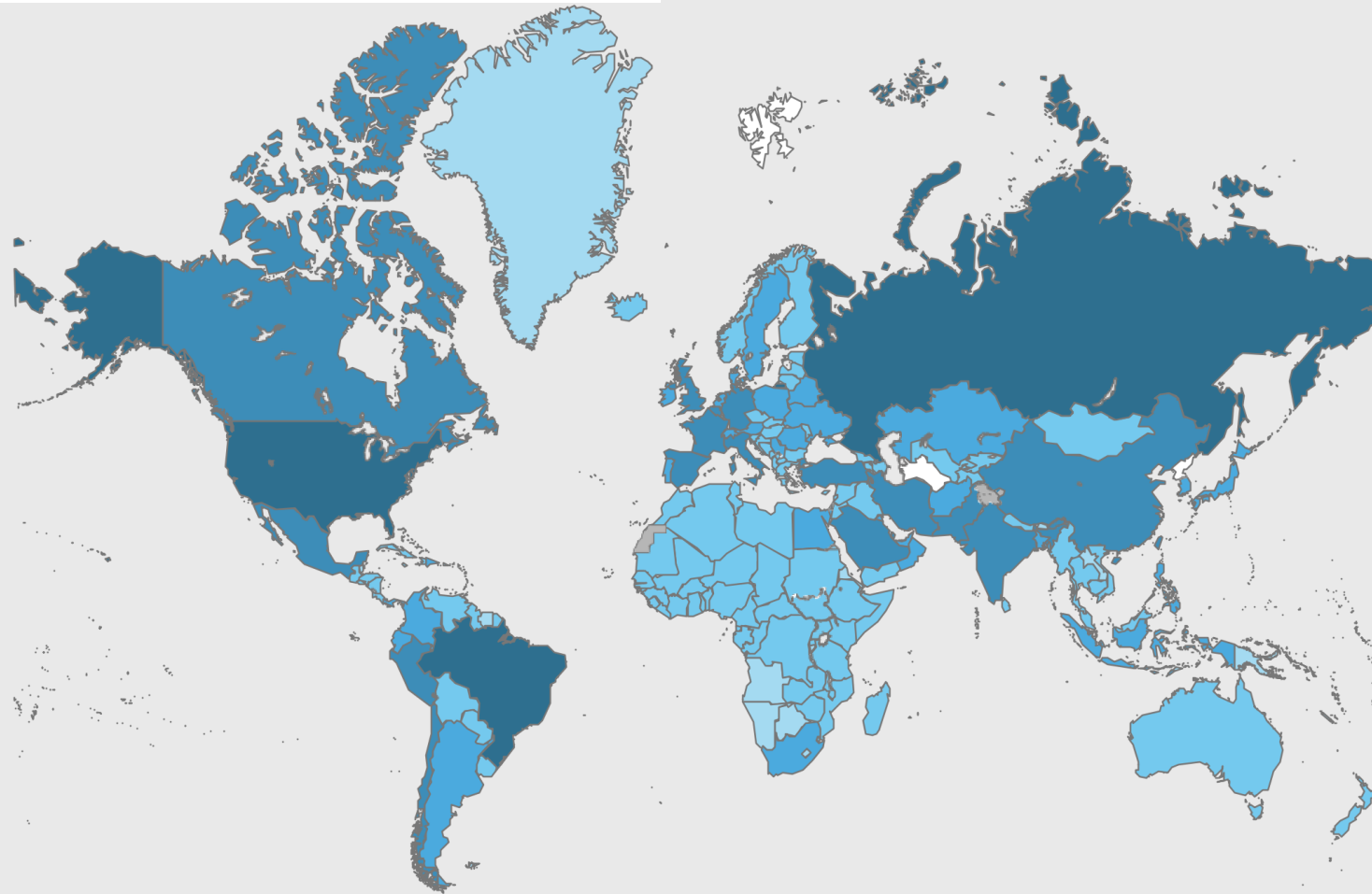


Pandemia Covid & Cáncer

Dra. Ivana Sullivan

Hospital de la Santa Creu i Sant Pau

Globally, as of 6:26pm CEST, 31 May 2020



Choropleth Map | Bubble Map

Cases | Deaths

