

Abstract

In frail elderly, delivery of primary health care increases prior to an acute admission. Health register data is used to develop a software sentinel algorithm that can identify persons-at-risk, which subsequently are offered an in-home assessment by a trained acute community nurse using POCT and eHealth – The GERI-Briefcase.

Sentinel algorithm and how to prevent acute admission of older people

Karen Andersen-Ranberg

Professor, MD, PhD

Dept. of Geriatrics, OUH

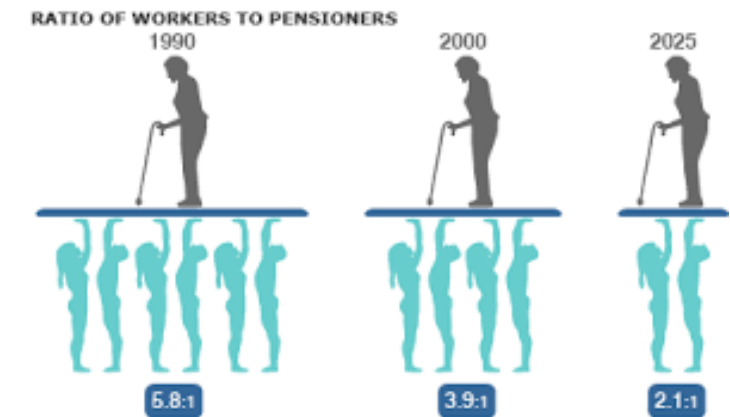
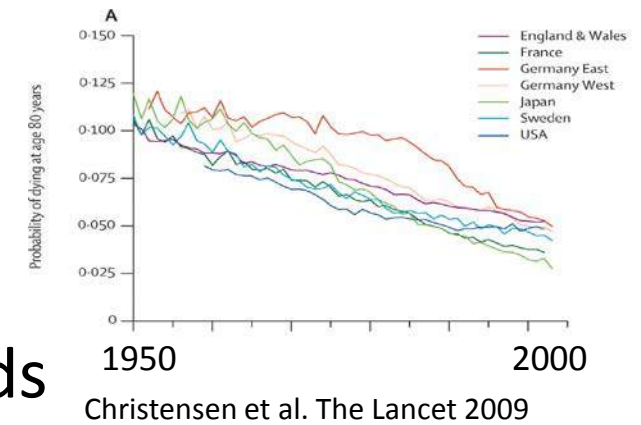
Dept. of Clinical Research, SDU



patient@home

What we know

- Mortality rates have decreased, also among 80+ year olds
→ We live longer than our parents' generation
- The large post WW2 generations (Baby Boomers) are reaching the old age segment
- Fertility rates have decreased
→ increased dependency ratio

