Patient Safety

World Health Organization
REGIONAL OFFICE FOR **Europe**

World Health Organization

WHO Global Patient Safety Network Webinar

- Patient safety implications during the COVID-19 pandemic -
Sharing experiences from European Region

14:00-15:20 CEST, Friday, 22 May 2020 on WebEx

The experience from Greece

Sotirios Tsiodras, MD, MSc, PhD, FIDSA

22 May 2020

Patient safety
WHO checklist April 2020

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WHO checklist to ensure hospitals in European Region are ready for COVID-19 patients

06-04-2020

A Hospital Readiness Checklist developed by WHO/Europe is helping hospital managers and emergency planners ensure a rapid and effective response to the COVID-19 outbreak.

Designated hospitals in Armenia, Georgia, Kyrgyzstan, Montenegro, the Republic of Moldova, Tajikistan and Uzbekistan have taken advantage of the tool and the accompanying technical support from WHO/Europe.

The step-by-step list helps hospitals review systems, resources and protocols, and outlines specific actions to strengthen their responsiveness to COVID-19. Some of the elements in the checklist include:

WHO
Working towards hospital readiness for COVID-19 response

- surge capacity – the ability of a hospital to expand beyond its normal capacity and to meet an increased demand for clinical care;
- adapted human resource management to ensure adequate health-care staff capacity;
- accurate and timely communication to ensure informed decision-making, effective collaboration, public awareness and trust;
- an operational infection prevention and control programme to minimize the risk of transmission of health care associated infection to patients, hospital staff and visitors;
- an efficient and accurate triage system and management strategy to ensure adequate treatment of COVID-19 patients;
- the ability of the health workforce to recognize and immediately report suspected cases as the cornerstone of hospital-based surveillance of COVID-19.

Well-prepared health facilities key to saving lives of COVID-19 patients

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- **Surge capacity**

  – the ability of a hospital to expand beyond its

     normal capacity and to meet an increased demand

     for clinical care

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- **Surge capacity**

  – National **pandemic plan revised Jan 2020**

  – 28 January 2020

    - One month before 1st case

  – **13 Dedicated COVID-19 hospitals**

    - 7major prefectures

    - Eventually 45/131 cared for pts

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- **Surge capacity – Operational IPC program, triage**

  – Multiple exercises / simulations across hospitals

NEWSROOM, 2.2.2020 | 08:36

Εντός της εβδομάδας θα πρέπει να
πραγματοποιηθούν ασκήσεις ετοιμότητας για

2 Feb 2020, EKAB order

ΚΟΡΟΝΟΪΟΣ - ΑΣΚΗΣΗ ΣΤΟ ΠΑΝΕΠΙΣΤΗΜΙΑΚΟ ΝΟΣΟΚΟΜΕΙΟ

6 Feb 2020, Larissa

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- **Surge capacity – ensure adequate health-care staff capacity (? trained, fear factor)**

  - ↑ staff by 4150 HCW

    - MDs 495, RNs 2085, other 1570

    - Permanent appointments offered to all temporary RNs & 942 MDs

  - 1ry care COVID network

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- **Surge capacity –PPEs ("the war of the masks")**

  - ↑ PPE stockpile, strict demand management

  - No stop-over special flights to procure PPE, ↑ prices

    - Solidarity was an issue

CNN World

Coronavirus sparks a 'war for masks' in desperate global scramble for protection

By Tim Lister, Sebastian Shukla and Fanny Bobille, CNN

Updated 0858 GMT (1658 HKT) April 5, 2020

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- **Surge capacity – HCW safety issues**

  – FFP2 (N95) vs. FFP3 (N99) masks, gloves, gowns, goggles

  – 3D printing -> face shields

  – **No shortages**

    - **0.2% of HCW/hospital staff (+)**

    - **Mental, financial support**

European Centre for Disease Prevention and Control
An agency of the European Union

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Cloth masks and mask sterilisation as options in case of shortage of surgical masks and respirators

< Publications & data

Cloth masks and mask sterilisation as options in case of shortage of surgical masks and respirators

Technical report
26 Mar 2020

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- **Dual capacity systems**

- **Surge capacity - ICU beds**

  – **Dedicated COVID ICUs** - converting process

  – 5.2 ICU beds / 100,000 at start of pandemic

  – ↑ **to 9.4 ICU beds / 100,000** at end of April 2020

    - converting, private sector, military, ↑ step down units

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- **Surge capacity-ICU beds**