Total

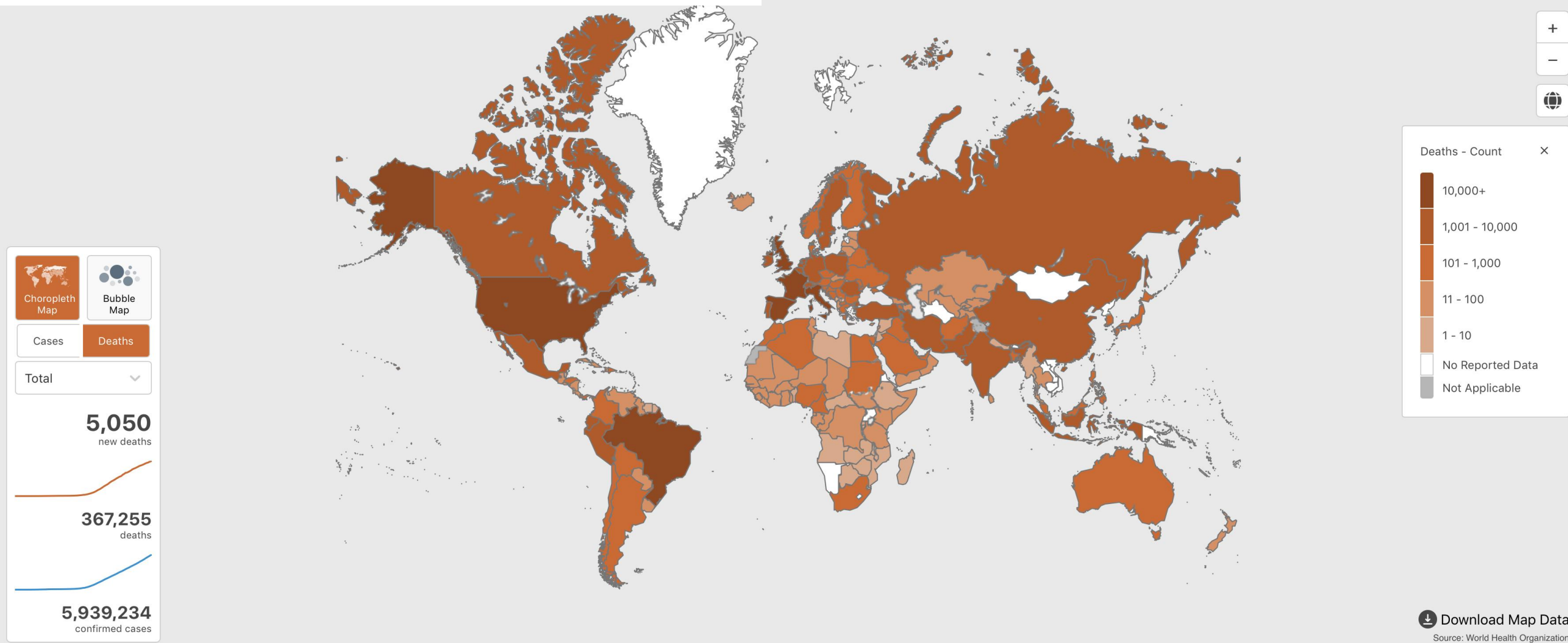
115,226
new cases

5,939,234
confirmed cases

367,255
deaths

Download Map Data
Source: World Health Organization

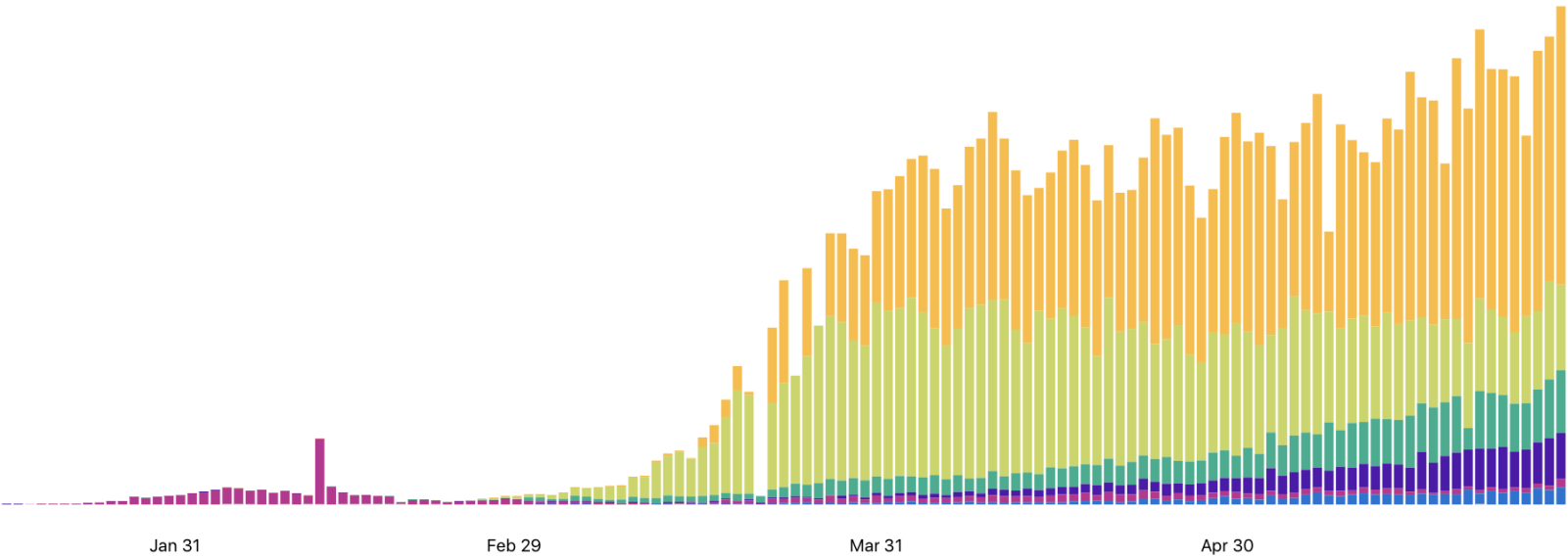
Globally, as of 6:26pm CEST, 31 May 2020



Case Comparison

WHO Regions

Americas	2,743,793
Europe	2,142,547
Eastern Mediterranean	505,001
South-East Asia	264,015
Western Pacific	182,527
Africa	100,610