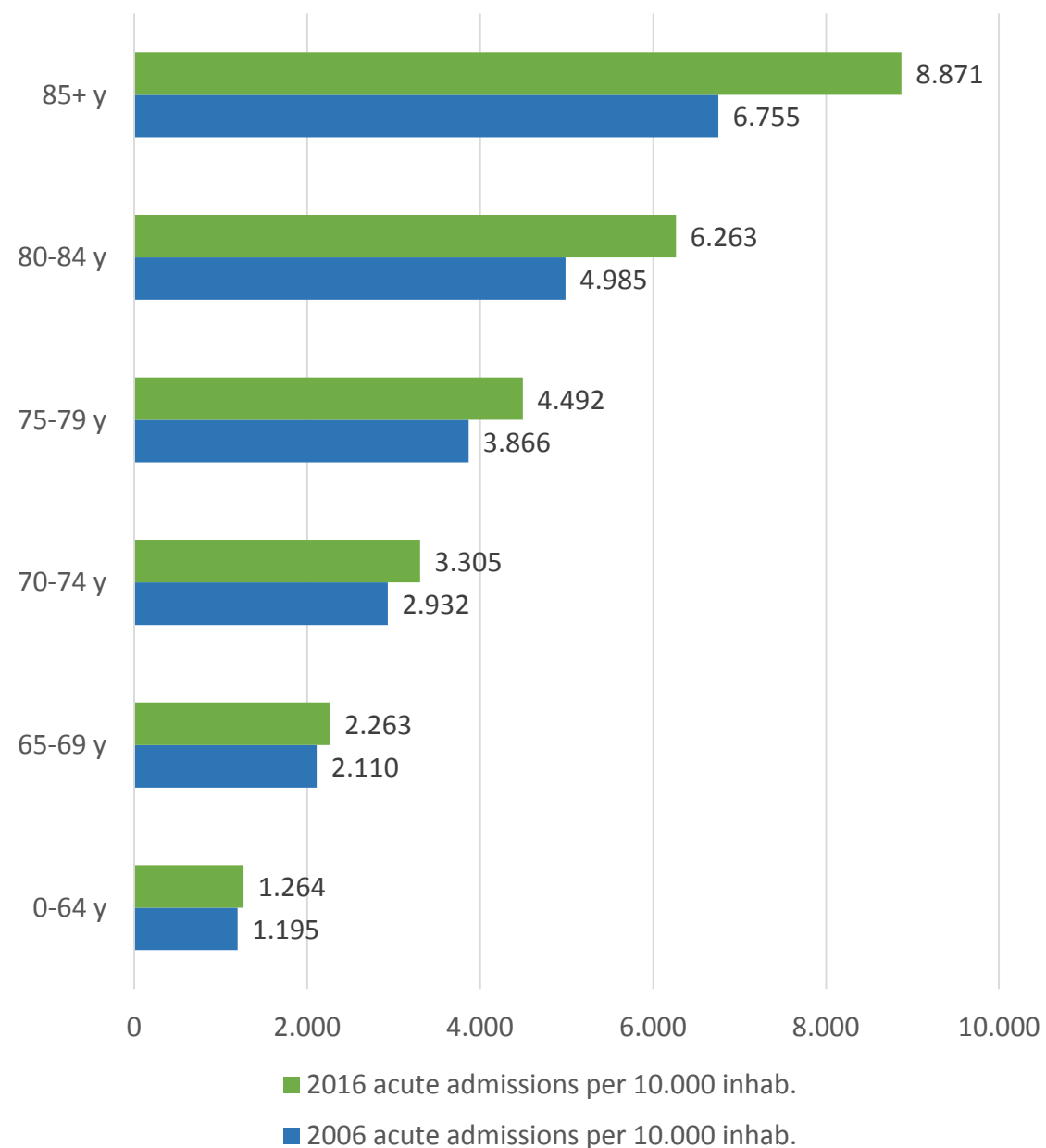


Number of acute admissions 2006-2016

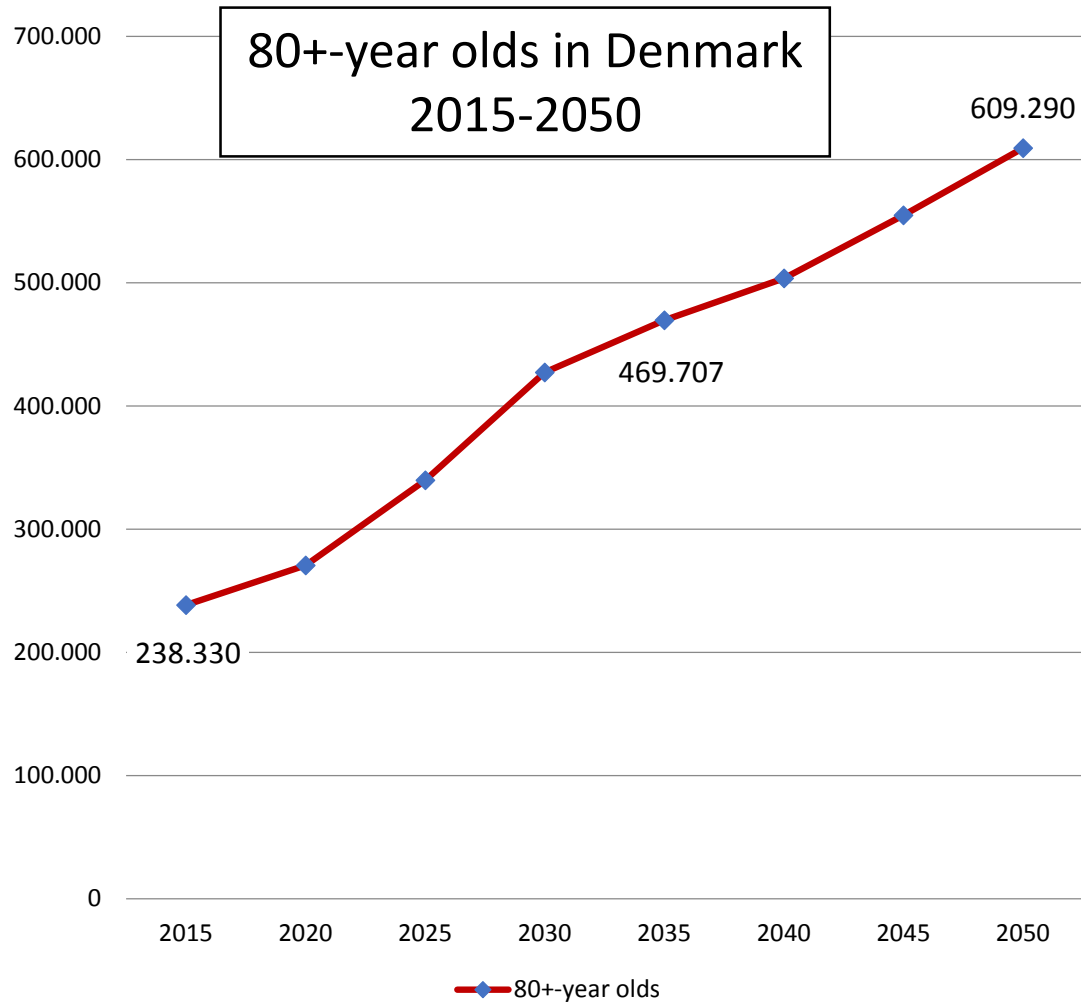
Including readmissions

