



# Opportunities to innovate and accelerate use of technology across all phases of rehabilitation

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# Impact of COVID-19 on rehabilitation

- Loss of inpatient beds
- Relocation
- Isolation
- Closure
- Reallocation to other services
- Inability to meet
- ...

## How to become resilient?

European Society of Physical & Rehabilitation Medicine, Survey on measures in PRM settings in ESPRM countries after the SARS-COV-2 outbreak  
Balkaya et al., Am J Phys Med Rehabil, 2020

# Technology!





# Telehealth: inspiration and cautionary tale

## ◆ Publications since 1960s!

Media and Medicine

[Journal of Communication, 1975]

### *Some Implications of Telemedicine*

by Ben Park and Rashid Bashshur

*Health care delivery by two-way television may change roles, authority, and distribution of health-care professionals.*

The term “telemedicine” was introduced in the last decade to designate interactive, or two-way, television (IATV) in medical practice. Essentially, IATV provides links among individuals and groups at distances ranging from a few blocks to several miles. It can be used for remote diagnosis, consultation, counseling, psychotherapy, and teaching.

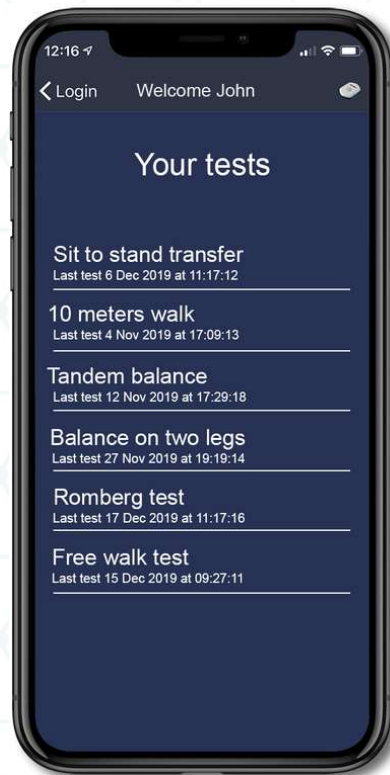


# Going beyond: daily activity data

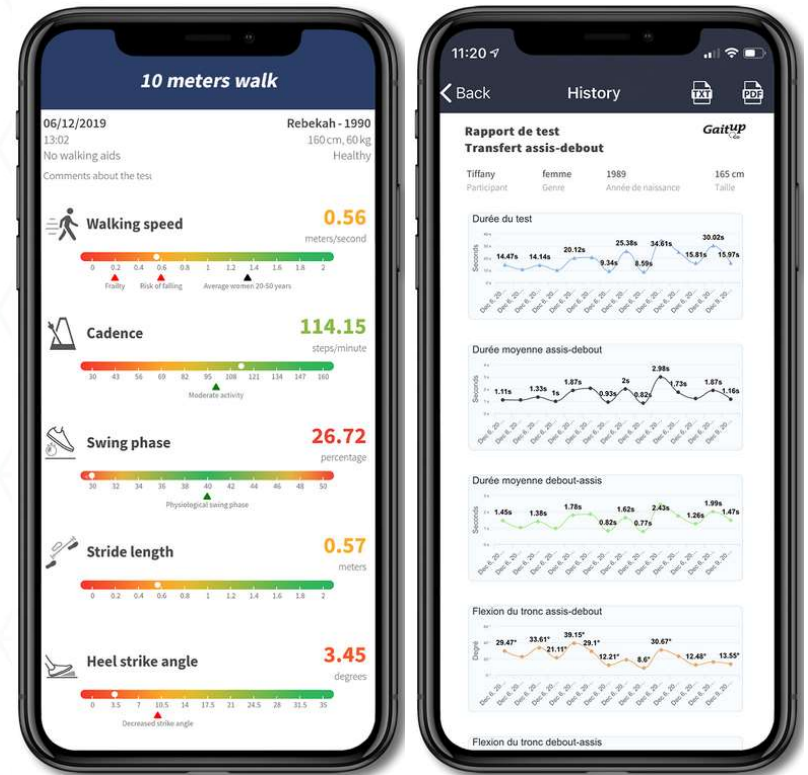
- Issue: track patient outside of the clinic