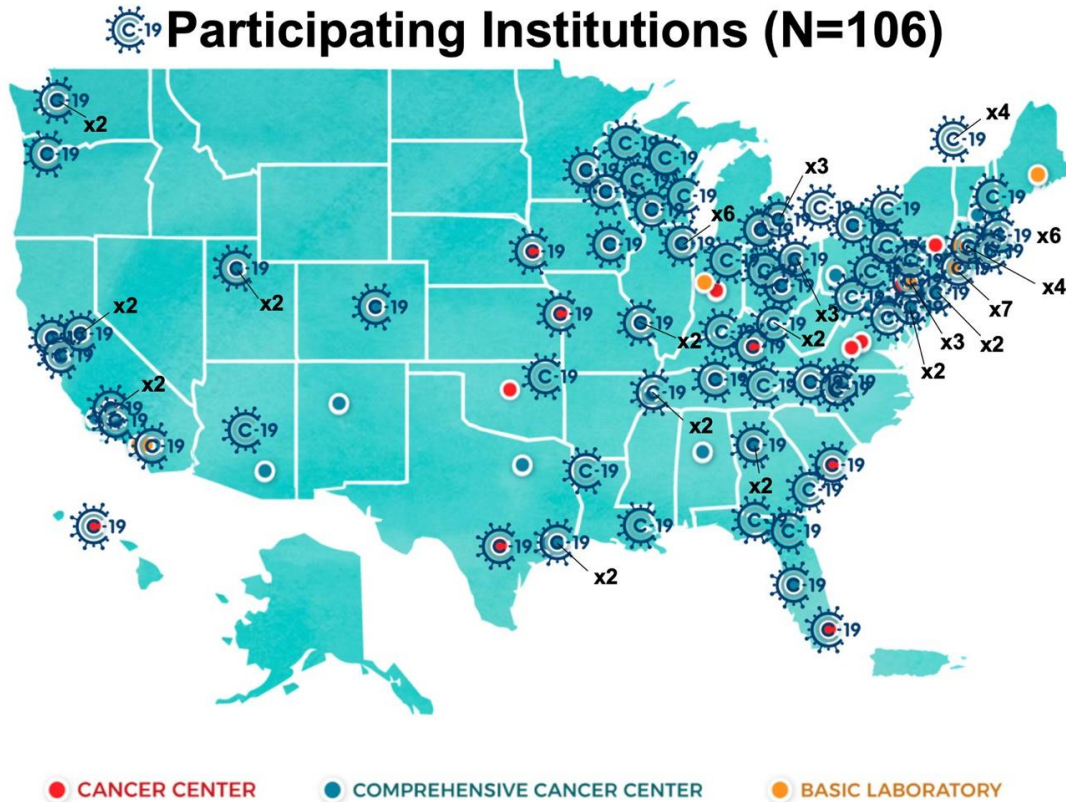
Source: World Health Organization



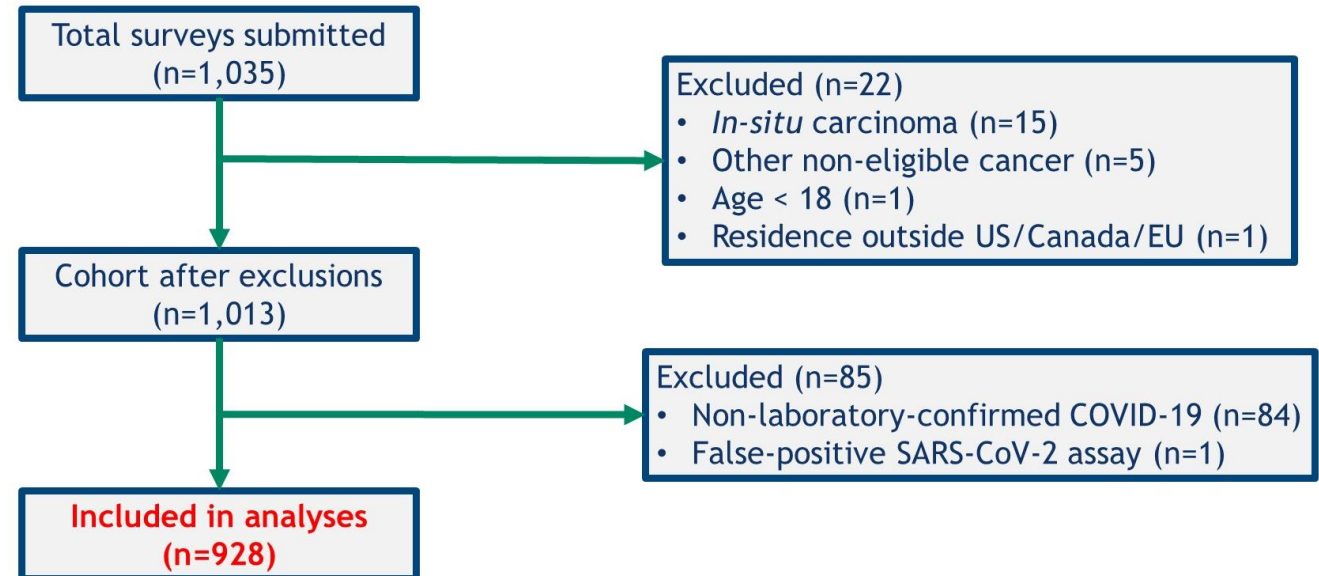
Covid & Cáncer

LBA110 - Jeremy Warner et al.