- **More older people surviving with their diseases?**
- **Increased number of readmissions?**

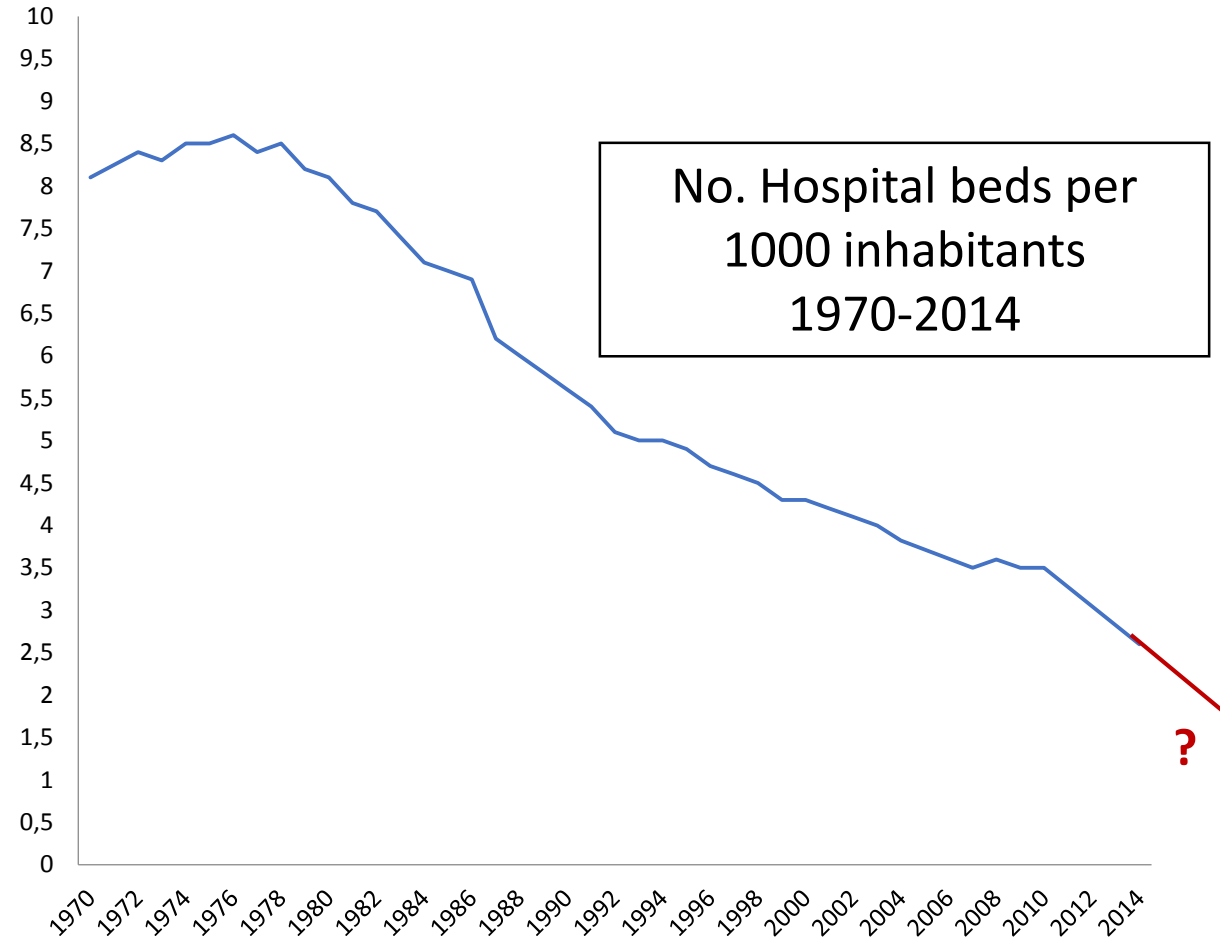
Number of acute (re-)admissions per 10.000 inhabitants