  – Strict lockdown - > **2.6/100,000 ICU beds used**

  – **Target 11.1 ICU beds / 100,000 population**

    • **by end of 2020**

2 new ICU wards, 15 May 2020
Papageorgiou Hospital Greece

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- **Surge capacity-testing**

  – Testing capacity, from 800/d -> $\uparrow$ to 10,000 /d

    - Avg 3000/d now

  – Prioritized according to ECDC guidance

    - Reagent issues

    - Severe disease, Hospitalized, High-risk pts, HCWs

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- **Surge capacity-testing**

  - Now **broader testing** to

    - **all symptomatic, asymptomatic w criteria-outbreak response**, **sentinel**

    - Mobile 250 – 500 mobile units in entire country

    - **Ab-seroepidemiology**

      - Left over, blood-donors, prospective, special populations

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- **Surge capacity-management strategy to ensure adequate Rx of COVID-19 patients**

  - Approval of Rx algorithm by scientific advisory committee (n=26)

    - Moderate to severe dz, emphasis on high-risk groups

    - Distant digital prescription for home therapy

COVID-19 Treatment

Natl Med Agency approval, strict regulation of trials

- **Hydroxychloroquine** +/- Azithro, guidance

- **Remdesivir- clinical trial, early access**

- *Others*

  - *LOP/RIT, colchicine,* **Immune modulation -> anti-IL6, Convalescent plasma**

  - **Other trials, colchicine, anti-IL1, SOLIDARITY etc**

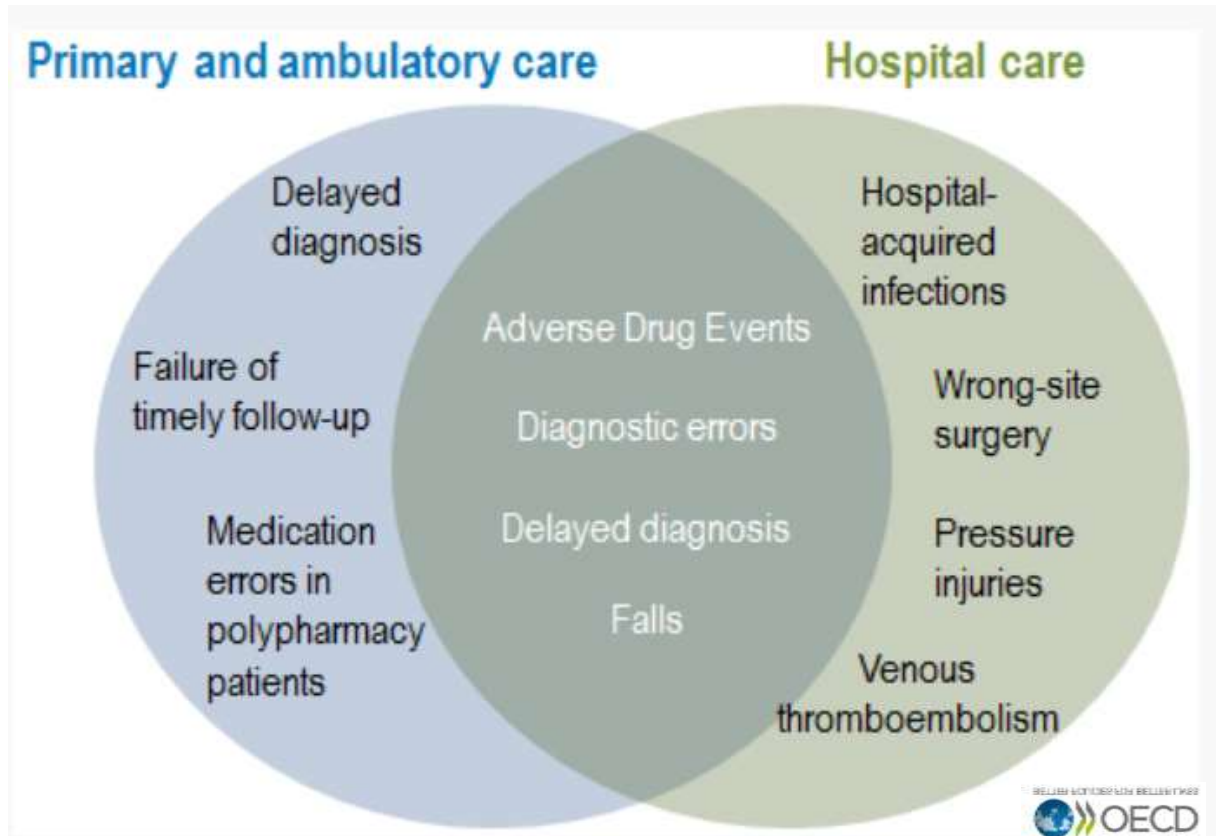# Patient safety
WHO checklist April 2020