Patient

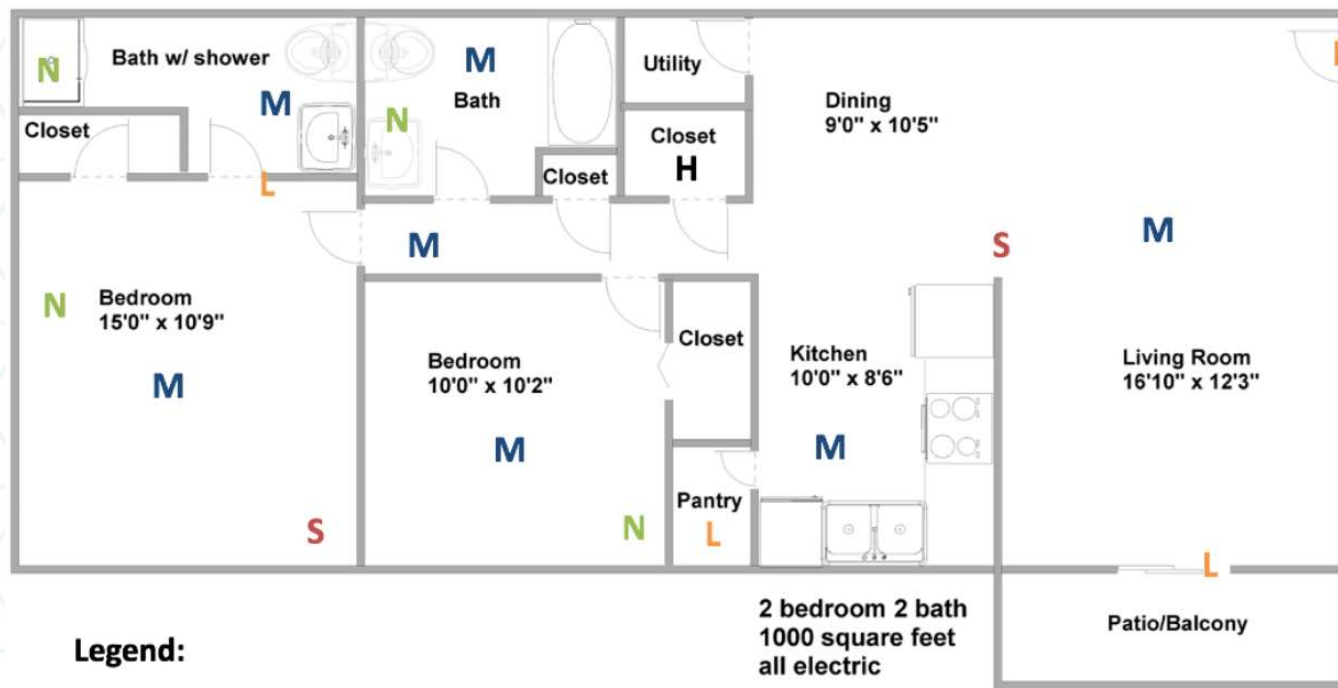


Therapist



# Going beyond: home monitoring

## SAMPLE HARDWARE LAYOUT



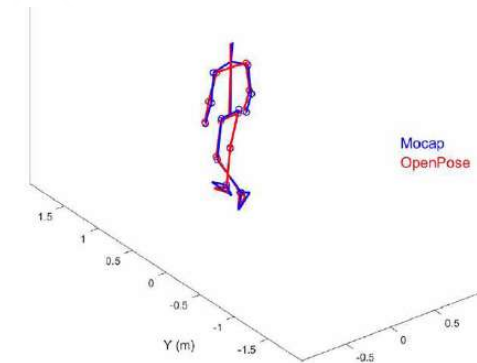
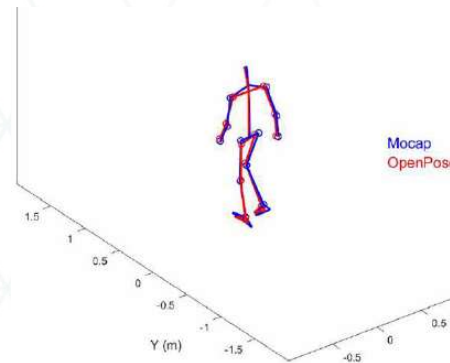
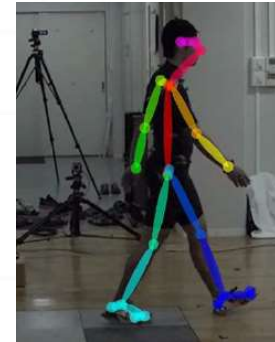
### Legend:

H Hub   L Latch Sensor   S Speakers  
M Motion Sensor   N Night Light

- Issue: enable safe independence
- 24/7 monitoring
- Can communicate with user
- AI learns habits and patterns
- Automated alerts