Mismatch?



Source : Statistics Denmark (2014)



Source: WHO 2014

Hospital beds to be reduced by 22% in 2021

- compensated by increased out-patient activity + eHealth



How can we reduce?

By reducing the need for hospital beds

Earlier
identification



Earlier discharge



Hospital at home



Two suggestions for early identification

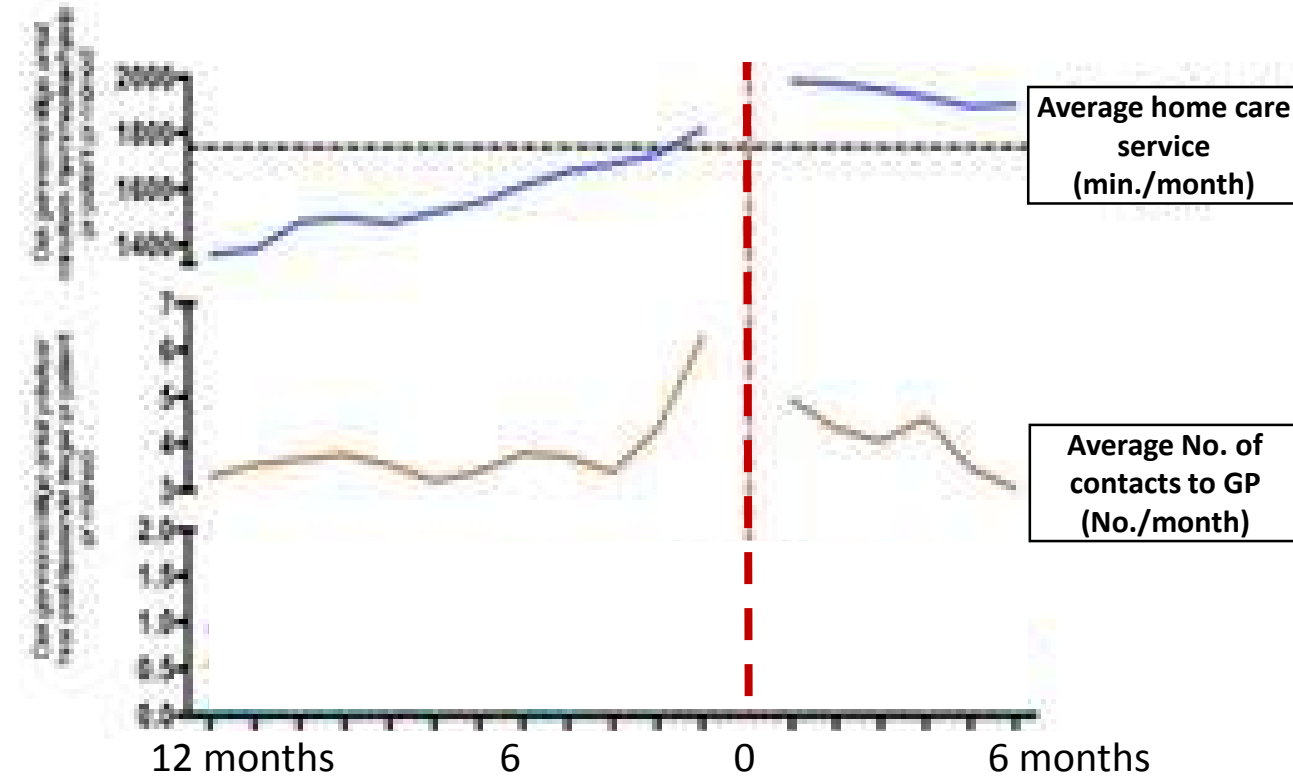
- **Using Big Data**
- Earlier diagnosing and intervention