- **MEDS, stockpile**

  – National Medicinal Organization Dr Fillipou

    - Procurement of chloroquine before "hard data"

    - Early access programs, eg remdesivir

    - Other drugs w potential to treat at an early stage

    - Trial regulatory procedures

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- **MEDS, Pharmacovigilance issues, f/u, elderly**

Primary and ambulatory care | Hospital care

Delayed diagnosis

Failure of timely follow-up

Medication errors in polypharmacy patients

Adverse Drug Events

Diagnostic errors

Delayed diagnosis

Falls

Hospital-acquired infections

Wrong-site surgery

Pressure injuries

Venous thromboembolism

OECD

Patient safety & Therapy
multiple targets - unknown effect early on ethical dilemmas of placebo trials

Fragkou et al CMI 2020
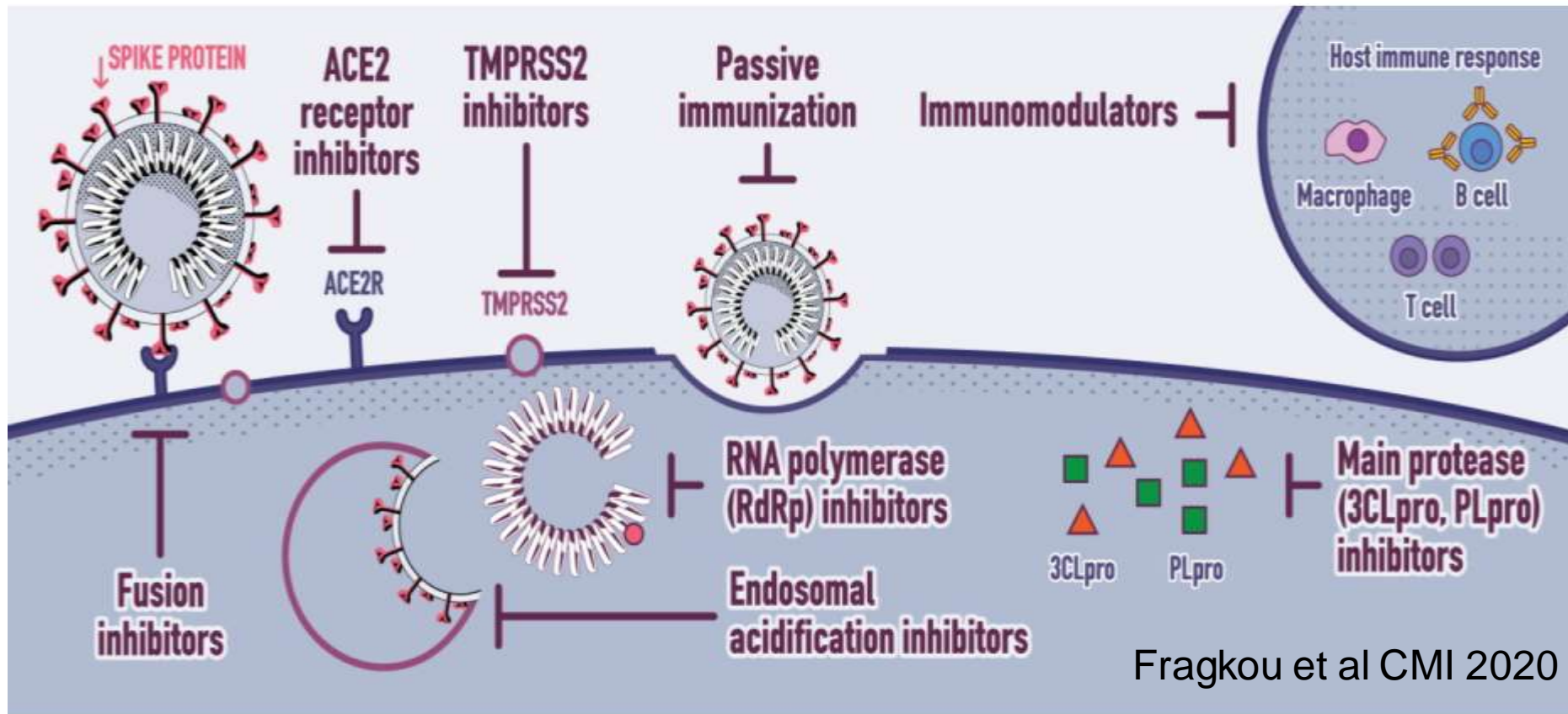
Trials, trials, trials

