

Analisi COVID-19 - Federico

March 16, 2020

```
[41]: import pandas as pd
import matplotlib.pyplot as plt
df = pd.read_csv('COVID-19/dati-regioni/dpc-covid19-ita-regioni.csv')
```

```
[42]: # REGIONI
regione_tot = ['Abruzzo', 'Basilicata', 'P.A. Bolzano', 'Calabria', 'Campania',
↳ 'Emilia Romagna',
            'Friuli Venezia Giulia', 'Lazio', 'Liguria', 'Lombardia',
↳ 'Marche', 'Molise', 'Piemonte', 'Puglia',
            'Sardegna', 'Sicilia', 'Toscana', 'P.A. Trento', 'Umbria',
↳ 'Valle d'Aosta', 'Veneto'
]
```

```
[43]: for z in regione_tot:
    regione = df.loc[df['denominazione_regione'] == z]
    x1 = regione.data
    x2 = regione.totale_casi
    x3 = regione.terapia_intensiva
    x4 = regione.deceduti
    x5 = regione.dimessi_guariti
    ticks = []
    ticks_1 = []

    x = []
    for f in x1:
        x.append(f[6:10])

    legenda_casi_totali = []
    for casi in x2:
        legenda_casi_totali.append(casi)

    for w in legenda_casi_totali:
        if w % 2 == 0:
            ticks.append(w)
        else:
            pass
```

```

legenda_terapia_intensiva = []
for casi in x3:
    legenda_terapia_intensiva.append(casi)

legenda_deceduti = []
for casi in x4:
    legenda_deceduti.append(casi)

legenda_guariti = []
for casi in x5:
    legenda_guariti.append(casi)

ticks_1.append(legenda_casi_totali[-1])
ticks.extend(ticks_1)

totale_casi = regione.totale_casi
terapia_intensiva = regione.terapia_intensiva
deceduti = regione.deceduti
dimessi_guariti = regione.dimessi_guariti

plt.rcParams["figure.figsize"]=30,20

plt.rc('ytick', labels=20)
plt.rc('xtick', labels=20)
plt.rc('axes', labels=30)

plt.title("{}".format(z), fontsize=100)
plt.yticks(ticks)

plt.xlabel("Tempo")
plt.ylabel("Casi totali")

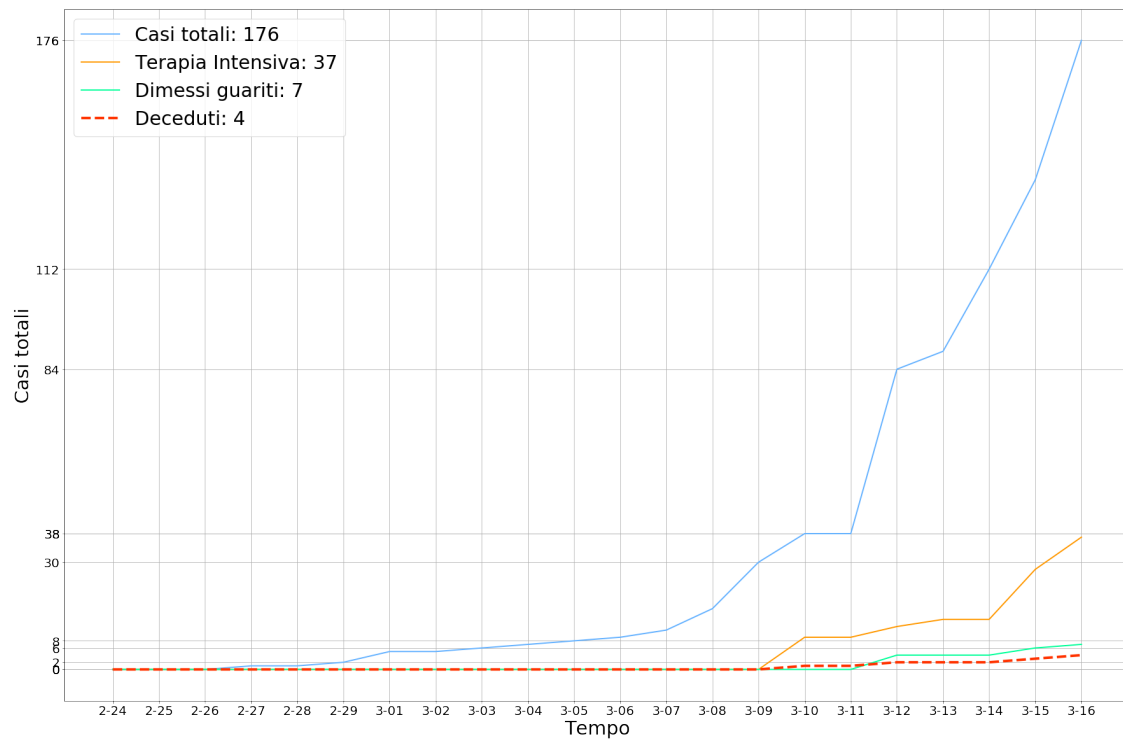
plt.plot(x,totale_casi, color='#66b3ff', linewidth=2, label='Casi totali:␣
→{}'.format(legenda_casi_totali[-1]))
plt.plot(x,terapia_intensiva, color='#ff9900', linewidth=2, label='Terapia␣
→Intensiva: {}'.format(legenda_terapia_intensiva[-1]))
plt.plot(x,dimessi_guariti, color='#00ff99', linewidth=2, label='Dimessi␣
→guariti: {}'.format(legenda_guariti[-1]))
plt.plot(x,deceduti, color='#ff3300', linestyle="--", linewidth=4,␣
→label='Deceduti: {}'.format(legenda_deceduti[-1]))
plt.legend(prop={'size': 30})
plt.grid()

# plt.savefig('Estrazioni_reg/{}.png'.format(z))
plt.show()

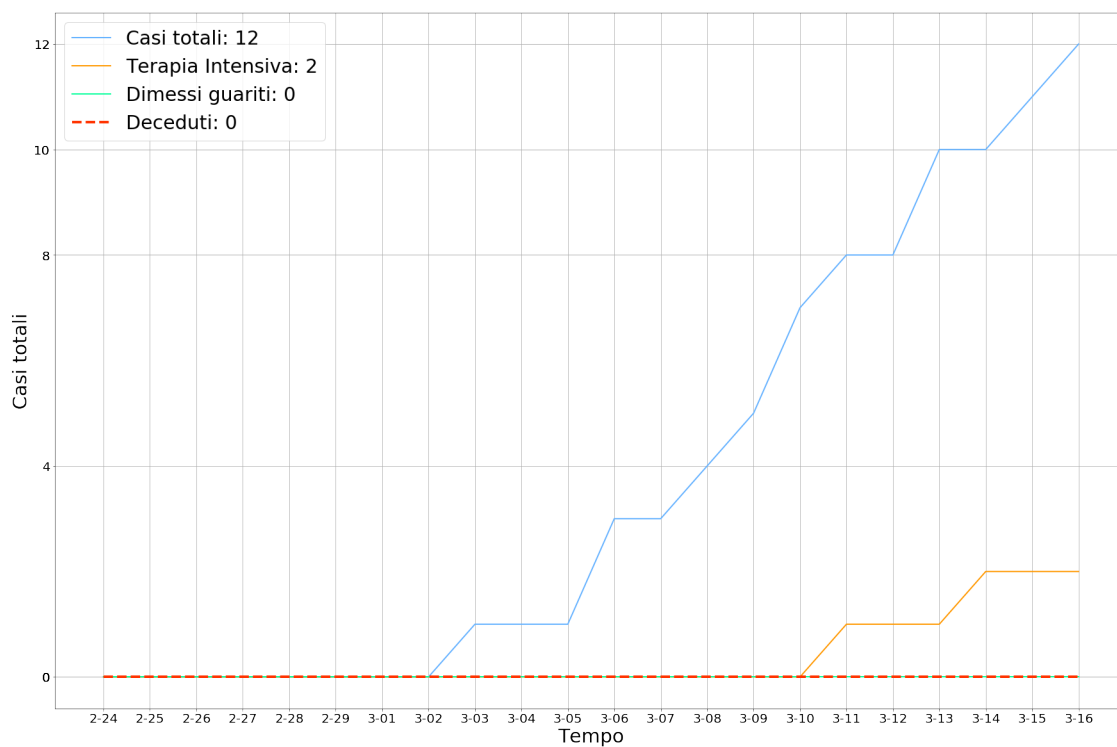
```

```
plt.clf()
```