Increase in health care use prior to acute admission

33 % increase in community care in the previous 12 months

79 % increase in GP contacts in the previous 3 months

Acute short-term (48h) hospital admission (70+ y)
(N=157)



Fournaise et al. Eur Ger Med 2017

Ongoing project

- Creating a sentinel algorithm to flag citizens at risk of acute admission
 - Marjan Mansouvar MMMI (SDU) and Anders Fournaise (RSyd)
- Testing and validating algorithm
- Intervention project (GERI-Briefcase)

Two suggestions for early identification

- Using Big Data
- **Earlier diagnosing and intervention**

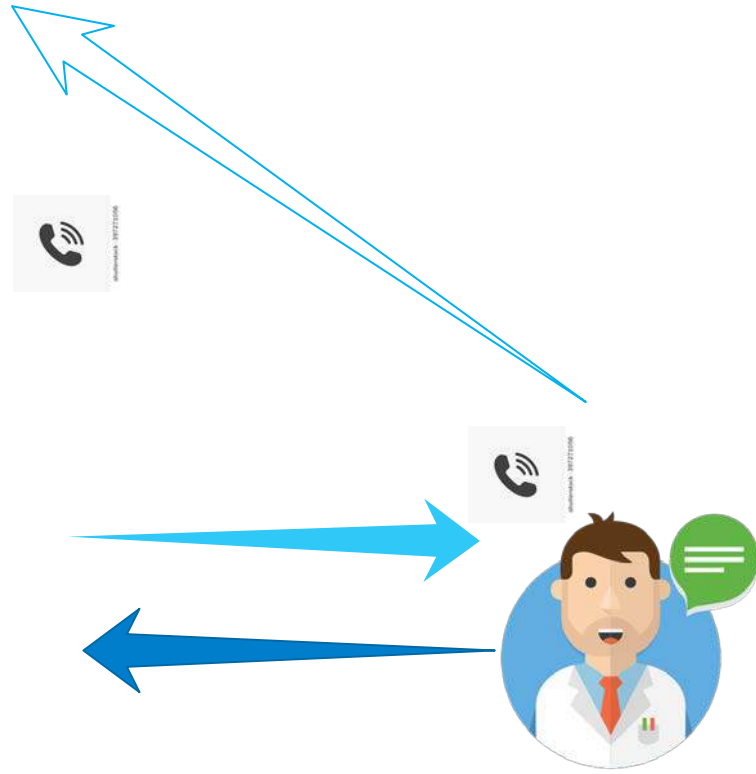
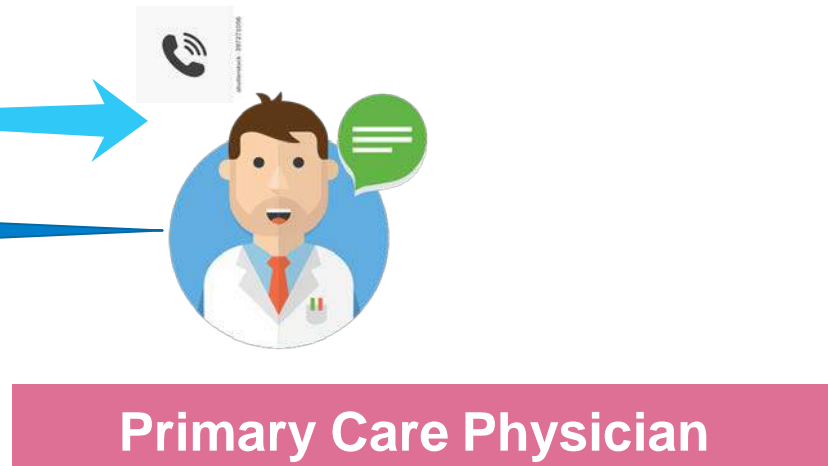
Why not use the community nurses as "Frontline Officers"?