Science

WHO begins mega trial of 4 promising drugs to cure Covid-19

Prashasti Awasthi | Mumbai | Updated on March 24, 2020 | Published on March 24, 2020

World Health Organization

The World Health Organization (WHO) has initiated a global mega trial of the four most promising drugs that may cure the novel coronavirus.

The four treatment arms will be

- Remdesivir
- Chloroquine and hydroxychloroquine
- Ritonavir + lopinavir
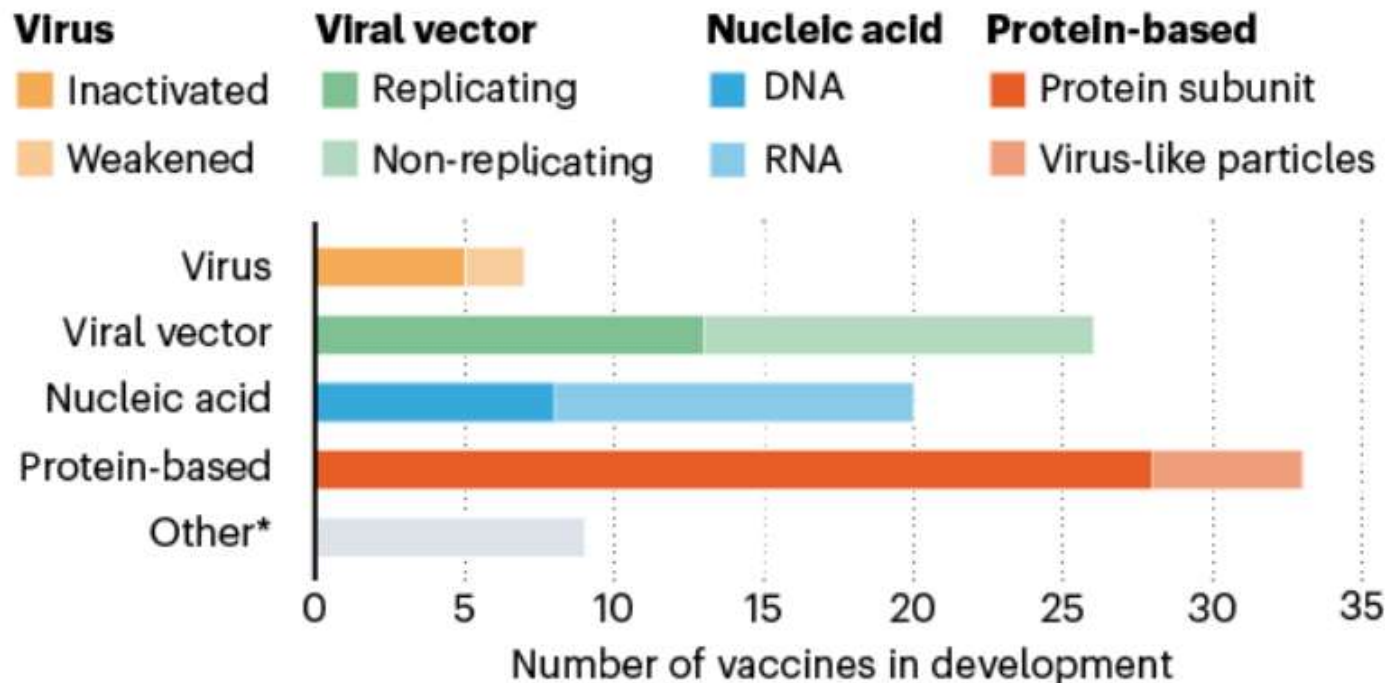- Ritonavir + lopinavir + interferon beta

plus standard of care as a control arm.