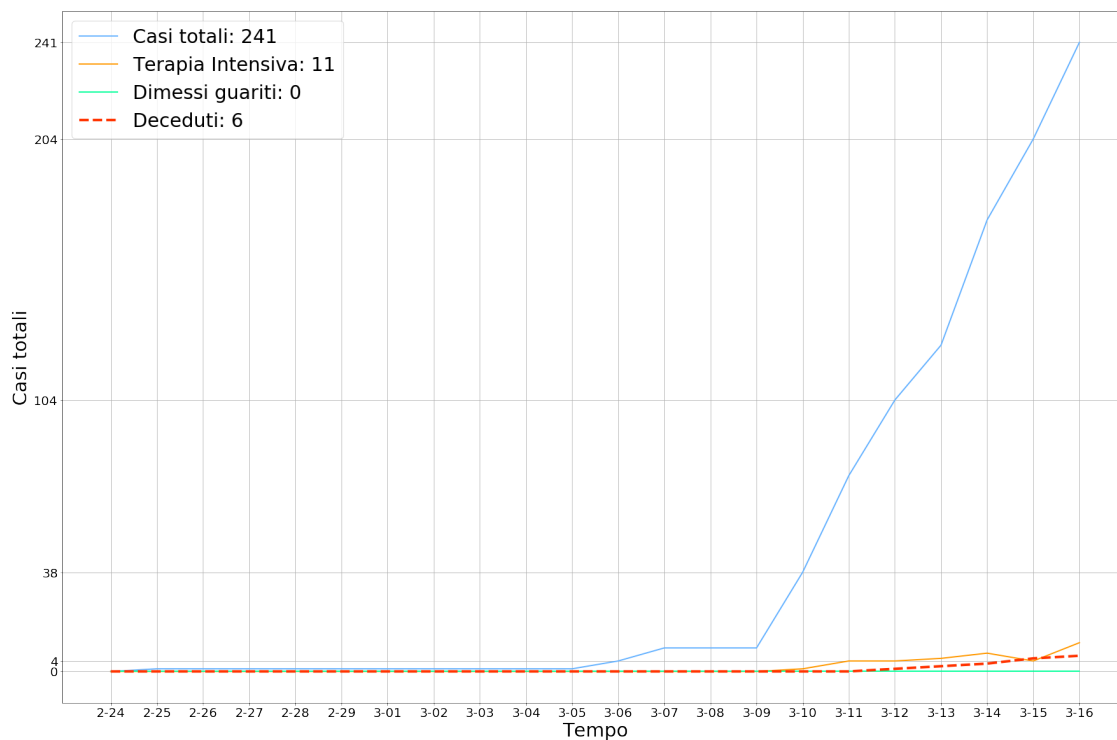
Abruzzo



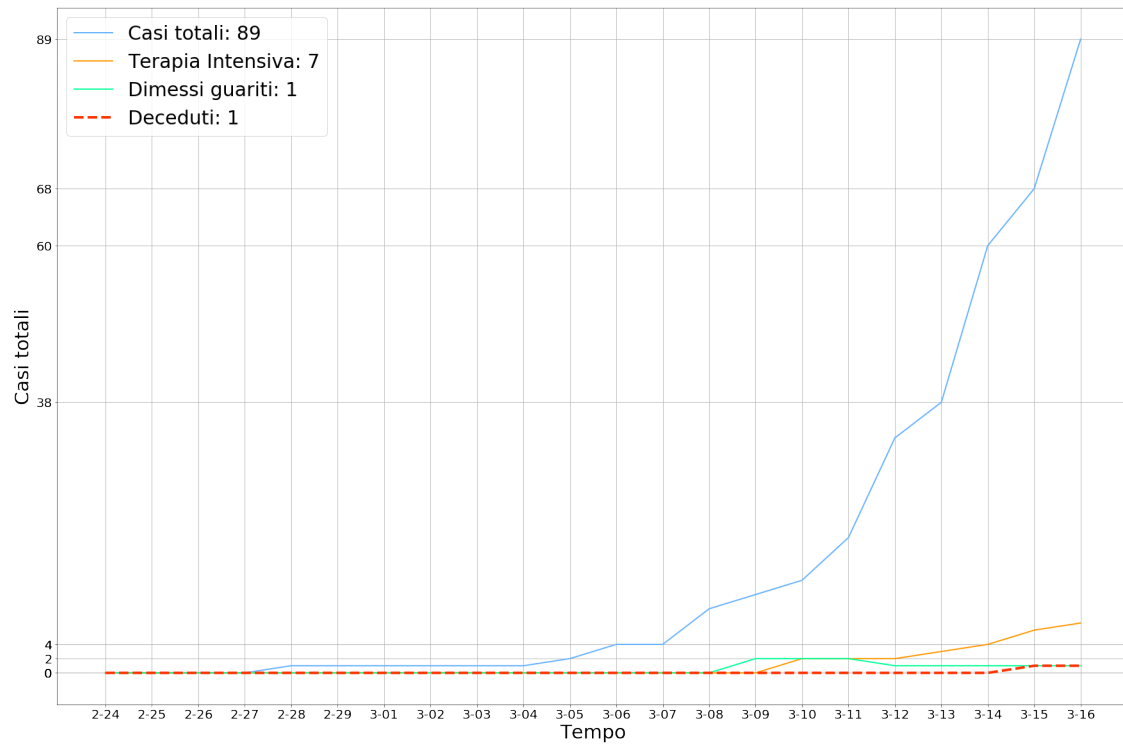
Basilicata



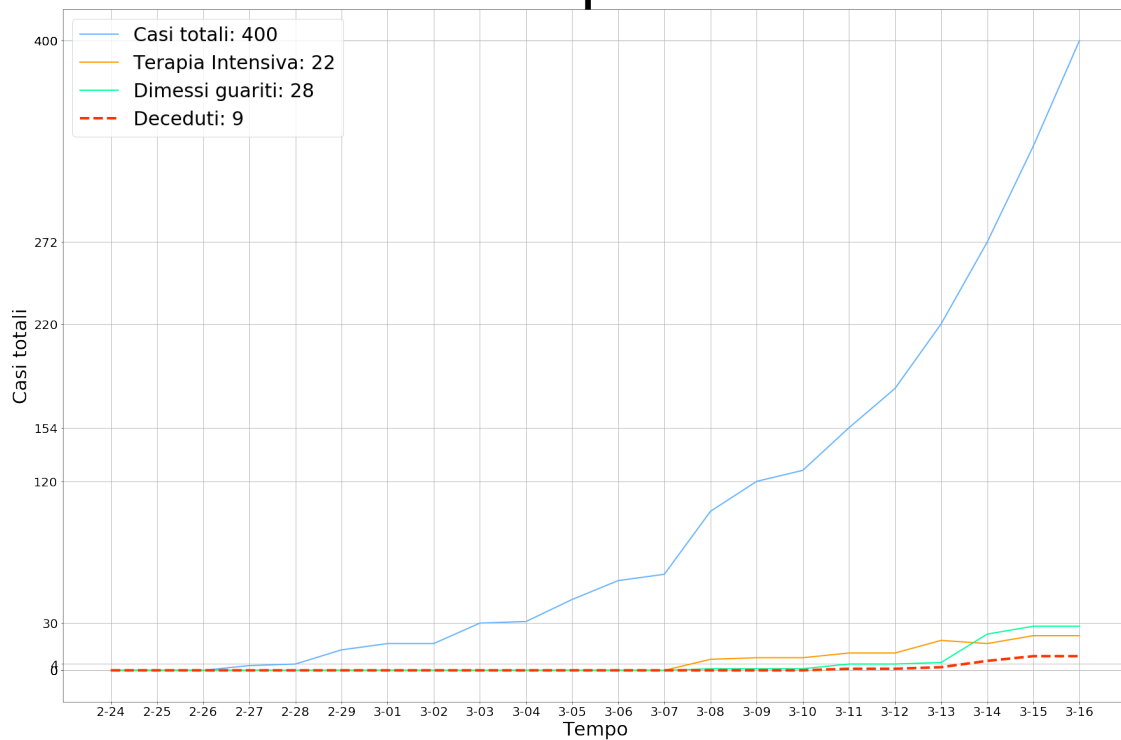
P.A. Bolzano



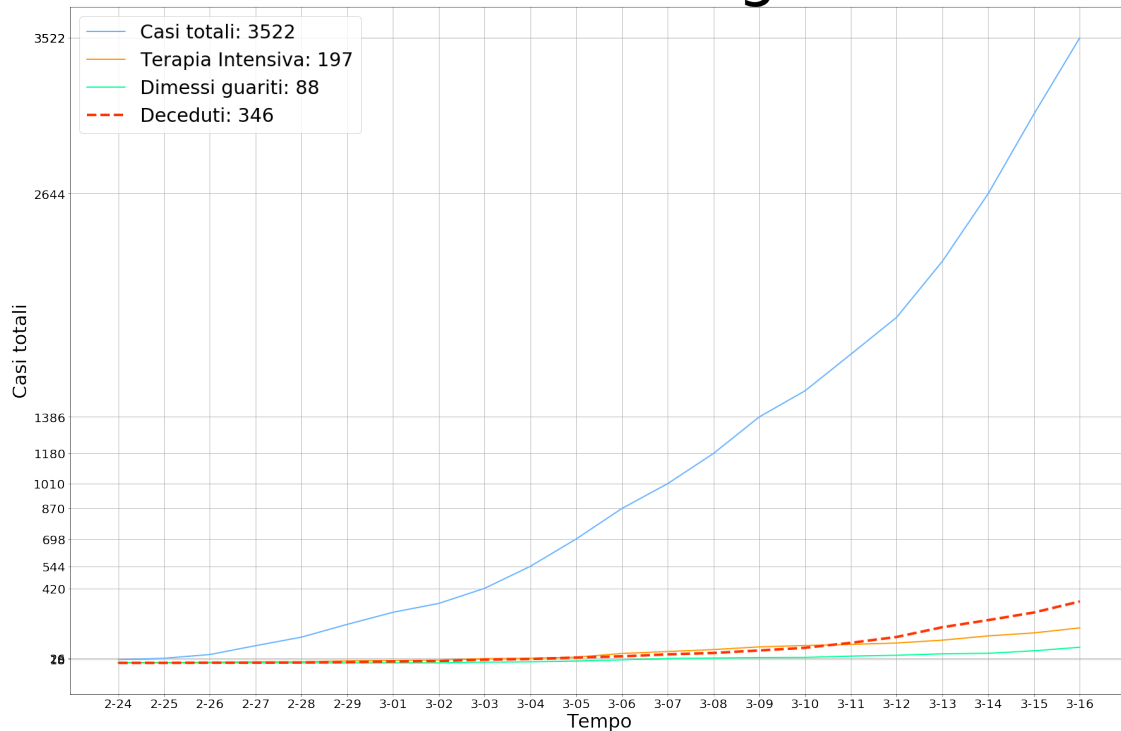
Calabria



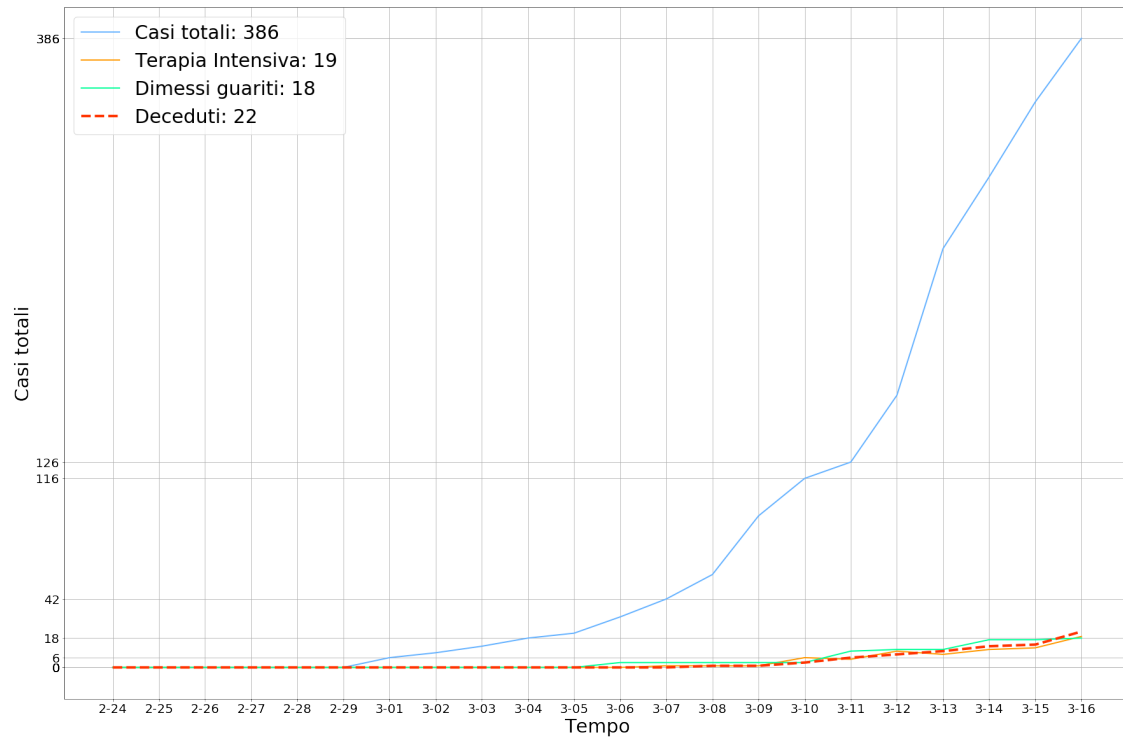
Campania



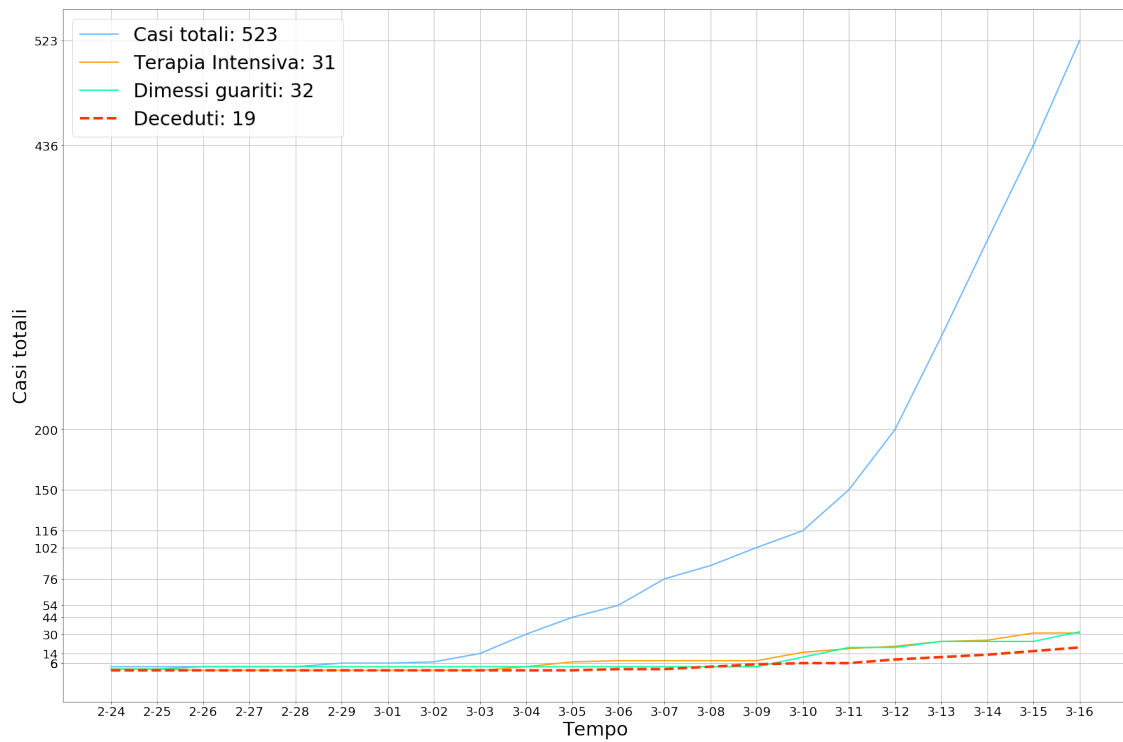
Emilia Romagna



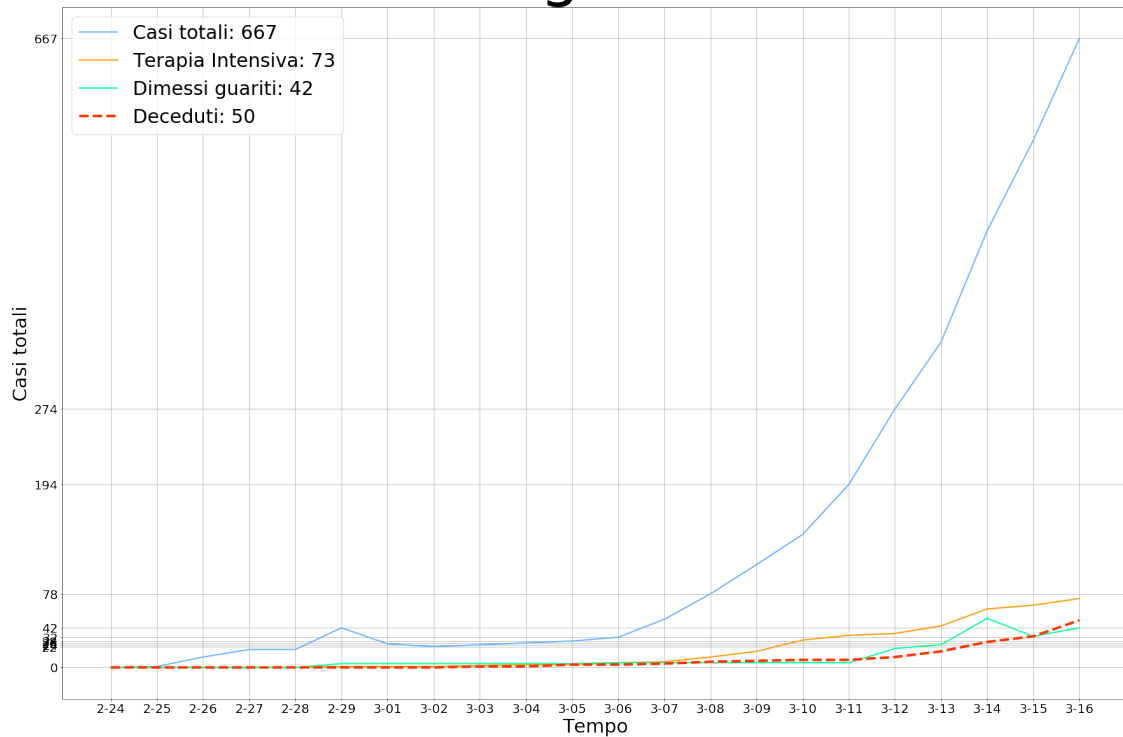
Friuli Venezia Giulia



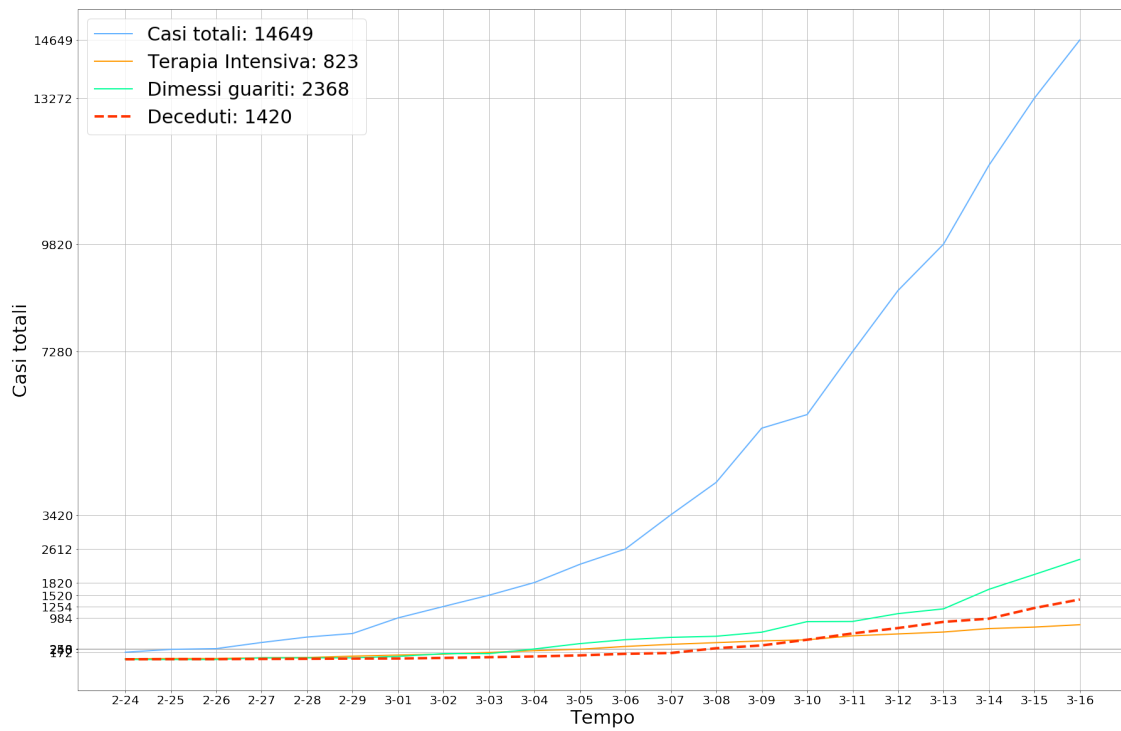
Lazio



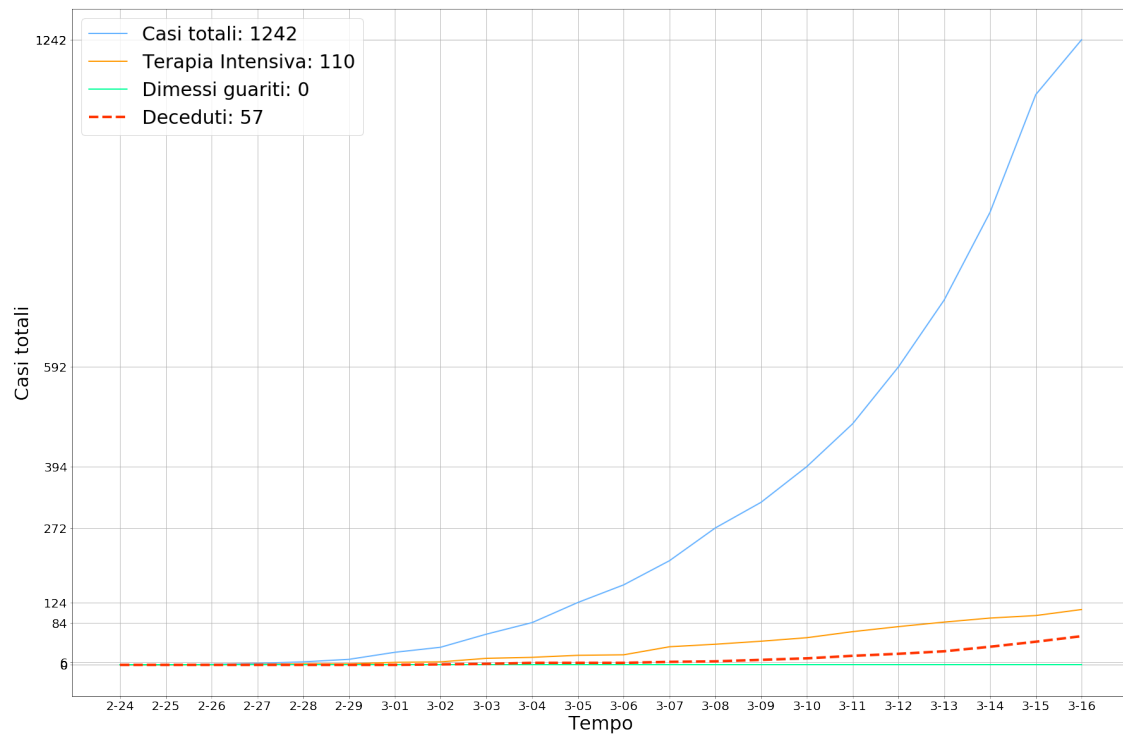
