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Dutch public health policy during the COVID-19 pandemic of the first half of 2020

Answers to questions on public health activities January–June 2020

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Abstract

The authorities' first responses were the classification of COVID-19 as Group A-disease in the sense of the Law on Public Health, scaling up of regular crisis control structures, installation of an Outbreak Management Team OMT and a "National Operational Team-Corona". COVID-surveillance is done by the RIVM (National Public Health Institute), and is based on data from Municipal Public Health Services (GGDs) supplemented with additional (inter)national sources. The OMT is the main advisory body regarding preventive measures and includes experts from relevant medical specialisms. Organisations of medical professionals gave separate advices. Sanctions to preventive measures can be fines and closure of accommodations. Initially, 80% of the population trusted the government's messages and "intelligent lockdown" strategy. The Prime Minister's addresses to the people were highly appreciated. However, at slow-down of the outbreak (May-June) society's trust crumbled ("quarantine-fatigue"). The initial testing policy was very restricted and contrary to WHO's adagium "Test, test, test!". In June the Minister of Health announced that a capacity of 30.000 tests per day was achieved, to be scaled up to 70.000. The crises management's primary concern was to increase the (ICU-)bed capacity and was achieved by transforming regular wards into COVID-care, setting-up external "Corona-wards" in hotels, and regional, interregional and crossborder spreading of COVID-patients. This focus on ICU-bed capacity was criticized, as half of the death cases and extreme equipment shortages occurred in other sectors (nursing homes, homecare, homes for the elderly, psychiatry, mental handicaps). Transformation of hospital wards also led to waiting lists for non-COVID care. End of June the government presented a step-by-step easing of the lockdown in which a fine-tuned epidemiological surveillance dashboard and the continuation of economical support for the economic sector are the backbones.

Keywords: **COVID-19, intelligent lockdown, shortage of equipment, ICU capacity, SARS-CoV-2 testing, quarantine fatigue, pandemic**

As a PhD student, I was fascinated by Edward Lorenz's claim that "a butterfly flapping its wings in Brazil can produce a tornado in Texas". (Edward Norton Lorenz, *American Association for the Advancement of Science* 1972)

As a retired scientist, I am yet more perplexed that a nanoscale-event happening within a picosecond can have the power to turn man's world and society upside down.

Jacques Scheres

1. What was the first authorities' response to the pandemic and how was it explained and regulated (justified)?

1.1. The health authorities' first response before the first confirmed COVID-19 case: operationalization of the Outbreak Management Team (OMT) and the official classification of COVID-19 as a Group A-disease

On January 24, 2020 the Minister of Medical Care Mr. Bruins informed the Parliament (Tweede Kamer) that the National Institute of Public Health and the Environment (RIVM) had operationalized an Outbreak Management Team (OMT), which should advice the Minister of Health as well as the Ministerial Commission Crisis Control (MCCb, the Ministeriele Commissie Crisis bestrijding) about the SARS-CoV-2 and the measures to be taken.

The OMT consists of experts in the field of infectious diseases and health care. The director of the RIVM Centre for Infectious Disease Control chairs the OMT. The head of the RIVM National Coordination Centre for Communicable Disease Control is secretary of the OMT. Other permanent members of the OMT are invited to take part in all OMTs by default, regardless of the subject matter. They are invited because they have a position within an organisation or association that plays an important role in infectious disease control in the Netherlands (medical microbiologists, general practicioners, internist-infectiologists and specialists infection control fi).

Other participants in the OMT are invited on the basis of their field of expertise, or their specific expertise with the disease in question, or their experience in controlling this disease. For that reason, the composition of the OMT may vary depending on the subject and the items on the agenda. In the present OMT fi intensivists/anesthesiologists, virologists, internists, paediatricians, epidemiologists, pulmonogists, pharmacists, Elderly Care Physicians etc… (As of June 5, the OMT has grown to 9 permanent members, 36 invited experts members, and 25 RIVM experts participate (see RIVM.nl). The reports of the OMT consultations are confidential.)

On the 27th of January, the Minister and the MCCb followed the first advice of the OMT and officially declared COVID-19 a type A-disease. Not only the diagnosis but already its suspicion should be notified without delay to the Municipal Public Health Service (GGD). The GGD will then immediately start a source and contact tracing. Infected persons may be forced to undergo investigation and quarantine against their will.

Two laboritories were charged with the SARS-CoV-2 testsing, *viz* the national laboratory of the RIVM and the laboratory of the Erasmus University Medical Centre in Rotterdam. If needed, an upscaling with regional laboratories, especially those of the University Medical Centres in the Netherlands was foreseen. However, in the beginning there was no co-ordinated national purchase of test materials, nor of Personal Protection Equipment (PPE) for medical, nursing and other care staff.

The actions/measures were explained and justified by the necessary preparedness for a disease with a serious morbidity, a high fatality risk and an easy transmission between humans; without an effective vaccin, spreading of the disease would be fast as was obvious in the outbreak in the Wuhan region. The authorities' duties are layed down in the Wet Publieke Gezondheid (Law on Public Health 2008) which prescribes the execution of the International Health Regulation as accepted by the World Health Organisation in 2005. The Law regulates the organisation of the public health care and services, the fight against infectious diseases and outbreaks as well as the isolation of persons and transport conveys which might cause international health threats. The law also regulates the healthcare for the youth and the elderly.