- They are already out there.....
- ...working closely with home carers
- Can be trained to
 - Use Point-Of-Care Testing equipment (POCT)
 - In-home objective clinical health assessments
- Communicates digitally with GPs



When an old person gets ill: The usual pathway





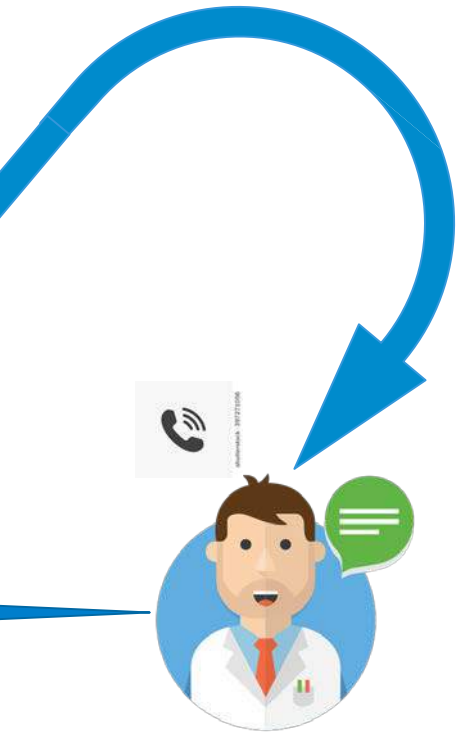
The GERI-briefcase



Generic Telemedicine Platform (GTP)