Liguria



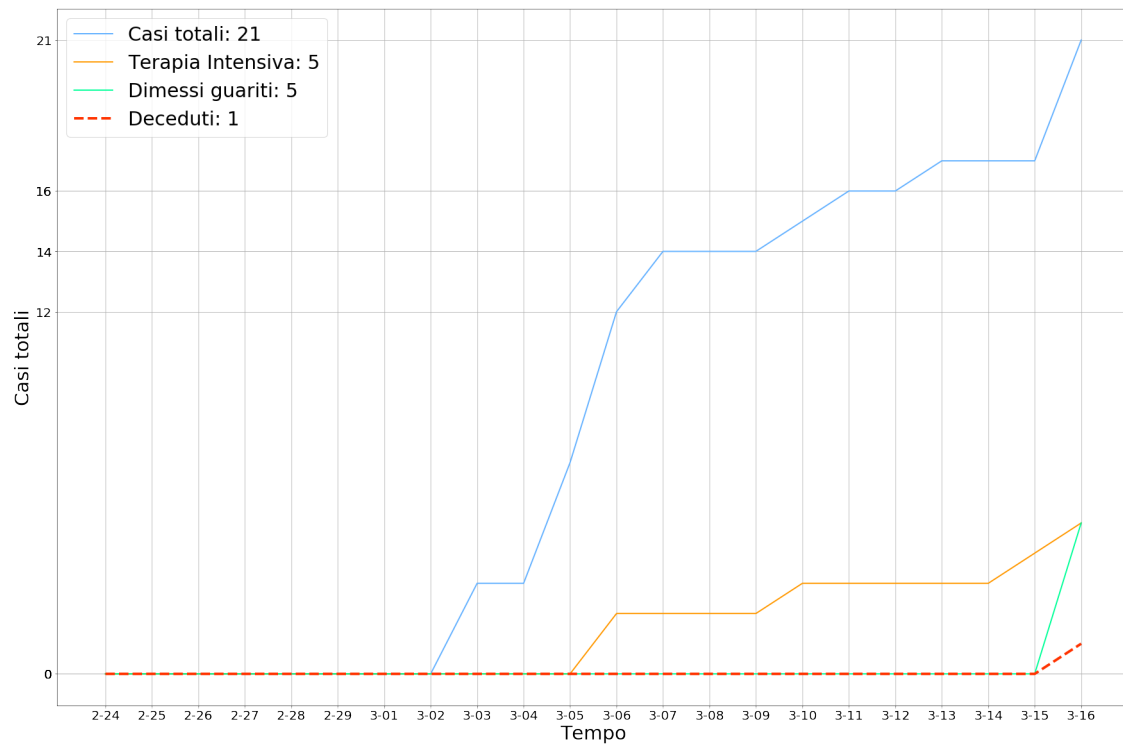
Lombardia



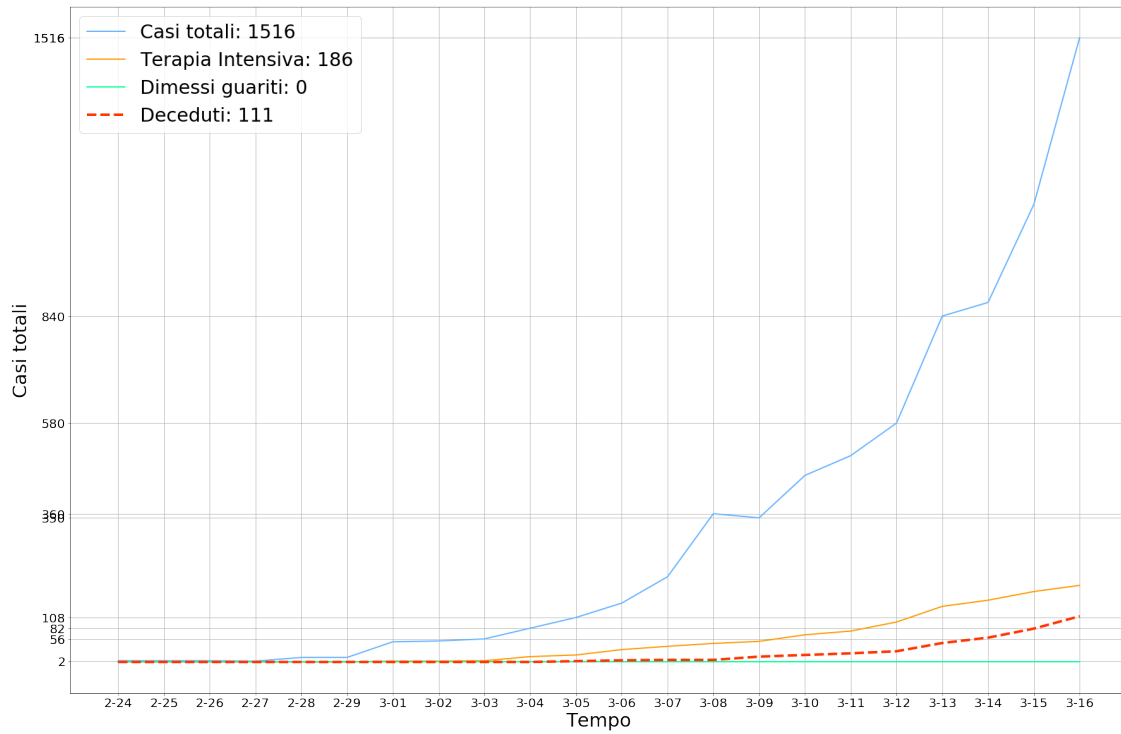
Marche



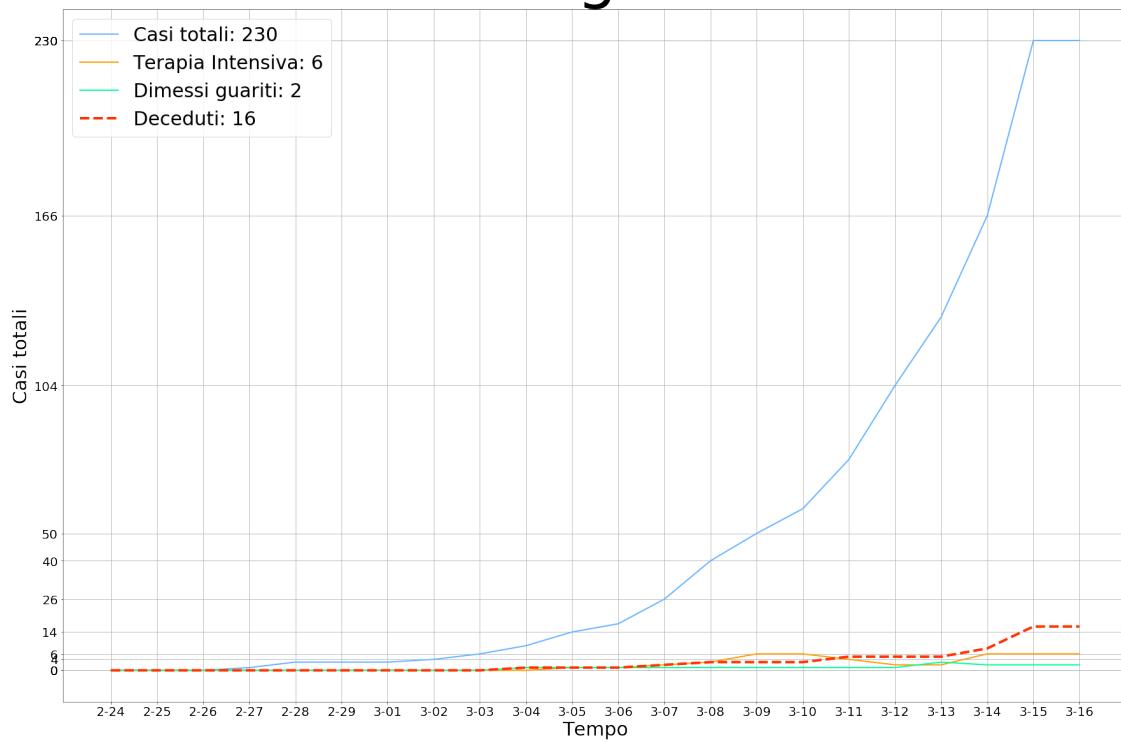
Molise



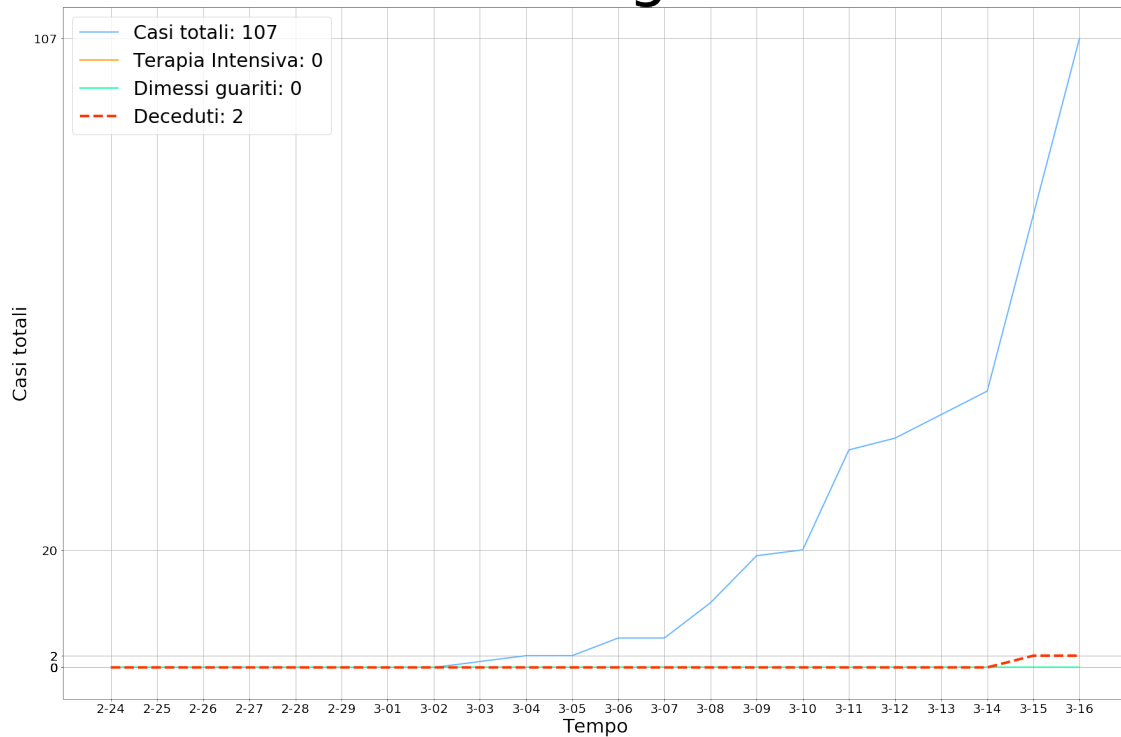
Piemonte



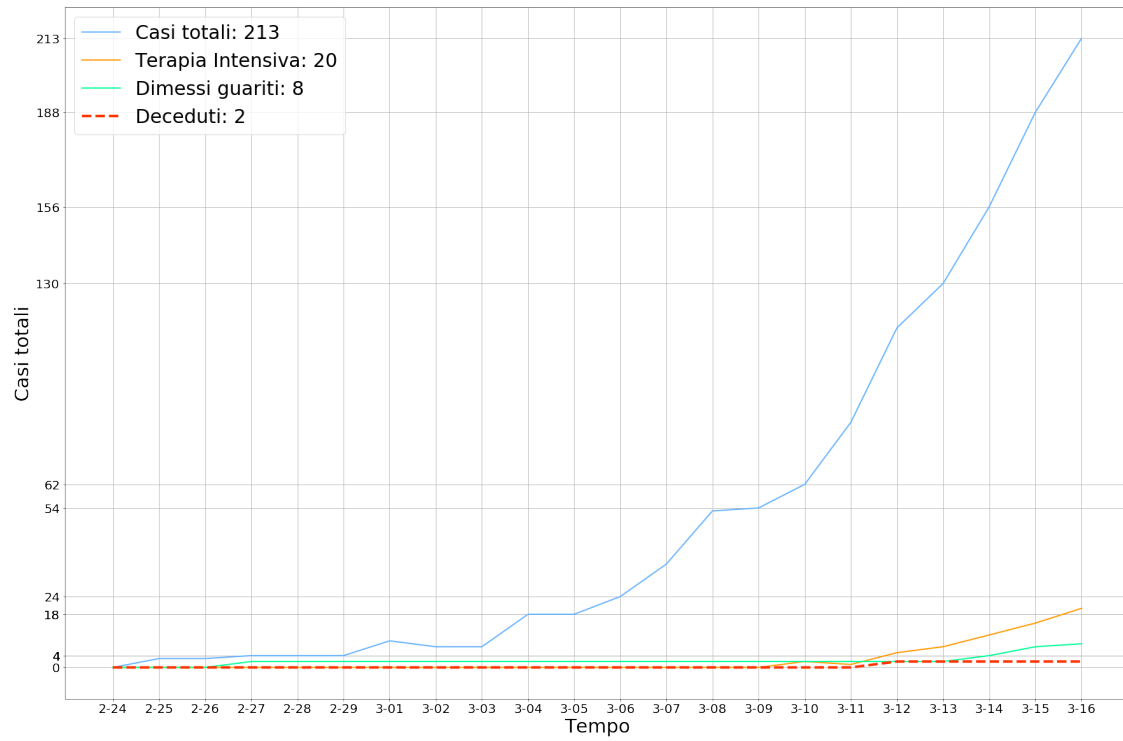
Puglia



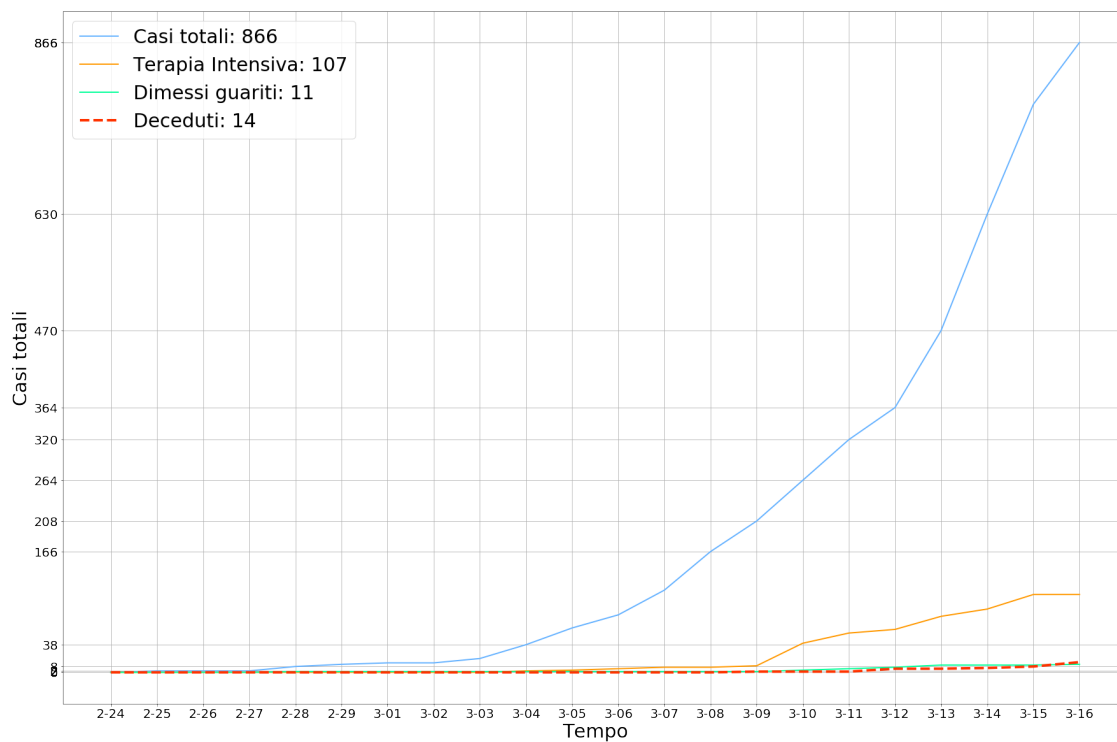
Sardegna



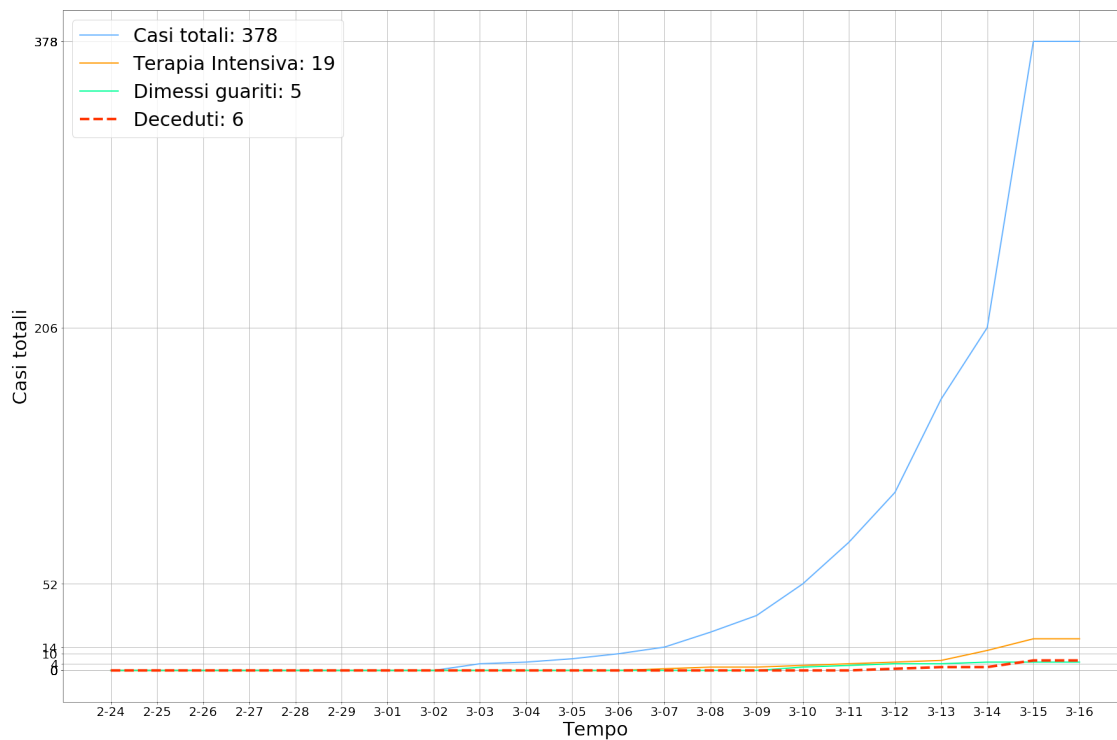
Sicilia



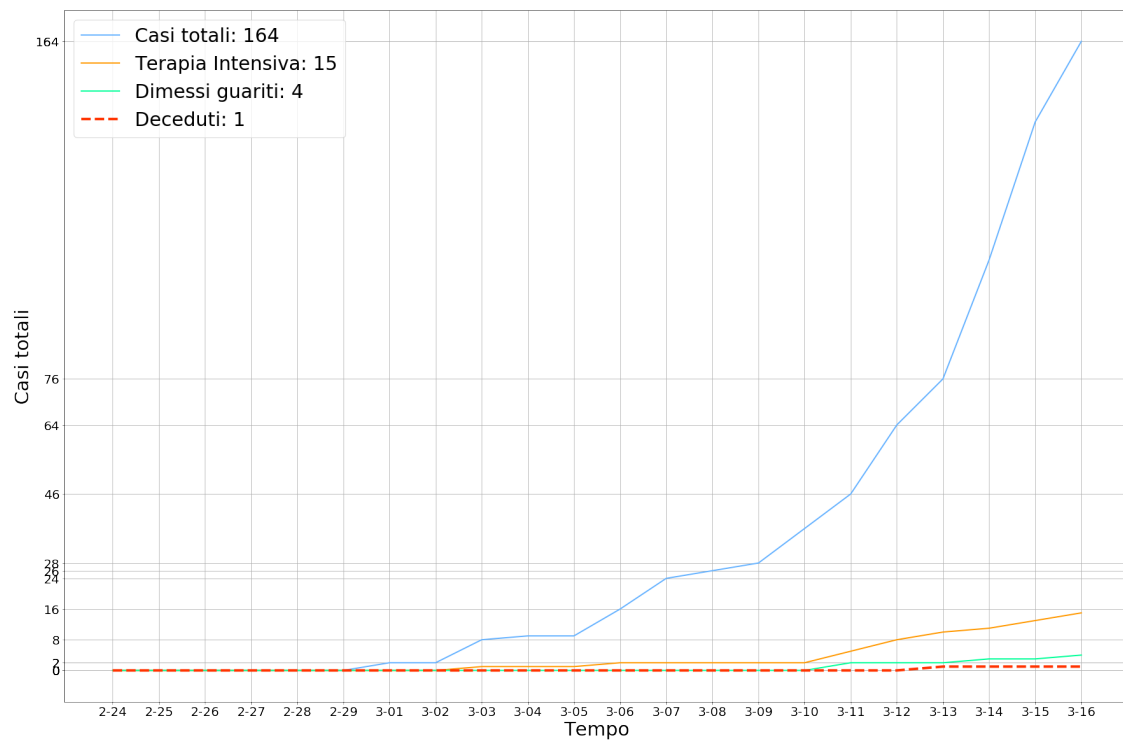
Toscana



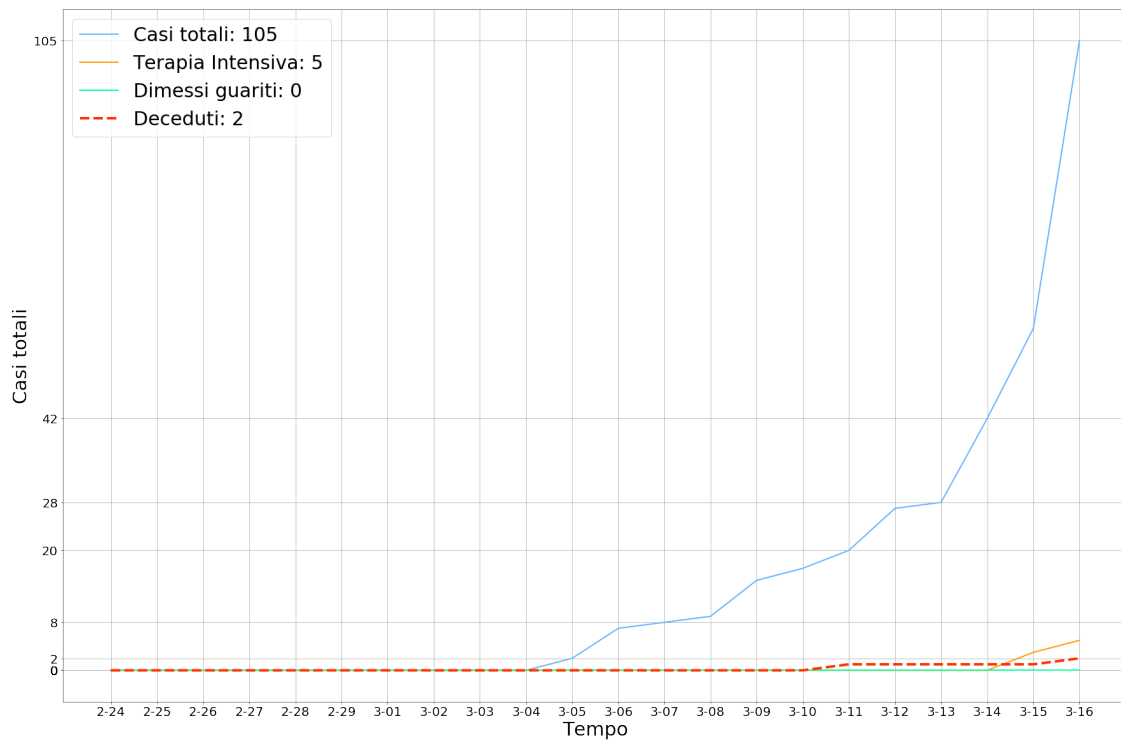