At the time of the Health Minister's first decision on January 27, no confirmed COVID-19 case had yet been notified in the Netherlands, and in the first week of February the Dutch government communicated that it was preparing well for a possible outbreak. But after the first SARS-CoV-2 case was confirmed on February 27, the virus spread rapidly in 2–3 focal areas of the Netherlands. The regional hospitals in these areas were overwhelmed with sick patients and surprised by the rapidly growing need of IC beds and Personal Protection Equipment. Therefore, the Minister of Health installed two support bodies to help eliminate the great shortage of diagnostic test material, Personal Protection Equipment and IC bed capacity:

Landelijk Centrum Hulpmiddelen LHC ('National Consortium for Medical Resources')

Together with a team of professionals from hospitals, academic centres, suppliers and manufacturers, the Ministry set up a Landelijk Consortium Hulpmiddelen LCH ('National Consortium for Medical Resources'). The aim of this Consortium was to jointly purchase sufficient medical means and devices on a non-profit basis, in the national interest. Such national co-ordination was urgently needed because the country had to cope with a great shortage of PPE in every health care sector (hospitals, general practicioners, nursing homes, special care institutes, home care, etc.). and of diagnostic tests (including PCR-material, swabs, media). The LCH started on March

24. Three weeks later the Mininister of Health reported to the Parliament, that a special National Coordination Structure for Testcapacity LCT had also been initiated, which included a Taskforce Serology (see also answer to question 6).

Landelijk Coördinatiecentrum Patiënten Spreiding (National Coordination Centre Patients' Spreading)

On March 21st the Ministry of Health, Welfare and Sports and the Inspectorate Health Care and Youth installed the Landelijk Coördinatiepunt Patiënten Spreiding LCPS (National Coordination Centre Patients Spreading). It should accomplish a national agreement about common triage-criteria for a situation with severe shortage of hospital beds, especially IC capacity. In addition, it should coordinate the distribution of patients between Dutch hospitals in order to optimise the use of the regionally and nationally available IC capacity during the crisis. Patients might also be transferred over the border to some neighbouring hospitals in Germany which on request of the gouvernment offered 107 IC beds.

On March 27 the LCPS became fully operational in the Erasmus Medical Centre Rotterdam with a staff of 60. This includes some military staff with high expertise in planning, logistics and complex transports of people and goods in crisis situations.

End of May when the outbreak had slowed down considerably, the activities of the LCPS could be set on hold because the numbers of COVID-patients in urgent need for IC treatment had decreased rapidly.

Recently, the government has decided to increase the national IC bed capacity structurally with 520 beds which should prevent new situations of triage for IC capacity (see also answer to question 7).

1.2. Early responses of the general crisis control authorities: scaling up of the existing national and regional crisis control structures

– The Minister of Justice and Security is the overall coordinating minister for Crisis Control. Two weeks after the first confirmed COVID-19 case, he reported to the Chairman of the Parliament that the efforts of the general national crisis-structure had been scaled up because of the pandemic. This stucture consists of the National Crisis Centre (NCC) chaired by the National Coordinator for Terrorism Control and Security (NCTV), the Ministerial Commission Crisis Control (MCCb mentioned under *1.1*), and the Interdepartmental Commission Crisis Control (ICCb) composed of the Directors General of the various Ministries involved and is, again, led by the NCTV. The National Core Team Crisis Communication (NKC) was charged with the organisation and co -ordination/adjustment/tuning of the crisis- and public communication on all levels.

The overall co-ordination on operational-tactical level was placed into the hands of the Landelijk Operational Team-Corona LOT-C ('National Operational Team-Corona') , a multidisciplinary cooperation of emergency services, defense, population care, Safety Regions (see below) and Ministries.

– The Wet Veiligheidsregio's (2010, 'Safety Regions Act') charges the Dutch municipal authorities with the creation of a public body called Veiligheidsregio ('Safety Region'), in which the municipal administrations and various services cooperate regionally in the execution of tasks in the field of fire brigade care, disaster and crisis management, medical assistance (including hospitals, ambulance care, GP, pharmacists, Red Cross), public order and safety. The Netherlands is divided into 25 of such Safety Regions. The Safety Regions are responsible for the GGD as well as for the GHOR (Geneeskundige Hulpverleningsorganisatie in de Regio). All mayors of the municipalities which co-operate in an SR are member of its board. The board of the security region is responsible for preparing to combat an epidemic of an infectious disease belonging to group A such as COVID-19.

From the beginning of the mondial Corona crisis in China (January 2020), the Safety Regions were preparing for a possible Corona-virus outbreak, even weeks before the national authorities took theirfirst actions as mentioned above under *1.1* and *1.2*. This was especially so in the border regions with Germany, where the Safety Regions had already scaled up "silently" to the exceptional level of GRIP-4, because of an outbreak in an adjacent German border region (*i.c.* Kreis Heinsberg). During the further development of the COVID-19 crisis, the Safety Regions have played an increasingly important supporting and coordinating role in the communication to the public, the implementation of the national preventive measures in their region and the enforcement of the public's compliance with them.

On the national level, the Chairs of the 25 Safety Regions build the so-called Veiligheidsberaad (Security Council') for exchange of ideas on strategic and integrated security issues and developments now and in the future. The Security Council also adopts national administrative positions on behalf of the security regions and is the interlocutor of the Minister of Justice and Security. During the Corona-crisis the Chairman of the Security Council had also an important role as communicator to the public about the importance of the Corona-measures of the government, the compliance (or its lack) with the measures, their adjustment to local situations, their enforcement and fines and, in the later stage, the easing of the lockdown and its local guidance.

1.3. The unique role of the Dutch Prime Minister in the pandemia: genuine leader and "anchor" communicator to the Dutch citizens and society.

