Telerehabilitation as Acute Care Rehabilitation in Times of Pandemics

The impact of telehealth applications as a key resource during Covid-19 lockdown

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Outlines

- Sunnaas Rehabilitation Hospital
- The Sunnaas Model of TeleRehabilitation
- Lockdown
- Synchronous TeleRehabilitation used in
  - Speech-language therapy
  - Pressure injury follow-up
  - Telepsychology consultations
  - Teleexercise group training

Disclosures
The presenter has been granted by the DAM Foundation, the Sunnaas Foundation, the South Eastern Health Region Department and the Norwegian Medical Association.

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No one of the founders have had any impact on the research protocols, the results or the presentation.

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Sunnaas Rehabilitation Hospital

- a way forward for patients and relatives

• For people in need of specialized rehabilitation after serious illness or injury
  • Spinal cord injury, burn injury, multi trauma, Guillè Barre syndrome, Cerebral palcy, Poliomyelitis, Stroke, Traumatic brain injury

• Norway's largest research and innovation center within highly specialized rehabilitation

• Regional responsibility for rehabilitation in the South-Eastern Region

• National services for patients with rare diagnoses and locked-in syndrome
Key numbers

- **159** Beds
- **800** Employees
- **3,000** Discharged patients
- **4,500** Outpatient consultations

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The Sunnaas Model of TeleRehabilitation

“The innovation process that has resulted in the “Sunnaas model” for integrated video-enabled, repatriation of multitraumatized patients to their home municipality is a good example of remote care innovation resulting from close cooperation between stakeholders from across the system”.

Ernst & Young (2011):
The state of remote care in Norway – enabling a sustainable welfare state

https://youtu.be/kvY8w6UzSFU
https://doi.org/10.1038/s41394-020-00338-6

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1. Multidisciplinary collaboration between the hospital and municipalities

Patients with complex and long term needs

- Before discharge
- After discharge
- Before admission

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2. Patient consultations

Specialists at other hospitals
- Opinions

- Guideance
  - Wounds
  - Burn injuries

- External web cam

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3. Assistive aids

• Dialogue with the assistive aid office

• Increased consumer participation
4. Rehabilitation on the go

Patients with stroke

Speech therapist assists in
Swallow therapy
Speech-language therapy
5. Knowledge transfer

• Synchronous or asynchronous

• One or several participants
  • Videoconference
  • webinars
  • e-learning

• Education and mentoring

• Peer work
6. Interpreter service

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7. Patients in solitary confinement

We can include patients in education and treatment where they previously have not been able to partake.
8. Videoconference @Home

- Outpatient consultations
- Lap-top
- Web cam
- Encrypted channels
Saturday, March 8th: LOCKDOWN

- 3 physicians infected

- 90% of all physicians and about 25% of the total number of employees at the hospital in quarantine

- 1 Ward partly isolated

- 3 physicians left to serve 8 wards with 160 patients + all the outpatient consultations
Sunday March 9th

→ 4 physicians from the Research Department
   (The Research Director and 3 Ph.D students)
   1 physician on sick leave
   2 retired physicians

........... were ordered to work in the clinical wards

All short term inpatient stays and on-site outpatient consultations were cancelled

All outpatient videoconsultations went on as planned

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Sunday March 9th; Let the remote work begin

• March 9th to March 11th
  • The ICT team managed to hand over lap-tops to all physicians, and a lot of other employees in quarantine
  • Encrypted software → Possible to work in the medical record system, and participate at meetings from home

  = Business «as usual»

• March 12th
  National lockdown.
The ICT team had to start guiding the health care service in the rest of the country

• March to July
  The experience from long term use of the Sunnaas Model made it possible to organize an outpatient service for those who got their inpatient stay cancelled

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Videoconference increased with 400%

June- November
Back to normal service in wards and the outpatient clinic
Limitations in travels, meetings, courses and seminars → online attendance

November
@Home follow-up

**Stroke/aphasia**
Speech-language therapy

**Spinal cord injury**
Pressure Injury follow-up

**Stroke/Traumatic Brain Injury**
Cognitive training

**All patients**
High-intensity group training
Thank you for your attention