P.A. Trento



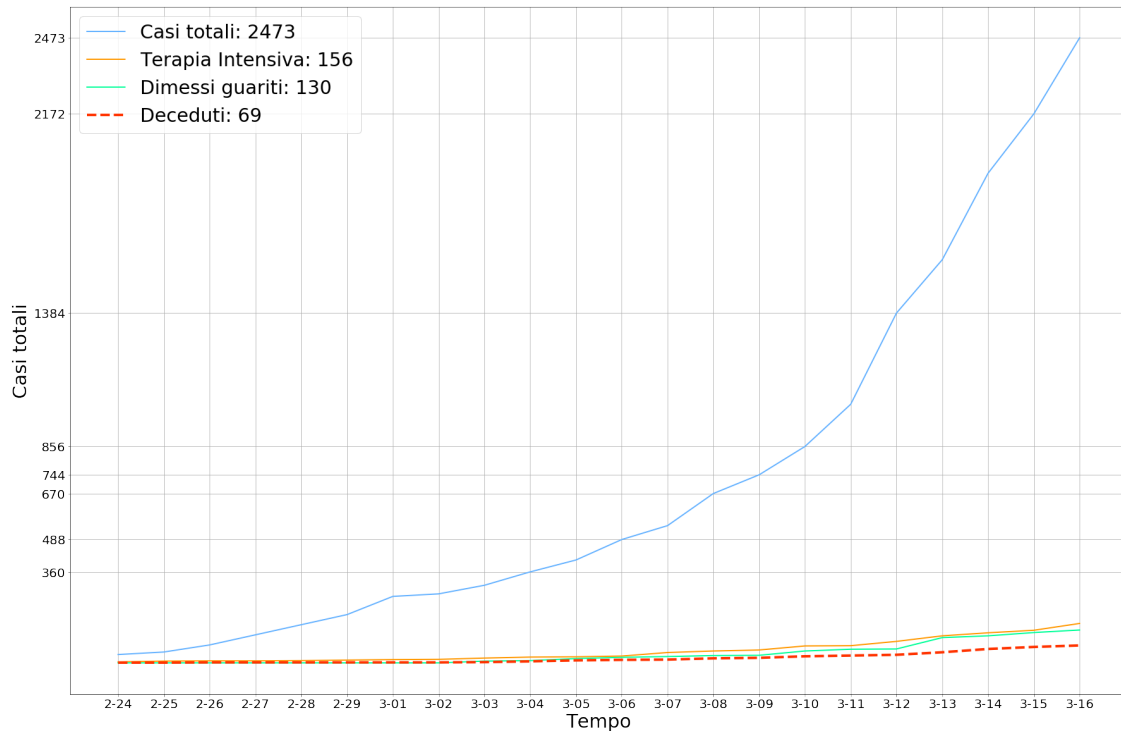
Umbria



Valle d'Aosta



Veneto



<Figure size 2160x1440 with 0 Axes>

```
[44]: # dati-andamento-nazionale
df_nazionale = pd.read_csv('COVID-19/dati-andamento-nazionale/
↳dpc-covid19-ita-andamento-nazionale.csv')
```

```
[45]: df_nazionale.columns
```

```
[45]: Index(['data', 'stato', 'ricoverati_con_sintomi', 'terapia_intensiva',
          'totale_ospedalizzati', 'isolamento_domiciliare',