Home Care



Primary Care Physician

Reducing the need for hospital beds

Earlier identification

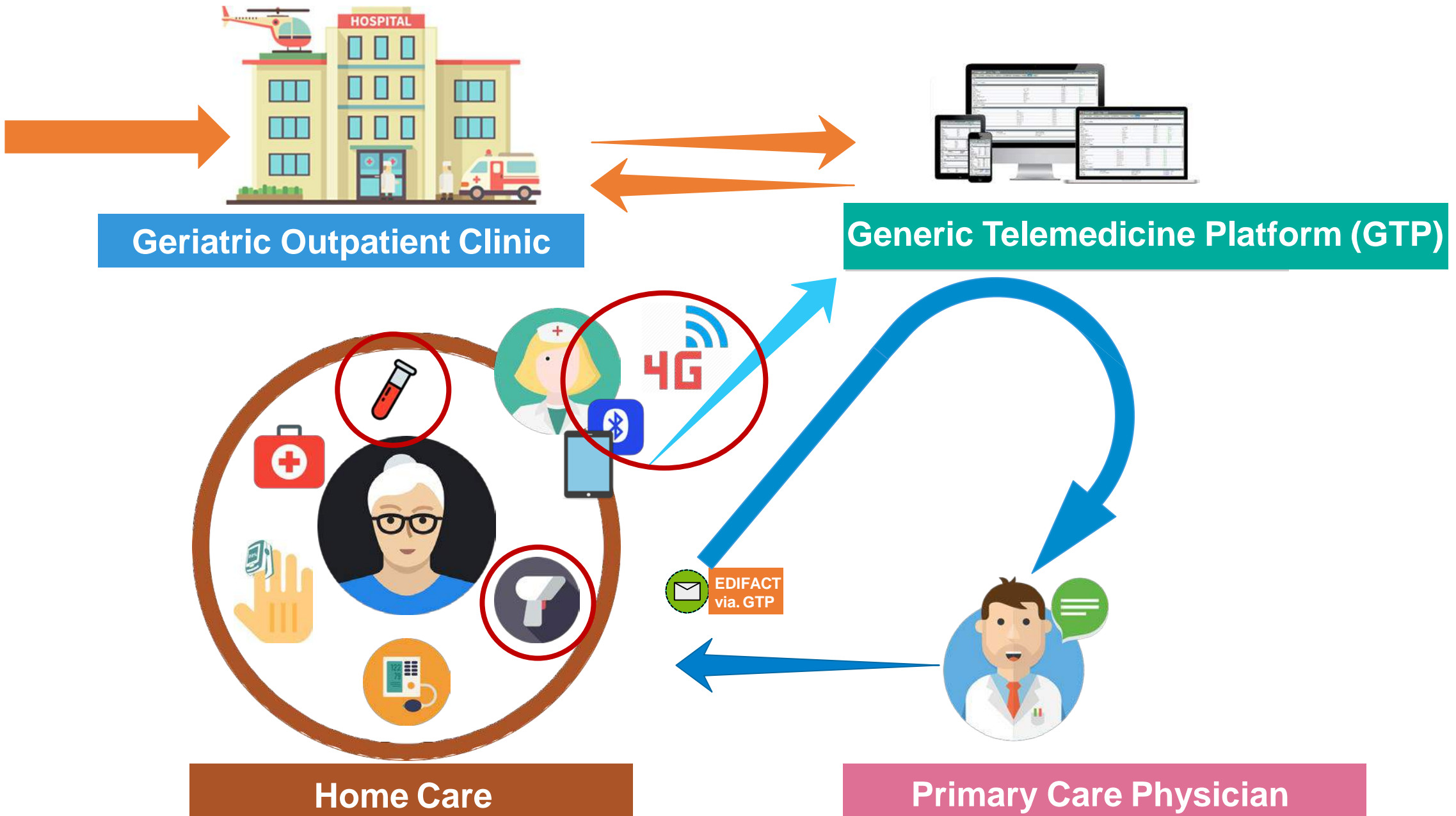


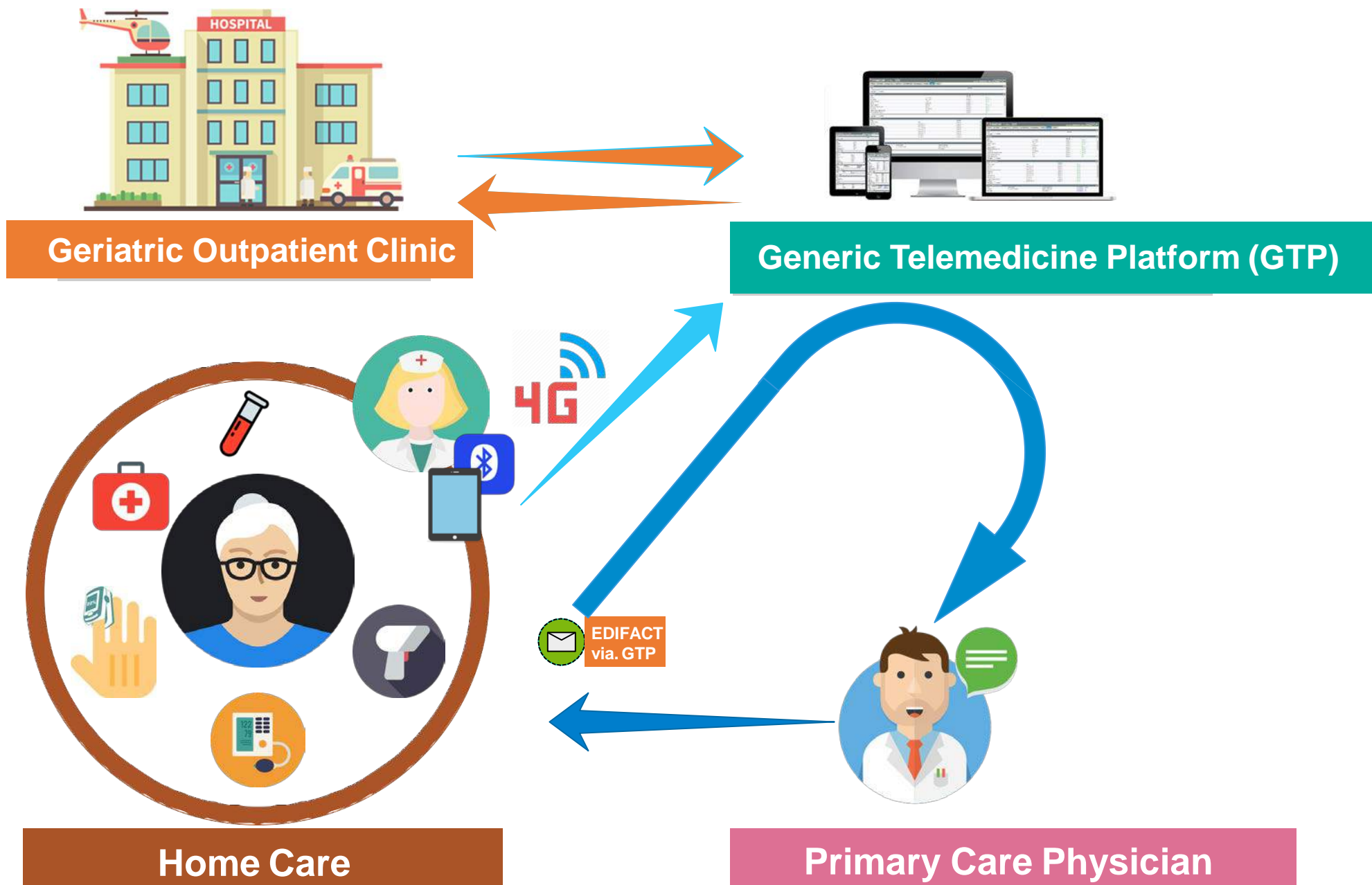
Geriatric outpatient clinic consultation