CCC19: Covid-19 and cancer consortium



CONSORT diagram



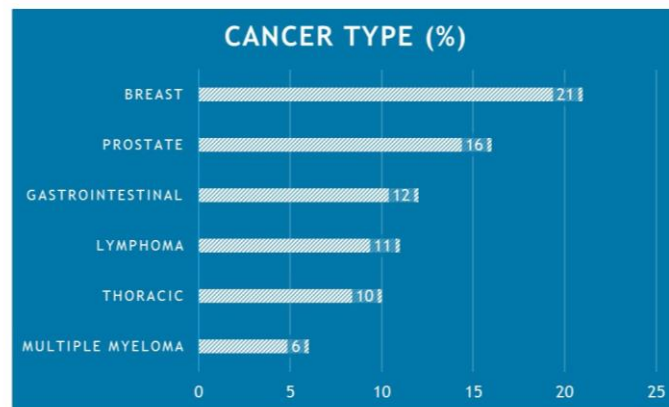
17/03 al 16/04/2020



Type of Malignancy

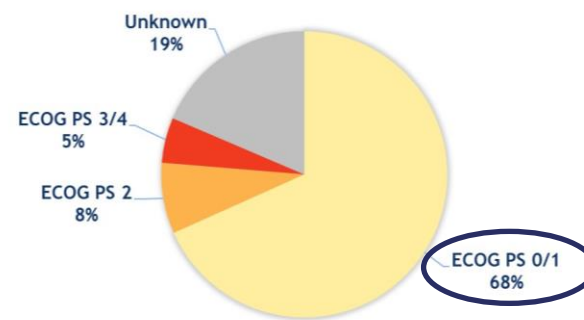
Solid tumors: **82%**
 Hematologic: **22%**
 Multiple cancers: **12%**

10% tumores torácicos

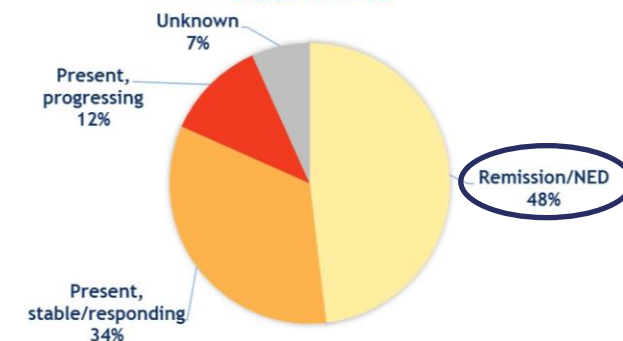


ECOG Performance Status¹ and Cancer Status²

ECOG PERFORMANCE STATUS



CANCER STATUS



¹Excludes n=29 cases with missing ECOG PS

²Excludes n=51 cases with missing cancer status

Mortality for select subgroups



Subgroup	Number/Total	Percentage
ECOG PS 0, no comorbidities	0/86	0%
Global statistics ¹	343k/5.35M	6%
Overall for CCC19 cohort	121/928	13%
Male sex	78/468	17%
Age 75+	70/279	25%
Cancer present, progressing	25/102	25%
ECOG PS 2+	42/118	36%
Age 75+ with intubation	26/44	59%
ECOG PS 2+ with intubation	11/13	85%

¹Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU) [accessed 5/24/2020 13:50 CT]

Select factors associated with 30-day all-cause mortality



Characteristic	pAOR ¹	95% CI
Older age, risk per decade	1.84	1.53-2.21
Male sex	1.63	1.07-2.48
Former vs never smoker	1.60	1.03-2.47
ECOG PS 2 vs 0/1	3.89	2.11-7.18
Cancer present, stable ²	1.79	1.09-2.95
Cancer present, progressing ³	5.20	2.77-9.77
HCQ+Azithro vs neither	2.93	1.79-4.79

¹pAOR: partially adjusted odds ratio; adjusted for age, sex, smoking status, and obesity

²Versus remission/NED; association is no longer statistically significant in the exploratory elastic net analysis

³Versus remission/NED

Post hoc analysis of select factors associated with mortality in patients receiving HCQ±Azithro¹



Characteristic	Univariate OR (95% CI)	P-value ²
ECOG PS = 1	4.1 (2.2-7.9)	<0.001
Anti-cancer treatment <2wks prior to COVID-19 diagnosis	4.0 (1.8-9.1)	<0.001
Rh+ blood type	3.2 (1.7-6.1)	<0.001
Non-Hispanic ethnicity	3.1 (1.9-5.1)	<0.001
Taking statins at baseline	2.6 (1.4-5.1)	0.003
Overall study cohort	2.6 (1.7-4.0)	<0.001

¹Univariate analysis (Fisher exact test), versus azithromycin alone or neither

²Not corrected for multiple hypothesis testing



Update

- As of second data lock¹ for the **original 928**:
 - Median f/u remains **21** days
 - Patients with ≥ 30 days of f/u increased from **371** to **420**
 - 30-day mortality increased from **121** to **124**
- Registry has now accrued **2143 cases**
- Analysis of this larger cohort still underway