Vaccines - when ?

Joint procurement, conspiracy theories, 2009 H1N1 failure

AN ARRAY OF VACCINES

Virus
- Inactivated
- Weakened

Viral vector
- Replicating
- Non-replicating

Nucleic acid
- DNA
- RNA

Protein-based
- Protein subunit
- Virus-like particles

Number of vaccines in development

* Other efforts include testing whether existing vaccines against poliovirus or tuberculosis could help to fight SARS-CoV-2 by eliciting a general immune response (rather than specific adaptive immunity), or whether certain immune cells could be genetically modified to target the virus.

©nature

Vaccines - when ?
Landscape 15 May 2020, WHO

Platform	Type of candidate vaccine	Developer	Coronavirus target	Current stage of clinical evaluation/regulatory status-Coronavirus candidate	Same platform for non-Coronavirus candidates
Non-Replicating Viral Vector	Adenovirus Type 5 Vector	CanSino Biological Inc./Beijing Institute of Biotechnology	SARS-CoV2	Phase 2 ChiCTR2000031781 Phase 1 ChiCTR2000030906	Ebola
RNA	LNP-encapsulated mRNA	Moderna/NIAID	SARS-CoV2	Phase 2 (IND accepted) Phase 1 NCT04283461	multiple candidates
Inactivated	Inactivated	Wuhan Institute of Biological Products/Sinopharm	SARS-CoV2	Phase 1/2 ChiCTR2000031809	
Inactivated	Inactivated	Beijing Institute of Biological Products/Sinopharm	SARS-CoV2	Phase 1/2 ChiCTR2000032459	
Inactivated	Inactivated + alum	Sinovac	SARS-CoV2	Phase 1/2 NCT04352608	SARS
Non-Replicating Viral Vector	ChAdOx1	University of Oxford	SARS-CoV2	Phase 1/2 NCT04324606	MERS, influenza, TB, Chikungunya, Zika, MenB, plague
RNA	3 LNP-mRNAs	BioNTech/Fosun Pharma/Pfizer	SARS-CoV2	Phase 1/2 2020-001038-36 NCT04368728	
DNA	DNA plasmid vaccine with electroporation	Inovio Pharmaceuticals	SARS-CoV2	Phase 1 NCT04336410	multiple candidates

Surveillance
Rt 0.31-19 May 2020
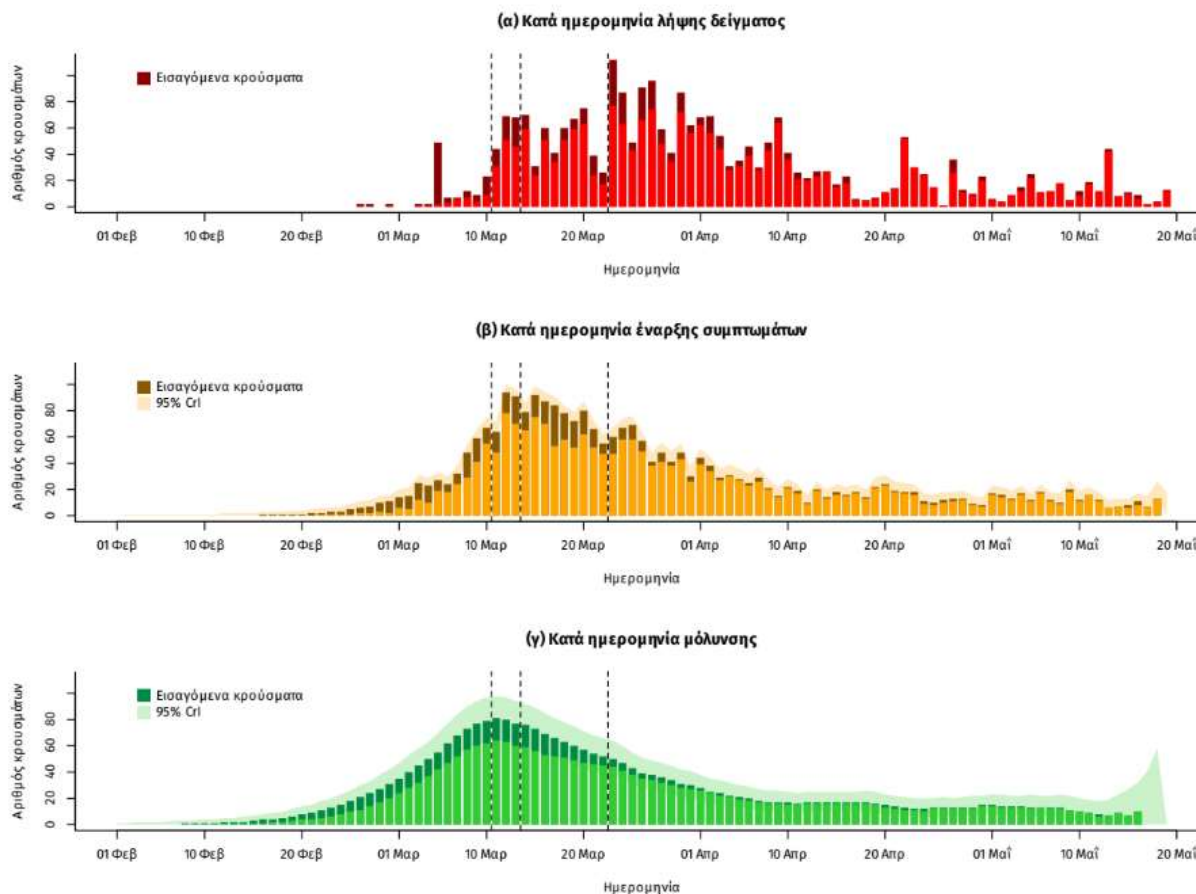
National Public Health Organization = Greek CDC
General Secretary of Public Health, MoH