From the beginning of this unprecedented public health crisis, the Dutch Prime Minister Rutte has taken a remarkably leading role, also in the communication to press and public. In the days after the first proven COVID-19 case in the Netherlands, he gave a press conference together with Chairman of the OMT. He explained the gouvern-

ment's strategy of an "intelligent lockdown" and urgently asked everybody in the Netherlands to seriously comply with the new rules of life (no hand-shaking, frequent hand-washing, coughing and sneezing in the inner side of the elbow, not paying with cash but contactless, staying at home with mild symptoms, etc). He also appealed to the citizens to stop hoarding of toilet paper, hand gels, paracetamol, pasta and canned food, which had started countrywide. Four days later he gave a special live speech to all Dutch citizens which was broadcasted by all media. A direct speech of the Prime Minister to the Dutch people is exceptional and usually reserved to the King. In the long history of the Netherlands the only precedent was the live speech of PM Den Uyl during the oil crisis in 1973. PM Rutte announced the gouvernment's policy of an "intelligent lockdown" with far-reaching preventive measures such as working from home as much as possible, staying at home if you have possible symptoms (except if you work in a so-called vital profession fi healthcare), no visits to vulnerable and elderly persons, closure of theaters and concert halls, a ban on events with more than 100 attendants, etc. This exceptional speech of the PM at the start of the outbreak created a general sense of urgency in the population.

Throughout the pandemic the Prime Minister has periodically been the first speaker at press conferences in which he assessed the state of the crisis, motivated and explained the gouvernment's decisions, the preventive measures and strategy, including the (financial) emergency support programmes for employees, employers/ firms, entrepreneurs etc. After the PM's presentation, the responsible specialist Ministers usually followed with more details in their specific responsibility area.

The PM's direct addressing to the Dutch population and society about the crisis and the management strategy was highly appreciated; his "anchor-man role" has contributed considerably to the understanding and the compliance of the general public and society with the heavily-felt measures.

2. How is the information on infections, deaths and recovery cases collected?; What institutions or bodies are responsible for this?

Surveillance

Surveillance of COVID-19 is done in a cooperation between the RIVM, the GGDs, doctors, laboratories, hospitals and other care institutions doing tests. The two main bodies responsible for the surveillance of the COVID-19 are the GGD on the municipal/regional level and the RIVM on the national level.

The 25 GGDs in the Netherlands collect the data about infections and infected patients, admissions to the hospital and the Corona-death cases notified by GPs, microbiological laboratoria, hospitals and other health care or testing institutes in their region.

Every day the 25 GGDs send their data to the RIVM (deadline 10.00 AM). And every day the RIVM publishes the 'Actuele informatie over het nieuwe coronavirus COVID-19' (Current Information about the new coronavirus COVID-19). This daily update gives the accumulated data of all confirmed SARS-CoV-2 cases so far, the hospital admissions and deaths since the first diagnosed case in the Netherlands in February, and the "new notifications" in the last 24 hours. Also, gender- and age distributions are given.

The update is presented in numbers, graphics and geographical maps for the whole country and for the individual provinces and municipalities.

– It is important to note here, that the patient numbers in the daily RIVM report are lower than the reality, as the report only gives the numbers of patients tested positive for the SARS-CoV-2. Untested patients with mild or more serious corona symptoms who have been seen by the GP or were admitted to hospital, had died at home, in a nursing home or elsewhere are not included in the published data of the RIVM. During the onset of the pandemic the official Dutch testing policy was very restricted because of lack of test material, but fortunately this had changed at the end of the peak end of May (see also answer under question 6).

– From April 14, the Dutch GPs started to monitor on their own initiative which patients who had not been tested for COVID-19 but on clinical grounds most probably could have (had) this disease. Patients who had fever, less oxygen in the blood and respiratory problems were believed to have COVID-19. The GPs hoped this monitoring would provide a better picture of the degree of infection. Until April 24, GPs reported 764 names of deceased persons who had not been tested in life, but who were strongly suspected to have COVID-19. Mortality among residents of institutional households, such as nursing and care homes, mental health and disabled people, prisons and asylum seekers centers, nearly doubled in week 14 as compared to the average weekly mortality rate in the first ten weeks of the year.

– As mentioned before, the available IC-capacity has been a most critical element in the outbreak management, and there was great concern that it would be insufficient and would make triage for IC beds unavoidable. Therefore, the government, the crisismanagement, parliament, media and general public followed the numbers of patients on IC-beds with great interest as well as the results of efforts to increase the IC-capacity.

– The daily RIVM update did, however, not give separate data on COVID-patients on the ICs; these data were published by the LCPS (the National Coordination Centre Patient Spreading, see under *1.1*). For this, the LCPS relied on the daily report of the number of COVID patients in NICE (National Intensive Care Evaluation).

– The LCPS also uses information on the aggregated number of COVID patients delivered by the ROAZ, the Regionaal Overleg Acute Zorg (Regional Consultation Emergency Care). The ROAZ is a cooperation of all emergency care providers in the region, a.o. hospitals, ambulance services, GHOR (see under *1.2*), mental health providers, GPs, midwifes, etc.. The Netherlands has 11 such ROAZs, which have been set up on the basis of the Wet Toelating Zorginstellingen WTZi (Healthcare Institutions

Admission Act, 2005) and are all member of a National Network (Landelijk Netwerk Acute Zorg LNAZ) . During the COVID-crisis, the Chairman of the LCPS who is also the Chairman of the LNAZ) and the Chairman of the Nationale Vereniging voor Intensive Care (NVIC, Dutch Association of Intensive Care) gave daily press conference about the IC-capacity, its occupation and the spreading of COVID-patients. At the slowdown of the outbreak they also informed about the efforts to‘re-activate’the regular non-COVID-care in the hospitals.