¹May 16th, 2020

- Patients with cancer and COVID-19 have high rates of death and complications
- General factors (eg, male sex, older age) are associated with increased mortality in patients with cancer
- Cancer-specific factors (ECOG PS 2+ and progressing cancer) are associated with increased mortality
- Randomized trials are needed to clarify the risk/benefit of HCQ

Clinical impact of COVID-19 on patients with cancer (CCC19): a cohort study



Nicole M Kuderer, Toni K Choueiri*, Dimpy P Shah*, Yu Shyr*, Samuel M Rubinstein, Donna R Rivera, Sanjay Shete, Chih-Yuan Hsu, Aakash Desai, Gilberto de Lima Lopes Jr, Petros Grivas, Corrie A Painter, Solange Peters, Michael A Thompson, Ziad Bakouny, Gerald Batist, Tarios Bekaii-Saab, Mehmet A Bilen, Nathaniel Bouganim, Mateo Bover Larroya, Daniel Castellano, Salvatore A Del Prete, Deborah B Doroshow, Pamela C Egan, Arielle Elkrif, Dimitrios Farmakiotis, Daniel Flora, Matthew D Galsky, Michael J Glover, Elizabeth A Griffiths, Anthony P Gulati, Shilpa Gupta, Navid Hafez, Thorvardur R Halfdanarson, Jessica E Hawley, Emily Hsu, Anup Kasi, Ali R Khaki, Christopher A Lemmon, Colleen Lewis, Barbara Logan, Tyler Masters, Rana R McKay, Ruben A Mesa, Alicia K Morgans, Mary F Mulcahy, Orestis A Panagiotou, Prakash Peddi, Nathan A Pennell, Kerry Reynolds, Lane R Rosen, Rachel Rosovsky, Mary Salazar, Andrew Schmidt, Sumit A Shah, Justin A Shaya, John Steinharter, Keith E Stockerl-Goldstein, Suki Subbiah, Donald C Vinh, Firas H Wehbe, Lisa B Weissmann, Julie Tsu-Yu Wu, Elizabeth Wulff-Burchfield, Zhuoer Xie, Albert Yeh, Peter P Yu, Alice Y Zhou, Leyre Zubiri, Sanjay Mishra, Gary H Lyman*, Brian I Rini*, Jeremy L Warner*, on behalf of the COVID-19 and Cancer Consortium*

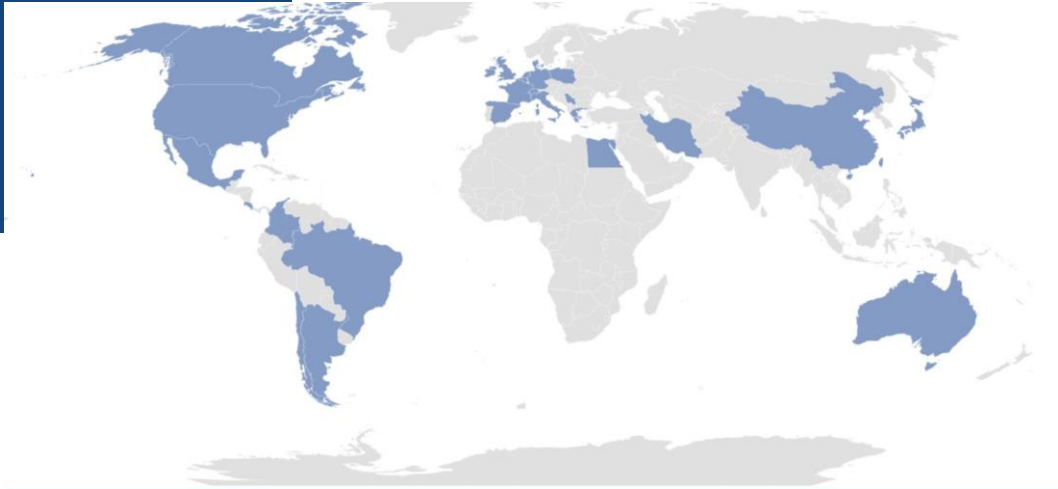
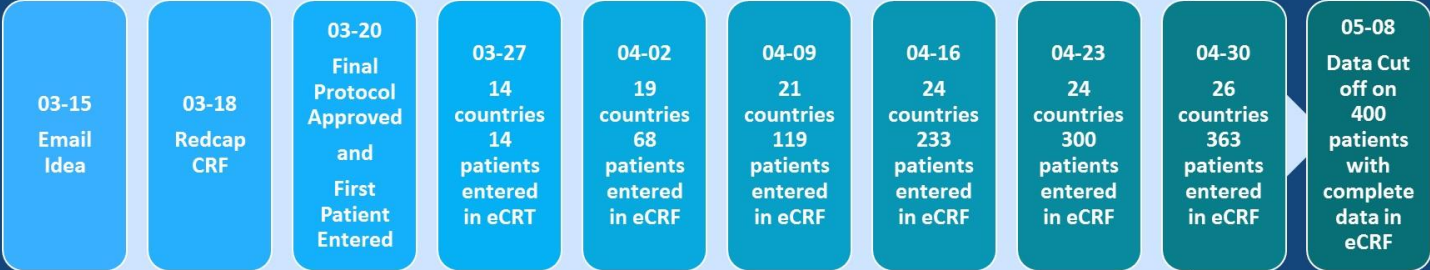
Published Online May 28, 2020

