NB: The approximate population of Lombardy in Northern Italy is 10 million people. The capital of Lombardy is Milan which has a population of 1.35 million. The population of Italy is 60.48 million.

INITIAL RESPONSE FROM 20TH FEBRUARY

- On 20th February, healthy 30yo man with atypical pneumonia tested COVID19+ in Codogno
- On 21st of February, 36 new positive patients without links to first patient
- Emergency Task Force initiated in Lombardy
- Pre-crisis total ICU Capacity in Lombardy = 720 beds (2.9% of Hospital Beds) at 85-90% Occupancy in Winter
- ICU Capacity was surge expanded on an assumed ICU admission rate of 5% □ 15 first-responder hub hospitals
- These hospitals had expertise in infectious disease or VV ECMO
- Non-urgent procedures were cancelled
- Other 200 ICU bed were made available in the following 10 days □ 920 TOTAL
- Containment measures = quarantine of several towns in initial cluster
- 2nd week, other clusters emerged, and the ICU network began to advise the government:
  - Reinforcing public health measures of quarantine
  - Self-isolation
- ICU admissions over the first 2 weeks = 556 which was 16% of all 3420 patients tested positive at this time

ON 7TH MARCH

- COVID+ Patients hospitalised in ICU = 359 (16% of 2217 hospitalised positive patients)
- Creation of 482 MORE ICU beds.... This was 60% of total pre-outbreak ICU bed capacity

ON 8TH MARCH

- Transfer of critically ill patients OUTSIDE the region □ 30 non-covid and 21 covid patients up to 19/3/20

Based on data to March 7, when 556 COVID-19–positive ICU patients had been admitted to hospitals over the previous 15 days, linear and exponential models were created to estimate further ICU demand... (fig.1)

- Assuming exponential growth, there would be 14,542 ICU Admission by 20th March 2020
- Assuming linear growth, there would be 869 ICU admissions by 20th March 2020

On 16/3/20 in Italy – Healthcare Workers accounted for 9.33% of COVID cases (fig10)

18/3/20 there are 1086 patients being treated in ICU – 94% ventilated
Data for 1503 patients

Age (fig 5 & 6)
Median age of treated patients = 64 (min 14, max 91) \(n = 1503\)
Median age of dead patients = 71 (min 32, max 91) \(n = 252\)
Median age of discharged patients = 60 (min 28, max 84) \(n = 214\)
Median age of current patients in ICU = 62 (min 14, max 85) \(n = 1037\)

PEEP – data of 672 patients (fig 7)
Max: 22, 75% percentile: 15, Median: 14, 25% percentile: 12, Min: 0

FiO\textsubscript{2} of Hospitalised Patients – data of 644 patients (fig 8)
Max: 100, 75% percentile: 70, Median: 55, 25% percentile: 45, Min: 30

PaO\textsubscript{2}/FiO\textsubscript{2} in Hospitalised Patients – data of 673 patients (fig 9)
Max: 530, 75% percentile: 254, Median: 180, 25% percentile: 130, Min: 37
Based on data to March 7, when 556 COVID-19–positive ICU patients had been admitted to hospitals over the previous 15 days, linear and exponential models were created to estimate further ICU demand.

Spread of SARS-CoV-2 infection

March 8, 2020
March 18, 2020
Spread of SARS-CoV-2 infection

March 8, 2020
March 18, 2020

Positive cases/inhabitants %

Patients admitted to COVID-19 ICUs

Treated Patients ~1569
Discharged Patients ~227
Dead Patients ~256

Patients in ICU:
Male: 82%
IMV: 94%
Prone: 22%
ECMO: 5

data updated to 18-March, h2 AM

Age of treated patients

Max: 91
75% percentile: 71
Median: 64
25% percentile: 65
Min: 14

Media: 63
St. Dev: 11

data updated to 18-march, h 2.00 AM
**Age of treated patients**

Data available for 1503 patients

Data updated to 18-March, h 2.00 AM

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**PEEP in hospitalized patients**

Max: 22  
75% percentile: 15  
Median: 14  
25% percentile: 12  
Min: 0

Media: 13  
St. Dev: 3

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**FiO₂ in hospitalized patients**

Max: 100  
75% percentile: 70  
Median: 55  
25% percentile: 45  
Min: 30

Media: 59  
St. Dev: 18
PaO₂/FiO₂ in hospitalized patients

Max: 530
75% percentile: 254
Median: 180
25% percentile: 130
Min: 37
Media: 198
St. Dev: 88

Hospitalized patients

Data updated to 18-march, h 2.00 AM

Fig 9

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Integrated surveillance of COVID-19 in Italy

25,058 cases of COVID-19
2,339 health-care workers
1,697 associated deaths

Median age 61 years

Total number of COVID-19 cases diagnosed by the Italian Regional Reference Laboratories

Fig 10