          'totale_attualmente_positivi', 'nuovi_attualmente_positivi',
          'dimessi_guariti', 'deceduti', 'totale_casi', 'tamponi'],
          dtype='object')
```

```
[40]: x1 = df_nazionale.data
x = []
for f in x1:
    x.append(f[6:10])

totale_casi = df_nazionale.totale_casi

tot_nuovi_postivi = []
tot_deceduti = []
tot_guariti = []
casi_totali = []
ticks = []
ticks_1 = []

for p in totale_casi:
    casi_totali.append(p)

for w in totale_casi:
    if w % 2 == 0 and w > 1000:
        ticks.append(w)
    else:
        pass

for w1 in df_nazionale.nuovi_attualmente_positivi:
    tot_nuovi_postivi.append(w1)

for w2 in df_nazionale.dimessi_guariti:
    tot_guariti.append(w2)

for w3 in df_nazionale.deceduti:
```

```

tot_deceduti.append(w3)

ticks_1.append(casi_totali[-1])
ticks.extend(ticks_1)

nuovi_positivi = df_nazionale.nuovi_attualmente_positivi
totale_deceduti = df_nazionale.deceduti
totale_guariti = df_nazionale.dimessi_guariti

plt.yticks(ticks)

plt.rc('ytick', labelsizes=12)