[https://doi.org/10.1016/S0140-6736\(20\)31187-9](https://doi.org/10.1016/S0140-6736(20)31187-9)

Covid & Tumores torácicos

LBA111 - Leora Horn et al.

Global Consortium Established



Inclusion Criteria

Any thoracic cancer patients with a COVID-19 diagnosis defined as follow:

1. Laboratory confirmed (RT-PCR techniques) COVID-19
2. Suspected COVID-19 cases
 - a. Clinically based on symptoms including fever $>37.5^{\circ}$, decrease of oxygen saturation of at least 5 %, cough, diarrhea, otitis, dysgeusia, myalgia, arthralgia, conjunctivitis and rhinorrhoea and known exposure to person with confirmed COVID-19
 - b. Radiologically suspected cases with lung imaging features consistent with coronavirus pneumonia and symptoms

Local IRB approval required prior to data entry in REDCAP database

First Analysis on 200 Patients

- Median follow up of 15 days
- Primarily European population (98%)
- Majority of Patients were on active therapy (74%)
- Common presenting symptoms were fever, dyspnea and cough
- 76% of patients hospitalized; 9% admitted to ICU; 2.5% mechanical ventilation
- Univariate analysis found age > 65 years old, smoking status, chemotherapy alone and presence of comorbidities were associated with increased risk of death
- Multivariate analysis found only age > 65 years old
- 33.3% patients died, majority (89%) Ongoing due to complications from COVID-19 with many not admitted to intensive care

Demographics

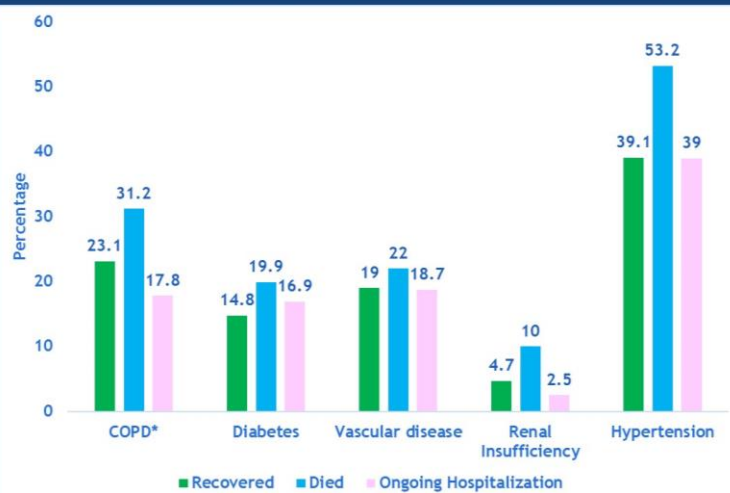
	Recovered N=169	Died N=141	Ongoing N=118
Current Medication (%)			
ACEI/ARB	20.7	33.4	32.2
Anticoagulation [^]	18.3	27.0	13.6
Steroids (> 10 mg prednisone)	14.2	23.4	16.1
Tumor type (%)			
NSCLC	81.9	74.5	78.0
SCLC	9.6	16.7	13.0
Other*	8.5	8.8	9.0
Stage (%)			
I/II	16.2	7.9	5.4
III	22.3	16.4	17.9
IV	61.4	75.7	76.8
Method of COVID-19 Diagnosis			
RT-PCR	88.7	90.7	82.2
Radiographic Findings	7.7	4.3	13.6
Clinical Findings	3.1	5.0	4.2