The number of patients recovered from COVID-19 is not a standard part of the RIVM or other reports and is not known at the moment. There is no obligation to report this. Some GGDs collect such data.

Additional data sources

In addition to the daily surveillance report, the RIVM publishes an overview of other relevant national and international data sources about the SARS-CoV-2 virus and COVID-19, f.i. the WHO, the ECDC, the John Hopkins University, Dutch Universities, pharmaceutical sources, etc. (see www.databronnencovid19.nl). This site gives a short description of each source (about 100) and, where applicable, a reference to their data set(s). RIVM has drawn up this overview on behalf of the Ministry of Health, Welfare and Sport in the context of providing the society with as much as possible information about COVID-19. The website is regularly updated and everybody is invited to inform the RIVM about good additions to the overwiew.

3. Which institutions make recommendations regarding prevention?; in what form and whether sanctions are applied?; what sanctions?

The main advisory body regarding prevention is the RIVM, the National Institute for Public Health and the Environment.

The RIVM has to promote public health and to safeguard a healthy environment. It has the central role in infectious disease control, national prevention (incl vaccinations) and population screening. It conducts independent (scientific) research in the fields of Public Health, Health Services, Environmental Safety and Security. The RIVM is the country’s most trusted advisor, supports citizens, professionals and governments in the challenge of keeping the environment and citizens healthy. Its director is a staff member of the Ministerial of Health at the highest level as Director General RIVM. In the case of outbreaks such as the present one the RIVM coordinates efforts to control the disease and is working closely with municipal public health services, experts and representatives from various organisations. An advicing Outbreak Management Team OMT has been operationalized by the RIVM which includes members of many relevant professional organisations. The guiding principle is that all those participating are in the OMT in a personal capacity. This is because it is important for them to be able to discuss freely with each other, without feeling inhibited by their backers. The task of the OMT is to arrive at the best possible advice at that moment (see also under *1.1*).

– Based upon the current surveillance data and the opinion of its experts, the OMT advises the Minister of Health, Welfare and Sports and the Ministerial Crisis Control MCCb about the state of the outbreak, and recommends measures which are necessary or supportive. In most cases, the Ministers and the MCCb follow the recommendations of the RIVM/OMT. The report and consultations of the OMT are confidential, which recently was heavily criticized. The Chairman of the OMT (Prof. van Dissel, Director Centre for Infectious Disease Control of the RIVM) was repeatedly invited to the Parliament for technical briefings on the current COVID-19 situation, and for answering questions of the Parliament’s Members. The briefings were broadcasted and had high viewers density. Prof. van Dissel’s expertise was generally highly appreciated, and he gradually became a well-known TV-personality in the country. The measures of the crisismanagement and RIVM were f.i. often also named the ‘van Dissel-measures’ or the ‘RIVM-measures’.

– The GGD informs the municipal and regional authorities (i.e. the Safety Regions, see 1.2) about the current situation of the outbreak, advices them about the best way to follow the nationally prescribed recommendations and measures, or how to tailor them to local circumstances.

– The Minister of Justice and Security imposes the sanctions for breaking rules or measures in the COVID-19 crisis. Sanctions may be financial fines for individual persons, financial fines for entrepreneurs or closure of their commercial accommodations. As an example: not keeping the required social distance of 1.5 m by individuals who do not belong to the same household leads to a fine of EUR 95 per person between 13 and 17 years of age. It is EUR 390 for persons above 18 years who, in addition, will have a notification in a criminal record. Planned gatherings of 3 or more people are fined with similar amounts per person, but ‘incidental gatherings’ of 3 or more will not be fined if the required 1.5 m distance is respected. Fines for breaking the rules is much higher for entrepreneurs, and may include closure of their enterprise accommodation.

– In most cases offenses will only be fined if a previous warning was neglected. Continuing breach of the rules may lead to arrest.

– The police and about 30,000 so-called unarmed BOA’s (‘Bijzondere Opsporings Ambtenaar’, Special Investigative Officers who are trained but unarmed civil servants of the Municipalities and Safety Regions in police-like uniforms) are charged with the control and enforcement of the measures and write out the fines for breaches. So far, about 18.000 fines have been written out. However, the government’s Corona-measures are sometimes not wholly clear, equivocal or multi-interpretable and, in addition, their enforcement may vary between municipalities or regions. Hence, from the legal point of view a considerable percentage of the write-outs (about 50%) is faulty or insufficiently formulated. Therefore, the government has announced to present a law that gives the measures and fines a better legal basis which

respects the 'lex-certa-principle' of clear, concrete definitions, understandable wordings and situations (see also answer to question 8)

4. What relations do the organizations of medical professionals (epidemiologists) have with the political authorities?

– The most relevant medical professions involved in COVID-19 prevention (and care) such as virologists, clinical and medical microbiologists, epidemiologist, infectiologists, intensivists, have a representation in the Outbreak Management Team (see under *1.1* or answer to question 3). In this position the expertise and opinion of their medical profession is directly taken into account in the OMT's advices and recommendations to the deciding Ministers and Cabinet. Because of high risk of COVID-19 for the elderly, a number of specialists of the Dutch Association of Elderly Care Physicians were invited to the OMT.

– The Federatie Medische Specialisten (Federation of Medical Specialists) has been a spokespartner and participant in several coordinating activities of the gouvernment as mentioned above. The Federation unifies 22.000 certified medical specialists in the Netherlands via their membership of one of the 33 Dutch professional associations of medical specialists.

– Other professionals groups such as GPs, organisations of nurses, Specialists for the Mentally Handicapped, Psychiatrists which were not directly represented in the OMT have found various alternative routes to become heard by the politicians, f.i. by contacting ministers or parliament members directly by letter, visit or with petitions.

5 . Does society trust the government's messages on an appropriate behavior during pandemics and isolation, and how does society behave?

– A poll conducted on March 17 by a Dutch TV-programme (Éen Vandaag) found that the measures taken by the government on March 15 were supported by a large part of the population. The appreciation for Prime Minister Mr.Rutte rose to 68%, the highest since he took office as PM almost 10 years ago.

– A study by Ipsos (Market Research) published on March 25 showed, that more than 80% of the 1.000 respondents in the Netherlands thought that the government and RIVM took good measures to combat the corona virus. Half of the people believed that the coronavirus would not cause serious health problems, but 36% was afraid of this. Another third (36%) feared the economic consequences for their job or company.

– A two-weekly periodic survey of RIVM and NIVEL (Dutch Institute for Research in Healthcare) among 2500 Dutch people about the confidence of the population and their compliance with the rules was similarly positive: 80% or more indicated that they had great confidence in the government's measures to combat the further spread of the new corona virus. However, a slight decrease in the percentage of people who say they adhere to the guidelines was visible (from 92 to 88%). A recent investigation by the National Federation of Unions FNV in shops showed an alarmingly low incompliance of clients with the 1.5m-measure; the Federation urgently calls on the employers to better protect their employees.

– Early May a large online compliance study with 90,000 respondents was performed by RIVM in collaboration with the GGDs and revealed:

- The rule of keeping a distance of 1.5 m is the most difficult task and is followed up by 1/3 to 2/3 of the people, depending on the setting,
- 99.5% have no problem with not shaking hands, or with elbow sneezing (75%) and using paper hand wipes (73%), but it is more difficult to comply with frequently washing hands (42%),
- Well-being and lifestyle:
  - 1/3 is anxious, more gloomy, stressed and lonely,
  - 20% have more sleeping problems,
  - diet unchanged 73%,
  - 53% move (much) less,
  - 28% smoke more, 12% smoke less,
- Most difficult task in the long term:
  - Staying at home,
  - Not visiting family members of 70 years and older,
- **90% would (very) mind passing on the virus to someone.**

At the slowdown of the outbreak in May-June, a 'quarantine- or lockdown-fatigue' became visible in the society. Impatience about unlocking measures grew gradually, and the media became filled with lobbying actions by many sectors for a more rapid easing of the lockdown. This was especially so in the business area because of the threating perspective of a recession with closures, bankrupts and job losses. In the public area, incidents with citizens molesting controling police or BOA's are rare but increase. In the social area the emotional stress is also growing, especially because of the very long-term forbid to visit close family members in nursing homes and their isolation.

(*See also Note added in proof* *)

6. Are there many tests carried out?

– In the period between 9.3 to 4.6 a total number of about 370.000 tests have been performed, *i.e.* starting from about 500 to 5–7000 per day. At the start of the outbreak the testing policy in the Netherlands was very restricted, mainly because the capacity to test and the availability of test materials was far too small. F.i. the RIVM officially allowed a test only if a symptomatic patient had recently been in Wuhan or its environment. Medical and nursing staff with only mild complaints were asked to continue work, even when not tested. Only seriously ill and vulnerable patients were tested. This restricted test policy stood in great contrast to the strong WHO-recommendation to "test, test, test". Among professionals, the restrictive Dutch strategy was considered to seriously hamper the individual protection of patients, people and care staff; also, it was also seriously hazarding an ade-

quate epidemiological monitoring and, thus, the effective infection control. Later, care staff with complaints were also offered a test. This very restrictive testing policy was heavily critisized countrywide and has led to repeated political debates in the Parliament. In response, the Minister of Health, Welfare and Sport (VWS) asked a former CEO of the international concern DSM to act temporarily as a special envoy for purchasing and providig sufficient test material on the international market.

– Since medio April, the test capacity in the Netherlands could gradually be scaled up to 17.000 tests per day end of May. In the perspective of the reopening of (primary) schools on May 11, school-teachers, employees of day-care for children and informal care workers could be tested. This has led to a remarkable jump in testing and the detection of positive cases, mainly in care workers. In the group of tested care staff, up to an alarming 30% appeared positive.

– As of June 1st the Dutch test policy has changed drastically from the previous restricted policy into a generous and low-threshold one. Everybody in the Netherlands who has only (mild) respiratory symptoms such as coughing, nose-cold, sore throat can go for a test. Referral by a physician is no longer requested, a previous telephone-call to the GGD for making an appointment and registering your complaint(s) suffices. Testing is free of costs and can usually take place on the same or the next day; informing the tested person about the results will be within 48 hours, by telephone or SMS. The 25 GGDs in the country are responsible for the organisation of the tests and have set up a total of 80 test locations or so-called 'test streets', with 6 staff per location.

In preparation for a possible second wave and the start-up of the "dahboard' (see also question 8) the test capacity has been scaled up to 30.000 per day (1800 per million inhabitants), with a possibility for further scaling-up to 70.000 per day. The GGD staff for source and contact tracing has been scaled up to 800 FTE, which in case of a 2nd wave can be grow to 2500 FTE (including staff contracted from external call centers and the Dutch Red Cross).

7. Are there sufficient protection equipment and beds in hospitals; does the capacity of hospitals increase and how?

– Early February before the outbreak in the Netherlands, the Ministry estimated that it was not necessary to purchase extra protective materials, as the available stock would suffice. Unfortunately, this soon appeared not to be so. End of February the outbreak started in the Netherlands and within a few weeks a dramatic shortage of safe and certified personal protection equipment (PPE) became obvious. Also, the wave of COVID-19 patients needing IC-care because of ARDS was unprecedented; hospital wards were overflooded and a collaps of the health care system was feared.

– The peaking of the wave also caused a shortage of staff. The medical, nursing and supporting hospital staff of the IC- and COVID-wards were ask to make many more working hours extra and not to take days off. Most of them became overworked and many of them became sick.

– To meet the rapidly rising needs for means, equipment and beds, a number of special national coordination points for purchasing enough PPE and test material from abroad and for an optimizing the use of the available IC capacity by spreading the patients over hospitals became operational (the LHC and the LCPS, respectively, see also answer under question 1 and 3).

– The efforts of the Ministry for Medical Care and of the LHC to purchase ventilators for the IC and PPE, especially medical masks abroad, brought some relieve in the hospitals, but not enough and not timely. It happened several times that large deliveries of, f.i. millions of face masks did not meet the Dutch quality and safety criteria and had to be sent back to the producer (from Asia).

– Many hospitals activated their spare IC beds. In addition, the plannable non-corona care in the regular specialisms was reduced (about 20%); their wards were partially transformed into special COVID-19 units, including extra IC beds. The necessary extra IC staff was recruited from the medical and nursing staff that fell free from the reduced wards; they were shortly trained for (assisting) COVID-19 care, and worked under the lead of a qualified IC staff member. Also, retired qualified IC staff was urgently asked to come back and to strengthen the available IC-workforce.

– Because of the overwhelming referrals of seriously ill (COVID-19) patients, many hospitals built 'triage tents' at their entrance where arriving patients were assessed for the normal COVID-19 ward or for the IC.

– Some hospitals have built special COVID-19 centres outside the hospital f.i. in 'Corona-hotels' or a conference centre, with capacities of several hundreds of beds. At least one of these extra centres did not have to take up any patient.

– The Ministery of Defense provided 25 ventilation equipments from its own Military Hospital for the creation of IC-beds in the non-military hospitals

– A request by the gouvernment to German clinics led to an offer of 107 IC-beds for Dutch COVID-patients, and about 51 patients were transported by helicopter to neighbouring German hospitals, especially the Uniklinikum Münster. With 7 beds per 100.000 inhabitants the IC capacity in the Netherlands is rather low in Europe; Germany f.i. has 30 IC beds per 100.000 inhabitants.

– In the end, the above mentioned efforts to increase the available IC bed capacity proved effective. Before the onset of the crisis, the total IC bed capacity in the Netherlands was 1150 beds. On April 5 the crisismanagement's aim of 2400 IC-bed capacity in the peak of the crisis was met indeed, of which 1900 were meant for COVID-patients. The highest number of IC-beds occupied by COVID-19 patients during the crisis has been 1328.

– In the meantime, the government has decided to increase the IC bed capacity structurally with 550 beds, bringing it from 1150 to 1700 IC beds.

The initial focus of the crisismanagement on the expansion of the IC bed capacity had some serious adverse consequences. Below 3 examples:

- The reduction or postposing of regular, non-corona-related care and the re-allocation of hospital wards,

medical and nursing staff to COVID-care, caused considerable growth of waiting lists and waiting times in the regular care such as oncology, cardiology, ophthalmology, orthopedics etc.. Patients with potentially alarming health complaints who in normal situations would urgently visit the hospital, hesitated to make appointments because they feared corona-infection in the hospital. Or did not want to increase the burden of the hospital and its staff already standing under high pressure because of COVID. Cancer screening programmes(breast, colon, cervix) were also put on hold. In the peak of the outbreak several specialisms noticed an unprecedented, sometimes more than 50% reduction of the patient appointments. They sounded the alarm about the increasing risk of serious health damage because of too late diagnoses and treatments, especially in oncology and cardiology.

- A rather peculiar attempt to lower the need for IC beds can also be mentioned here. GPs were asked by their association to talk beforehead with healthy patients in the vulnerable group about their personal wishes and expectations if admitted to a hospital for COVID-19. In case of a worsening of their condition, would they really chose or insist on being transfered to the IC? With such low survival rate and, if surviving, having to undergo a long period of intensive rehabilitation, with a high risk of ending up with permanent damage and low quality of life? Of course, such discussion between physician and patient about possible treatment and outcome is part of informed consent and quality of care. GPs agreed that they would start such 'anticipating' discussions, and in some cases also did not agree with a transfer of their patients to the IC because of a too fable condition. It had indeed some effect on the IC-uptake: only a few dozen of the more than thousand 80-plus people who contracted COVID-19 until April 22 were transferred to the IC. Nevertheless, the possible incentive and link with the shortage of IC capacity has evoked a societywide ethical discussion.
- The joint efforts to prevent overflooding of the hospital sector by increasing the bed- capacities and provide for enough ventilators, PPE, test material in the hospitals have been succesful. At the same time this led to an obvious underattention for the other health care sectors, which were equally threatened by shortages of protection materials. The careworkers in nursing homes, home care, homes for the elderly, psychiatric care or for the mentally disabled felt completely 'neglected and forgotten'. Their repeated calls for sufficient and certified PPE were heard but the answer and extra material did not come. The consequences could be expected: among the 5700 COVID-deaths registered till May 19, at least 2500 were residents of nursing homes. An example: in a particular nursing home with 73 residents, 24 died within a very short time and one third of the staff had to stay sick at home, untested. Finally, a military nursing team came to help out. This was an eyeopener for the politicians. In the meantime PPE and testing capacity have become sufficiently available also in the nursing homes and other sectors.