Communication issues

tough to communicate uncertainty, special attention to discrimination, solidarity, press & frontlines can we do it?

Vulnerable population issues
tough to address

- **Migrants, Roma, homeless others…**

  – Guidance, emphasis on protection of high-risk

  – Dealt w small local outbreaks – tough issues faced

    - mass testing, free HC provision, quarantine facilities for mild cases, mediators/facilitators, NGOs, local stigma issues

  – Further multi-disciplinary work necessary

Vulnerable population issues
tough to address

- **Migrants, Roma, homeless others…**

  – Mobile Greek CDC units enormous help

Courtesy of P. Arkoumaneas, S. Sapounas, NPHO, Greece

Other sectors…examples
have not been evaluated yet

- **↓ access to care, balance issues**

  – ↓ n of regular med appointments (**chronic dz**), ER visits

  – ↓ n of elective surgeries, **oncology Sx never stopped**

  – Lockdown, fear

- **Unrecognized COVID side effects**

  – Neuro, smell, cardiac, kidney failure, ? long-term f/u

- ? ↑ **mental issues** – projects ongoing HCW, public

Way forward & steps remaining
prepare for 2nd wave, improve HC/pt safety

- Full & functional Medical **COVID-19 pt registry**

  – **Digitize entire process**, COVID vs entire network

- Improve hospital indices in **other pt safety issues**

  – **MDRO**, Nurse to pt ratio, QC/QA, quality CME, MOC not currently in stance

- 1ry Healthcare in distant, non urban areas

  – Tele-medicine project starts on June 1st

Way forward & steps remaining
pt safety

- Immediate plans to create/legislate **quality assurance and pt safety agency**, MOH

    - Quality improvement, Specific committee, indicators, establish national pt safety protocol, digital platform

- Cross-border collaboration w neigbouring countries

    - Shared protocols, Pt safety oriented research

Courtesy of Dr. Kotsiopoulos Gen Secretary of Health services

Strong political commitment
team work, acknowledgments, many thx to all!

- Government
  - Minister/Dep Minister of Health, V. Kikilias/ V. Kontozamanis
  - Gen Secretaries of Min of Health
    - P Prezerakos, I. Kotsiopoulos, K. Gogosis & teams
  - Advisory committee – 26 scientists
  - Greek CDC (NPHO) Director
    - P. Arkoumaneas, G Panayiotakopoulos, S. Sapounas & teams
  - Ntl Med Agency (EOF), Institute for Pharm Research
    - Δ. Filippou & team
  - Civil protection, Dep Minister N. Xardalias
- Multiple stakeholders, Academia, R&D, private sector etc

Patient safety comes first!
Thank you for your attention!