plt.rc('xtick', labelsizes=10)
plt.rcParams["figure.figsize"]=20,20

toll_1_tot = int(casi_totali[-1])
toll_2_tot = int(tot_deceduti[-1])

death_toll = (toll_2_tot/toll_1_tot)*100
conv_deth_toll = str(death_toll)

plt.plot(death_toll, color='#FFFFFF', label="Mortalità: {}".format(conv_deth_toll[:3]))
plt.plot(x, totale_casi, 'b.-', label='Casi totali: {}'.format(casi_totali[-1]))
plt.plot(x, nuovi_positivi, color='#FFD133', linewidth=3, label="Nuovi positivi: {}".format(tot_nuovi_postivi[-1]))
plt.plot(x, totale_guariti, color='#00ff99', linestyle="--", linewidth=3, label='Dimessi guariti: {}'.format(tot_guariti[-1]))
plt.plot(x, totale_deceduti, color='#ff3300', linestyle="--", linewidth=4, label='Deceduti: {}'.format(tot_deceduti[-1]))

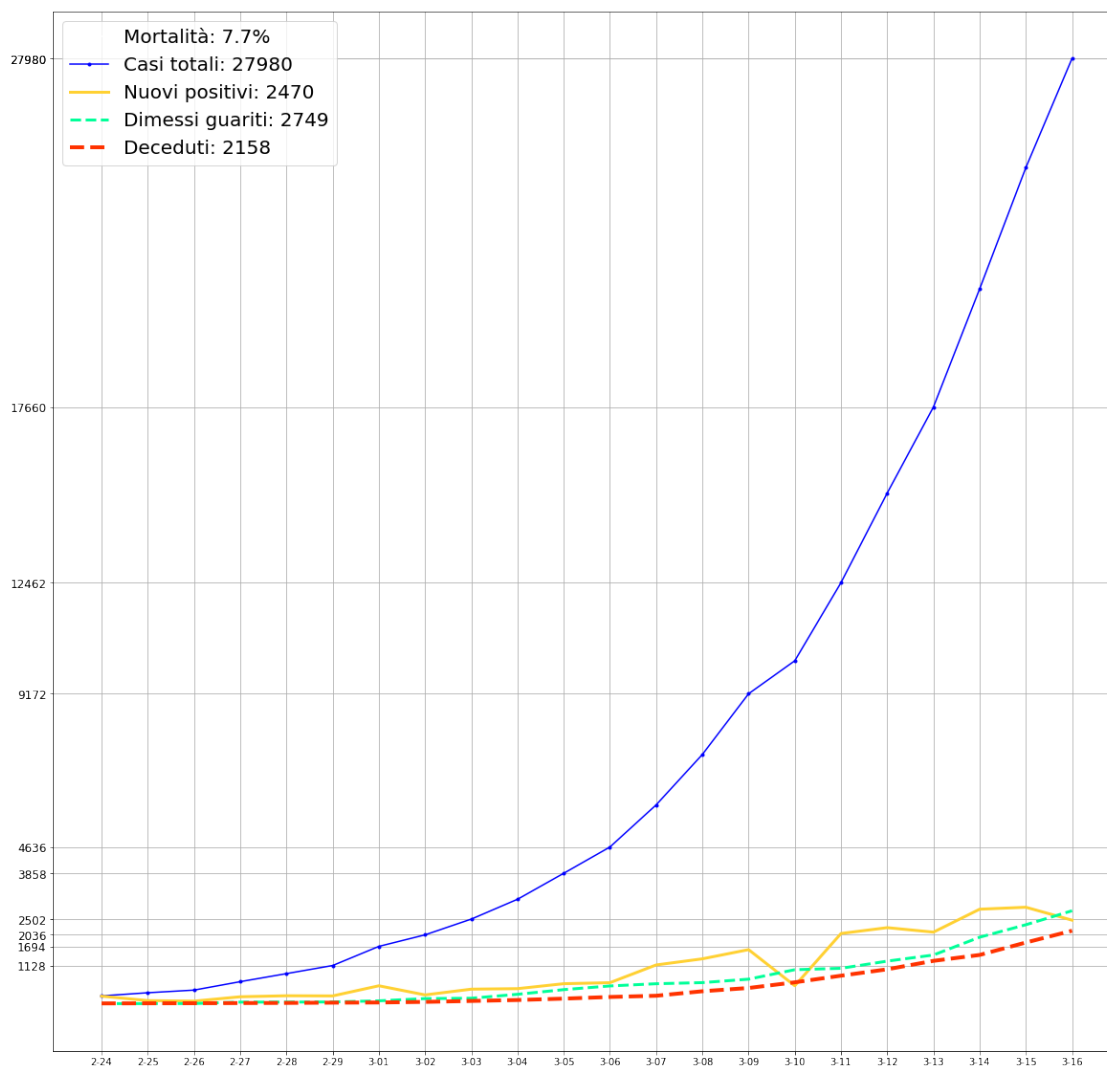
plt.title("Andamento nazionale", fontsize=100)
plt.legend(prop={'size': 20})
plt.grid()

print(death_toll)

```

7.71265189421015

Andamento nazionale



[]: