

Securing PPE during Covid-19 pandemic, experiences from Rigshospitalet Denmark

Ann Filippa Madsen
Infection control nurse, MPH

The Covid-19 pandemic became a health-war

- The whole society was affected in every way
- Huge logistic and organisation with many stakeholders
- Not only the healthcare system
- And not just infection-control staff was required to carry out the task
- But some with decision-making skills and money
- PPE (all) and hand-disinfection was stolen in departments and on its way from the stocks, and was never delivered when ordered

Marts 2020

- Establishment of a Task Force group in Rigshospitalet

- Chairman was a center director on Rigshospitalet
- 2 clinical doctors
- 2 infection control nurses
- 1 from the purchasing department

With reference to the crisis management in the region

The task for the group:

- to ensure we got enough protective equipment and hand disinfection, as the whole world required
- assessment of ppe in practical use, testing and review of certifications and EN standards, or equivalent approved by Danish Safety Authority

Outbidding on given orders was a threat to whether we got the order. Americans buy in cash (we don't- only when delivered and approved)

suddenly we lost 2 mio masks in spring 2020, and only 10 % was delivered

Rigshospitalets collaboration with Bestseller and Mærsk resulted in a direct non-stop flight from China to CPH, to avoid Frankfurt, where PPE was sold to the highest bidder

Security of supply and storage

- 10 % of what is purchased are delivered
 - Some are rejected after test
 - Outbidding from others despite contracts
 - Stolen on its way from manufacturer/ stocks to departments
 - Hoarding
 - Protective equipment locked in, in the basement RH
 - Consumption and stock are closely monitored
-
- Purchasing was going on in all regions i DK



PPE procurement with requirement in EN-standards

- Gowns
- Coveralls
- Gloves
- Masks
- Respirators FFP2-3 +/- valve
- Respirators with air-supply
- Eye protection
- Hand disinfection
- Cleaning-and desinfektion cloths

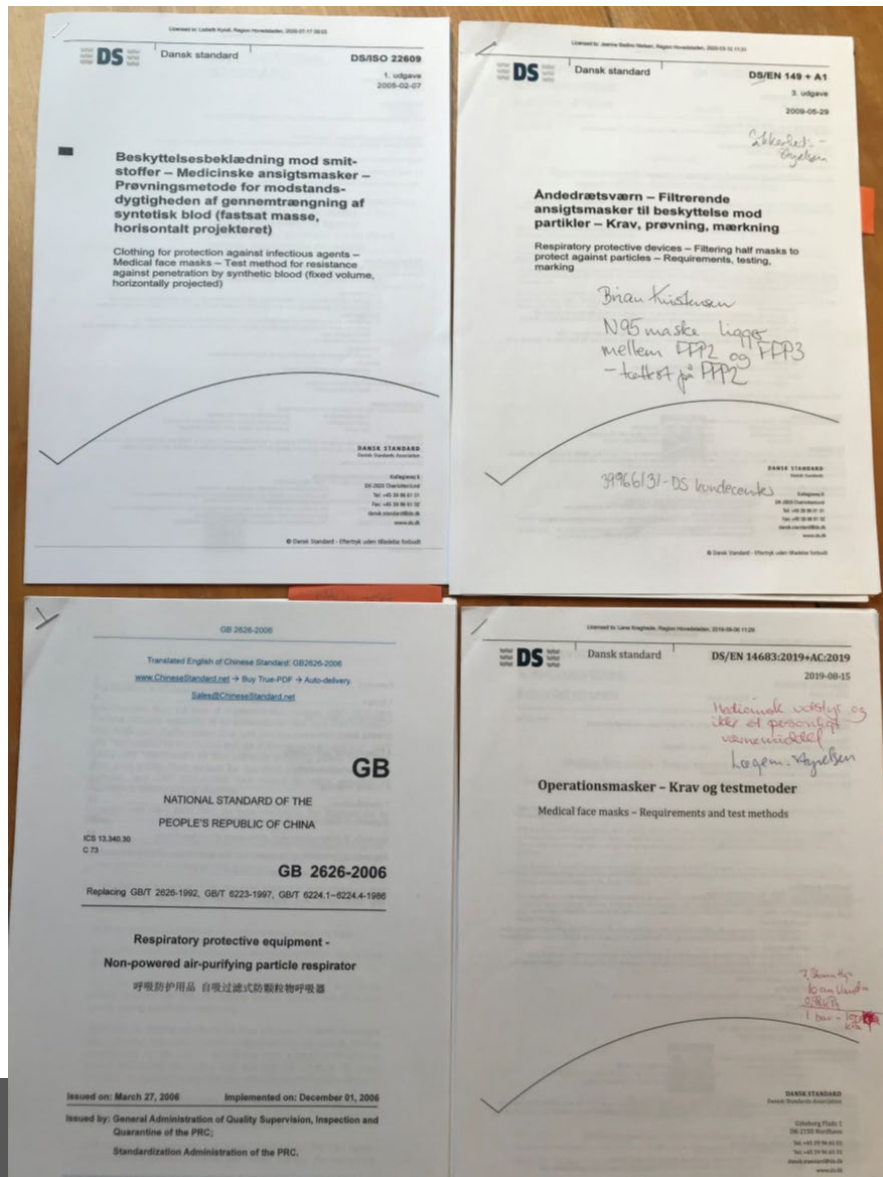


Under Covid-19, suppliers could not deliver and we ordered directly from the manufacturer

- Normally PPE is purchased via regional & municipal procurement, and supplier guarantees that PPE meets requirements
- China produces most PPE. Task-force members looked at certifications and test-results. Before final purchase TF assessed the fit. Gowns are assessed for liquid tightness, liquid barrier and sleeve cuff.
- Only PPE that meets the standard and fit, is purchased
- Hand desinfektion also had to meet EN requirement and not smell bad or like gin, tequila...
- We had to learn different standards and test methods and requirement, before we could evaluate certificates and test results.



Standards in english (frontpage in Danish)- certificates in chinese



Test test test test test- in the headquarter

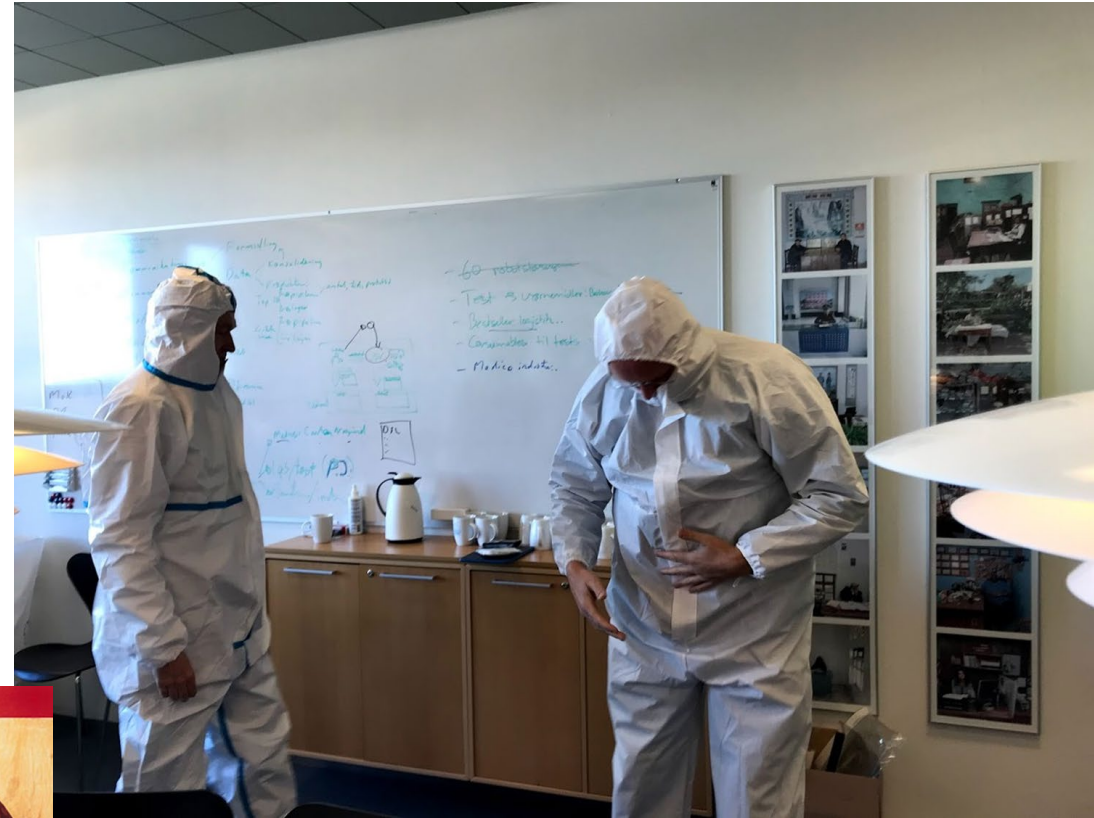
NOT 24/7

But between 7 og 24,
7 days a week

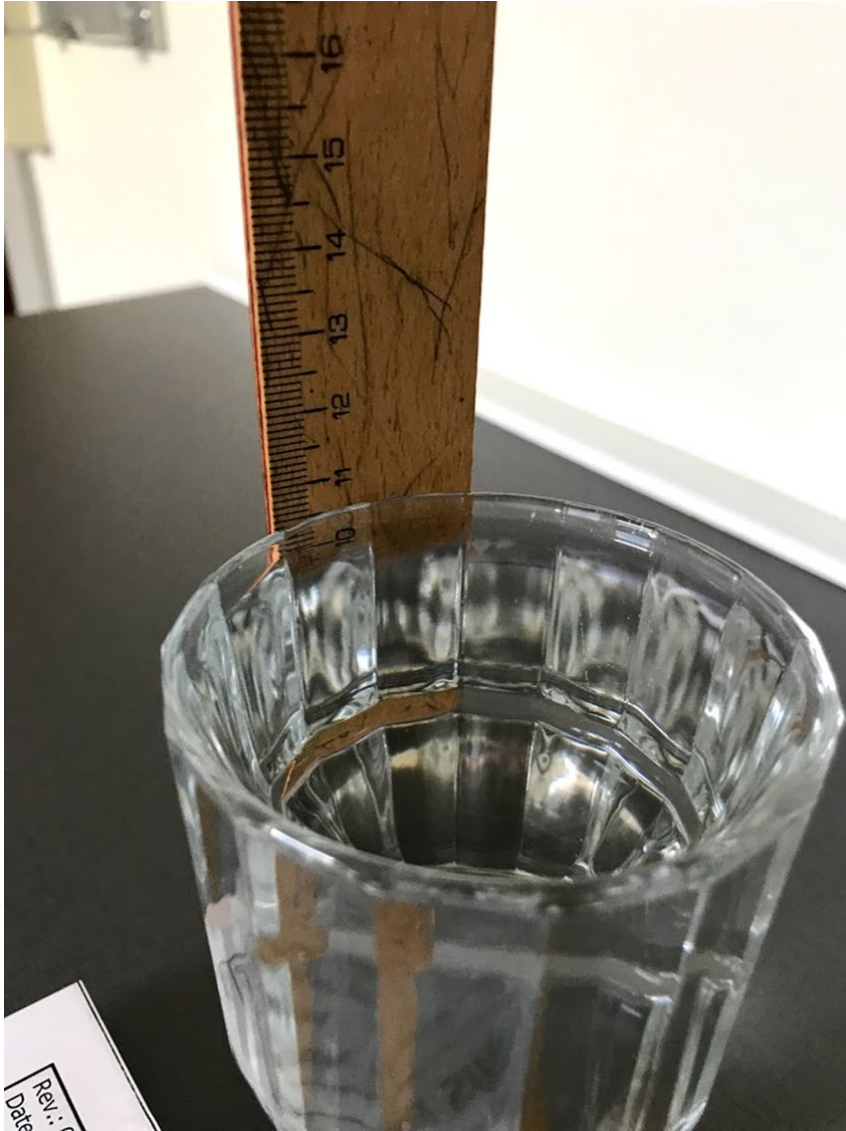
Prizes might be doubled, or lost
order to others

"Wild west"

Protective gear had become the new
gold



Test test test test test test test test test test test



What did we do, not to run out of PPE

- Collection of FFP3 masks, for distribution if needed
- Delivery locally
- Visor, reused for one shift and for personal use
- Disposable gowns are replaced with a plastic apron for other forms of isolation (VRE, MRSA)
- Ensures delivery all way to the departments
- Fasten installed protective equipment, e.g. hand desinfektion



Did we run out of PPE

- No
- But-there could be problems with the distribution to departments
- The ordersystem failed by many reasons
- We had an extra warehouse (because of the collection from departments), in the basement at Rigshospitalet, in case of emergency
- We still need FFP3 to measles, MDR TB- and we couldn't risk that staff not could be protected

NFOS (National supply of PPE) and RescEU

- April 2020: Establish NFOS in the region capital will be responsible for the purchase of PPE throughout in Denmark ("Task-Force from Rigshospitalet" are still a part of the group)
- NFOS is helping to ensure that Denmark and the EU have sufficient stocks of PPE for future pandemics
- April 2021: Establish RescEU- 10 warehouses in Europe (1 in Denmark)

NFOS task:

- Meets once a week
- Fokus on security of supply
- Prepare requirements specifications for future tenders?
- **Ensures the quality of PPE from all suppliers**
 - Must meet applicable standards
 - All companies are tested, including current suppliers (goods that were under agreement before the pandemic)
 - Masks and respirators- every new batch- new test at an accredited test center in Austria or Denmark
 - Close collaboration with clinicians on test, instruction, communications and if any complaints.