# Going beyond: image-based measures

- ◆ Issue: precise measurements with ease and low cost

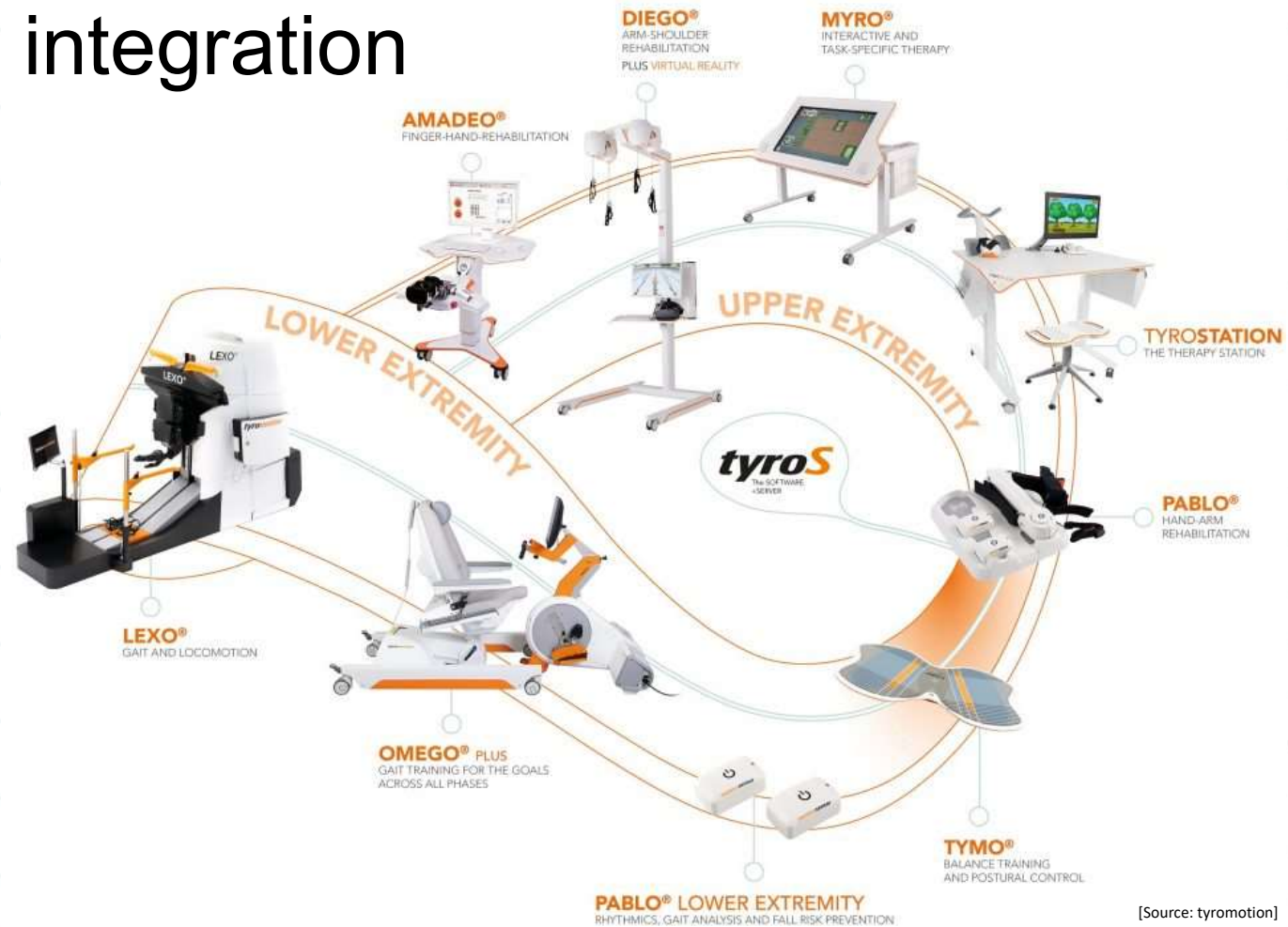


[Nakano et al., Front Sports Active Living, 2020]



# Going beyond: integration

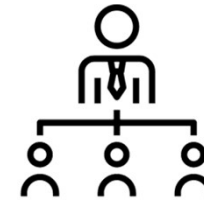
- ◆ Issue: accessing information from multiple devices in a single system



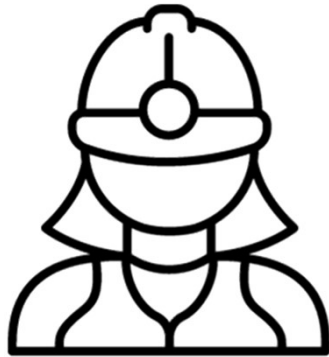
[Source: tyromotion]



# How?



What do you want?



What can you do?



## Don't waste a crisis!

- Technologies are tools
- Exploit technology's strengths
- Reimagine rehabilitation
- Cross-disciplinary co-creation to revolutionize



# Thank you!



Metro South Health