ACE- angiotensin converting enzyme inhibitor; ARB = angiotensin receptor blocker

[^] includes apixaban, rivoraxaban, warfarin, lovenox, heparin

* Includes mesothelioma, thymoma and carcinoid

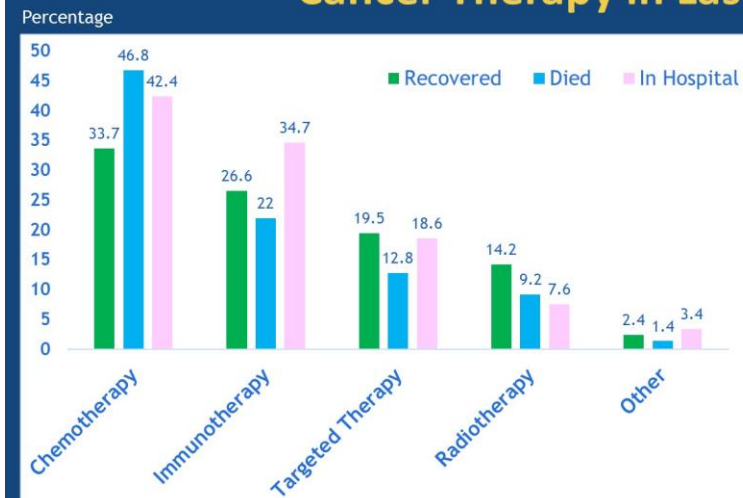
Most Frequent Comorbidities



Number of Comorbidities

	Recovered N=169	Died N=141	Ongoing N=118
0	18.3	9.2	31.4
1	31.4	31.2	26.3
2	24.3	31.2	23.7
≥3	26.0	28.4	18.7

Cancer Therapy in Last 3 Months



Number of lines of therapy (%)

	Recovered N=169	Died N=141	Ongoing N=118
0	22.5	24.8	17.8
1	50.9	48.2	52.5
≥2	26.6	27.0	29.7

Multivariate Analysis of Risk Factors Associated with Death from COVID-19

Variable	Reference Levels	Hazard Ratio	Lower 95%CL	Upper 95%CL	P-Value
Age	>65 vs <65 years	1.70	1.09	2.63	0.018
ECOG PS	PS=1 vs PS=0	2.14	1.11	4.11	<.001
	PS>1 vs PS=0	3.78	2.03	7.02	0.144
Hypertension	YES vs NO	1.18	0.81	1.72	0.392
Steroids prior to COVID	YES vs NO	1.49	1.00	2.23	0.052
Oncologic Therapy	Chemo ± other vs No Tx	1.71	1.12	2.63	0.025
	IO/Target vs No Tx	1.04	0.56	1.933	
	Chemo ± other vs IO/Target	1.64	0.77	3.48	

- In patients with thoracic malignancies who develop COVID-19, baseline risk factors for mortality included age, performance status and presence of comorbidities
- There is no impact of gender, BMI, smoking status, stage or type of cancer on risk of death
- Patients on steroids or anticoagulation prior to diagnosis are at increased risk of mortality
- Prior administration of chemotherapy, as unique modality or in combination with ICI, is associated with increased risk of death while immunotherapy and TKI are not
- Therapy administered to treat COVID-19 is not significantly associated with outcome



GRAVID: pacientes con tumores torácicos diagnosticados de COVID-19

77 centros
N= 240

SOLID: analizar el estado inmunitario frente a COVID-19 en pacientes con tumores torácicos mediante test de IgG+ en sangre (ELISA)

N= 1000 → ampliación a 500 más



Lung Cancer UPDATES

ASCO HIGHLIGHTS

29-31 MAYO 2020

C H I C A G O

Iniciativa científica de:



Pandemia Covid & Cáncer

Dra. Ivana Sullivan

Hospital de la Santa Creu i Sant Pau