8. Is lockdown easing, and how is it done?

Step-by-step lockdown easing, monitored on a controle dashboard

From the start of the outbreak, the government's strategy has focused on maximally controlling the virus, and this will be continued. Two goals were and remained central: (1) The best protection of people with frail health and (2) ensuring that the care system is not (again) overloaded. This requires a good insight into the virus and insight into the way it spreads.

On May 19, the Minister of Health sent a 44-pages letter to the Parliament in which the gouvernment's strategy for the upcoming easing of the lockdown was presented and extensively explained. In the breakout phase, the strategy of an'intelligent lockdown' had been followed *to regain control*. In the following transition phase it is important *to remain in control.* For this, a 'dashboard' has been developed which will give the crisis management a better overview of the situation, will facilitate preparedness I in the country and will allow a faster response to signs of a flare-up of the virus.

The dashboard

So far the crisis management could, so to say, only steer on what it saw 'in the rearview mirror'. In fact, the responses and measures were reactions to a situation of weeks ago, because of too much delay in the process. F.i. the incubation time before symptoms appear (if any or only mild) is rather long, up to 2 weeks. There is an additional delay before the patient visits a doctor, especially when the symptoms are only mild. A further delay occurs till a test is performed (if any, the testing was very restricted). Notification of positive cases into the surveillance system also takes time, as does source and contact tracing. Such delays favour the epidemic's spread substantially and should, therefore, absolutely be avoided or minimized, especially in the easing stage and to stay in control. If signs could be picked up earlier from the dashboard, the response and 'steering by' would be more timely, more effective and better targeted on specific risk groups, events, institutes. Flare-ups of the virus in specific places, provinces or regions could then also be addressed more isolated. Easing steps can be set sooner if possible, or turned back if necessary.

A dashboard has been developed that uses 3 sets of indicators which in their combination show the impact, magnitude and expectation of the spread of the virus, and the effects of easing.

– First, 5 main indicators which provide the 'standard' numerical picture of the epidemic:

- the number of IC admissions (and average duration of stay); hospital admissions (and delay time since infection); test results; Reproduction number of the virus (the calculated R0-value); total number of infectious persons (the latter 2 calculated from the numbers of hospital and IC-uptakes, and the test results).

– Second, a set of supporting indicators which provide a less accurate, but allow a larger, more complete picture of the epidemic course, such as:

- The 'Infectionradar', an online self-reporting by 50-150.000 participating inhabitants who weekly notify whether they have complaints or not on www.infectieradar.nl; GP data; results from the source and contact investigations of the GGD; sewage water surveillance; sentinel surveillance (caregivers); COVID mortality data of GGD and CBS (the Central Statistics Bureau)

– Third, a set of indicators which indicate the extent of the compliance of the population with the measures of gouvernment and RIVM, and thus the risk of viruses being transferred between people. Examples of such indicators are:

- Movement of citizens (digital apps via mobile phones, anonymous but still very disputed); Compliance Monitor (repeated studies); targeted behavioral studies

The dashboard was launched online on June 5 and is accessible to everybody on www.coronadashboard.nl (only in Dutch).

Core requisits for an adequate functioning of the dashboard are a massive testing and immediate source and contact tracing in positive cases. Therefore, the test capacity has been scaled up to 30,000 tests per day, wich in case can be scaled up to 70,000 per day. Positive cases and all members of their household will come into a quarantine for two weeks. For the source and contact investigations a staff of 800 FTE is available, which can be scaled up to 2500 FTE (see also answer about testing under question 6).

Basic rules for everybody strictly continued

As explained, the dashboard is expected to facilitate overview and remaining in control. At the same time, the governments' absolute precondition for a succesful 'intelligent lockdown easing' is to anchor the control which was achieved since the outbreak since March. This requires a continuation of the previous basic measures and rules for everyone in the Netherlands (in fact worldwide): avoid crowds, work from home if possible, keep 1.5 meters distance, stay at home with complaints and certainly in case of shortness of breath and/or fever, family members will also stay at home. And of course: no hand-shaking, but washing hands frequently, cough and sneeze in the inside of the elbow, use paper tissues and throw them away immediately. People of 70 years or older, or in a frail health have to take extra care.

To ensure that everyone can adhere to these basic rules, the government works together with many companies and organizations such as employers and unions, branch organizations and the NS (National Railways). Enforcement of rules is the role of the police and 30.000 investigation officers (BOAs) of the municipalities and Safety Region.

The gouvernment has concluded that, if the above basic rules are satisfactorily respected, there is more space for public life and has relaxed its existing measures to ease the lockdown step-by-step. Keeping the minimal distance of 1.5 m between people remains the common and hard requirement in all easings. The neologism 'anderhalvemetermaatschappij' (1.5-meter-society') has rapidly become the most popular word to characterize the new public life in the COVID-period, and has even appeared in formal documents.

In order to guide and control the easing of the lockdown 'by the dashboard' and to step-by-step to the 'new normal' public life (the 1,5m-society), the gouvernment has published all existing and new easing rules for individuals, branches and sectors of public life. They are explained and defined in detail (with sanctions were applicable) on the gouvernment's website 'Rijksoverheid.nl' and via the RIVM. The measures are listed under the headings: Groups and Meetings (theaters, terraces, fairs, festivals etc, special exceptions for funerals and weddings); Horeca (hotels, restaurants, cafés); Culture (musea, monuments, music halls, cinemas, etc); Contact professions (f.i. barber, nail stylist, dietician, masseur, occupational therapist, etc); Sports and Games (mainly leisure); Public Transport; Education (whole education chain from primary school to University); Shops and Markets; Sanitation; Closed Locations (such as sporting schools, fittnessclubs, saunas, etc.); Travels abroad.