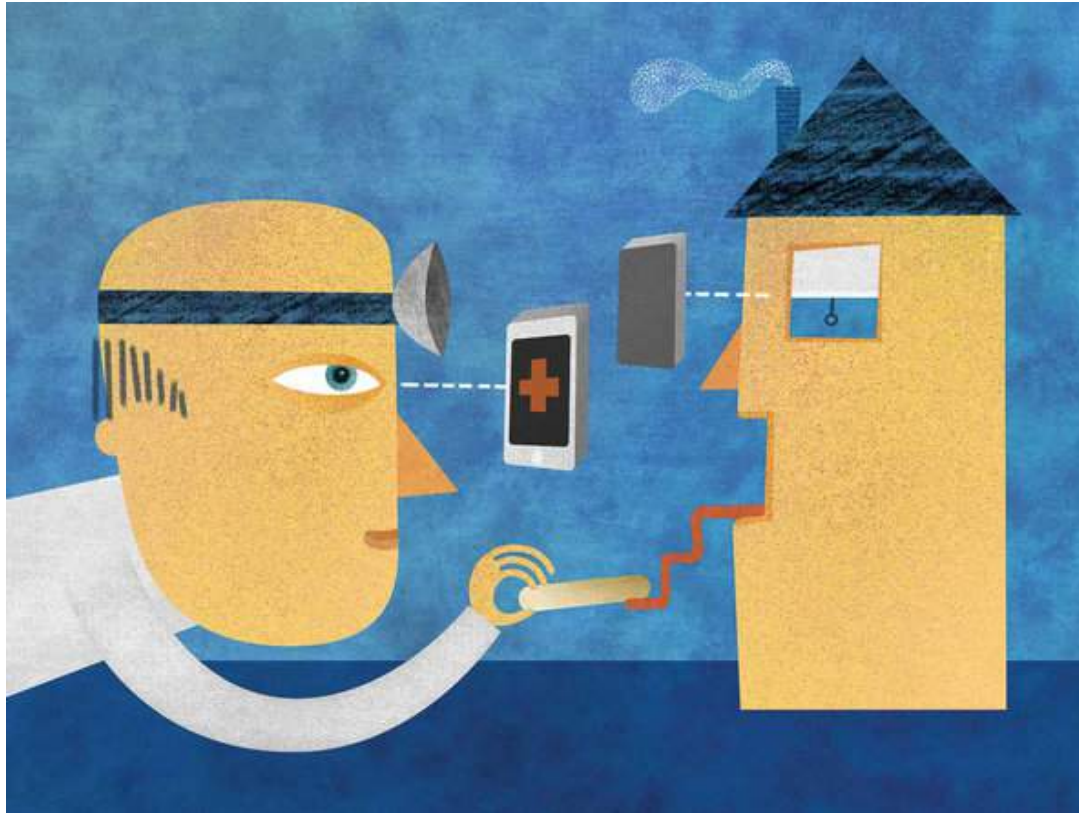
Hospital at home







Future work



WISH LIST

- Enhancement of digital logistics
- Real-time video consultation
- Cardio-pulmonary assessment by POCT
- Technology for assessing (de-)hydration
- Develop biochemical analyses for POCT
- POCT + Bluetooth (automatic upload)

Thank you