Even with clearly and unequivocally formulated rules and measures, their great multitude will nevertheless evoke an even greater multitude of uncertainty and questions in the public life. Websites and helpdesks are available and easily accessible. Practical advices and help will be given to realize customized 'corona-proof' solutions for any situation in the public domain (which is the role of Safety Regions and Municipalities). Because of the too frequent faulty interpretations and fines in the foregoing lockdown stage, all rules and measures (so far only as emergency ordinance) will be laid down precisely in a new Law, including the applicable sanctions and fines.

(*See also Note added in proof* **)

Additional measures: emergency support packages for economy and employment

COVID-19 does not only hazard the health of the people and the health system. Economy has also been heavily challenged and damaged, and an unprecedented recession is forecasted (at least 7% for the Netherlands and an extra loss of at least 400.000 jobs). Medio March the cabinet decided to take exceptional supporting measures to absorb or mitigate the damage caused by the corona virus. The aim is to protect jobs and income and to absorb the consequences for self-employed professionals, SME entrepreneurs and large companies (f.i. airline company KLM). A first emergency support package provided billions of euros in support every month, as long as it would take. The measures ensure that companies 'on hold' can continue to pay their staff (up to 70% of wages), they bridge the gap for self-employed workers and allow money to remain in companies through relaxed tax regimes, compensation and additional credit facilities. These measures also supported the cultural and creative sector.

This first 'Emergency package jobs and economy 1.0' has costed an estimated 23 billion euros (excluding un-

paid taxes) and has ended on June 1st. After discussions with employers' organizations and labor unions which criticized the first aid package, a second emergency support package of 13 billion euros will actually run from June 1 to September 1st and will probably be extended by a month. This means that entrepreneurs can count on financial support for a month longer if they have seen their turnover plummet due to the corona crisis. The problems are especially great in the catering and travel industry.

Nobody will be spared. We should learn from each other on our common road to overcome this global crisis. We can succeed only in cooperation on all levels, regional, national and mondial. Let us share our experiences, benefit from our close European commitments and cherish them.

June 5, 2020, Maastricht, the Netherlands

Notes added in proof

*

The Public Prosecution Service (OM) has imposed 15,530 corona fines since the coronavirus outbreak, mainly to people who did not keep their distance.

– The Public Prosecution Service received 22,820 official reports from police officers or boas.
– In addition, the Public Prosecution Service is responsible for 294 corona-related crime cases. This concerns, for example, people who cough or spit at officers or hospital employees, where the perpetrators claim that they are infected with the corona virus.
– In 3014 cases, people disagreed with the fines imposed and protested officially. The public prosecutor looks at that again to choose which cases are brought to the subdistrict court.
– Until June 28, 842 young people were referred to HALT (Halt stands for Het ALTernatief: with a HALT penalty, young people can avoid getting a criminal record, as an alternative to the EUR 95 fine). Fines for adults are 390 euros.

A behavioral study by RIVM at the end of June shows that six out of ten Dutch people find the imposed corona measures illogical, or do not understand why rules do apply in some situations and not at other times.

Also, several licensened and unlicensed demonstrations against the new corona-measures, especially the 1.5 meter distance rule, have taken place, resulting in many arrests and fines because of a.o. not-respecting the required distance, not following-up police instructions, or violence.

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Short version of new Corona-measures in the Netherlands as of July 1st, 20201

On Wednesday 24 June, Prime Minister of the Netherlands Mark Rutte and Minister De Jonge presented about Corona and the new rules and measures (still as emergency ordonance) . Below the main rules for inside and outside as of 1 July 2020.

Rules inside

– Always keep a distance of 1.5 meters.
– In indoor spaces, a maximum of 100 people may gather. Staff do not count.
– More than 100 people are allowed. But only if a place has been reserved and a health check performed before entrance.
– This applies, for example, to cinemas, cafes, restaurants, theaters, weddings and funerals.
– Discos and night clubs remain closed until September 1.
– There will be rules for choirs.

Rules outside

– Always keep a distance of 1.5 meters outside.
– In outdoor areas, 250 people may gather. Staff do not count.
– More than 250 people are allowed in places with fixed seats.
– Reservation of a place is necessary and a health check before.
– This applies, for example, to the catering industry.
– There is no maximum number of people at zoos and amusement parks.

Rules in transport

– You must always wear a face mask on public transport.
– You always wear a mask in taxis, buses and coaches
– You must make a reservation and you will get a health check.

Are there people from another household in your car? Then all wear a mouth mask.

In all other transport, keep 1.5 meters away. Like on a tour boat.

Exceptions to the 1.5 meter distance

Exceptions to the 1.5 meter distance apply for children and young people:

– People from 1 household do not have to keep a distance of 1.5 meters.
– Children up to and including the age of 12 do not have to keep 1.5 meters away from others.
– Young people up to the age of 18 do not have to keep a distance of 1.5 meters. They must keep a distance of 1.5 meters from adults.

In some situations it is difficult to keep 1.5 meters away. Therefore, there are also exceptions for:

– Persons in need of care and their supervisors.
– Hairdressers, masseurs and instructors in teaching cars.
– Athletes, actors and dancers.

Do not forget:

– Keep 1.5 meters away from others.
– Travel outside rush hour as much as possible.
– Stay away from busy places.
– Wash your hands often.
– Stay home with complaints and have yourself tested.

[1] Website www.Rijksoverheid.nl (accessed: 15.07.2020)