

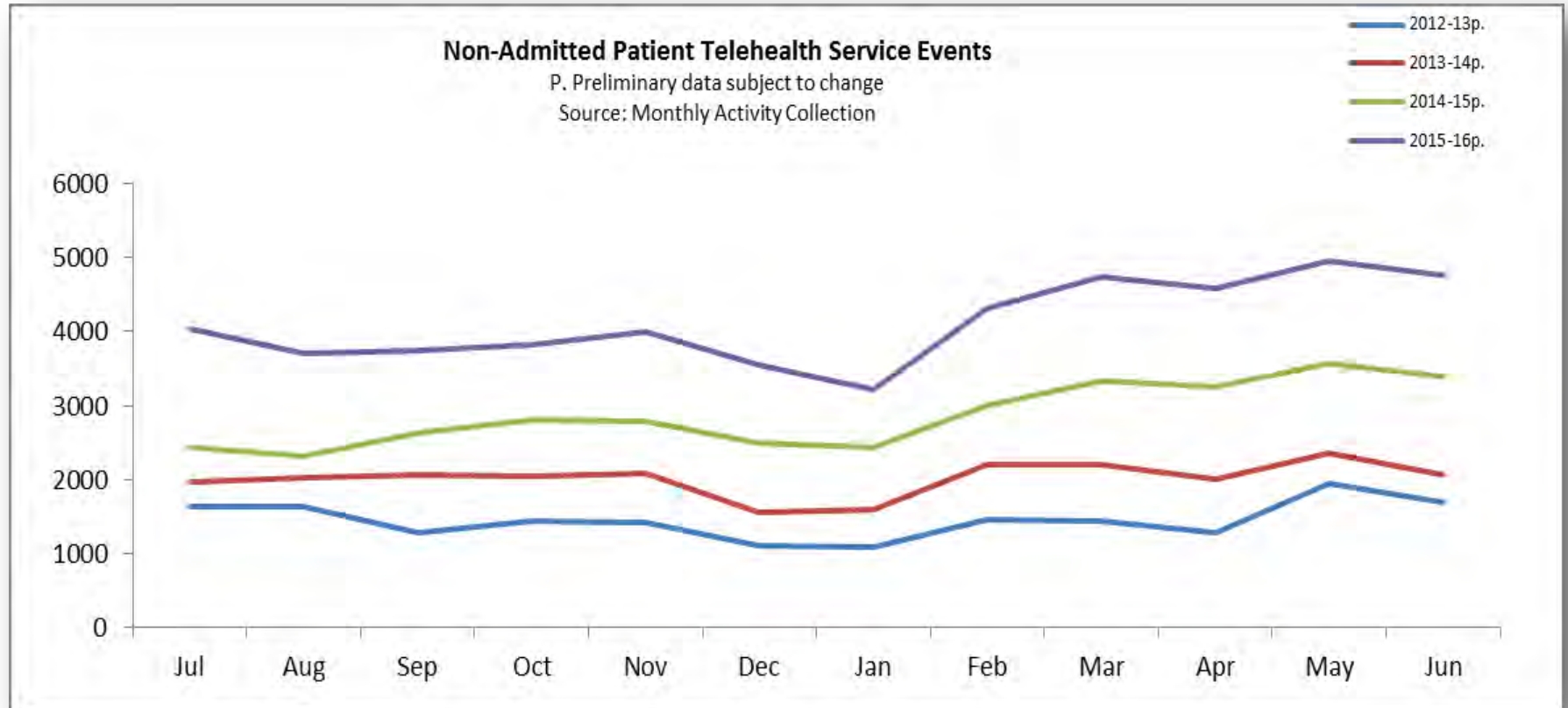
TELEHEALTH: FANCY VIDEO-CONFERENCING OR SOMETHING BIGGER?

Len Gray

Centre for Research Excellence in Telehealth



Telehealth activity is accelerating in Qld...



Dalby, Queensland



Population 15,000
Hospital (24 beds)
Aged care facility (80 beds)
General practices (2)

DALBY GENERAL HOSPITAL

AMBULANCE ENTRY

Acute Ward

Keep Clear
at all Times
Ambulance
Only





Nursing Home





MYALL
MEDICAL
PRACTICE
0862 2440



Queensland's Public Hospitals

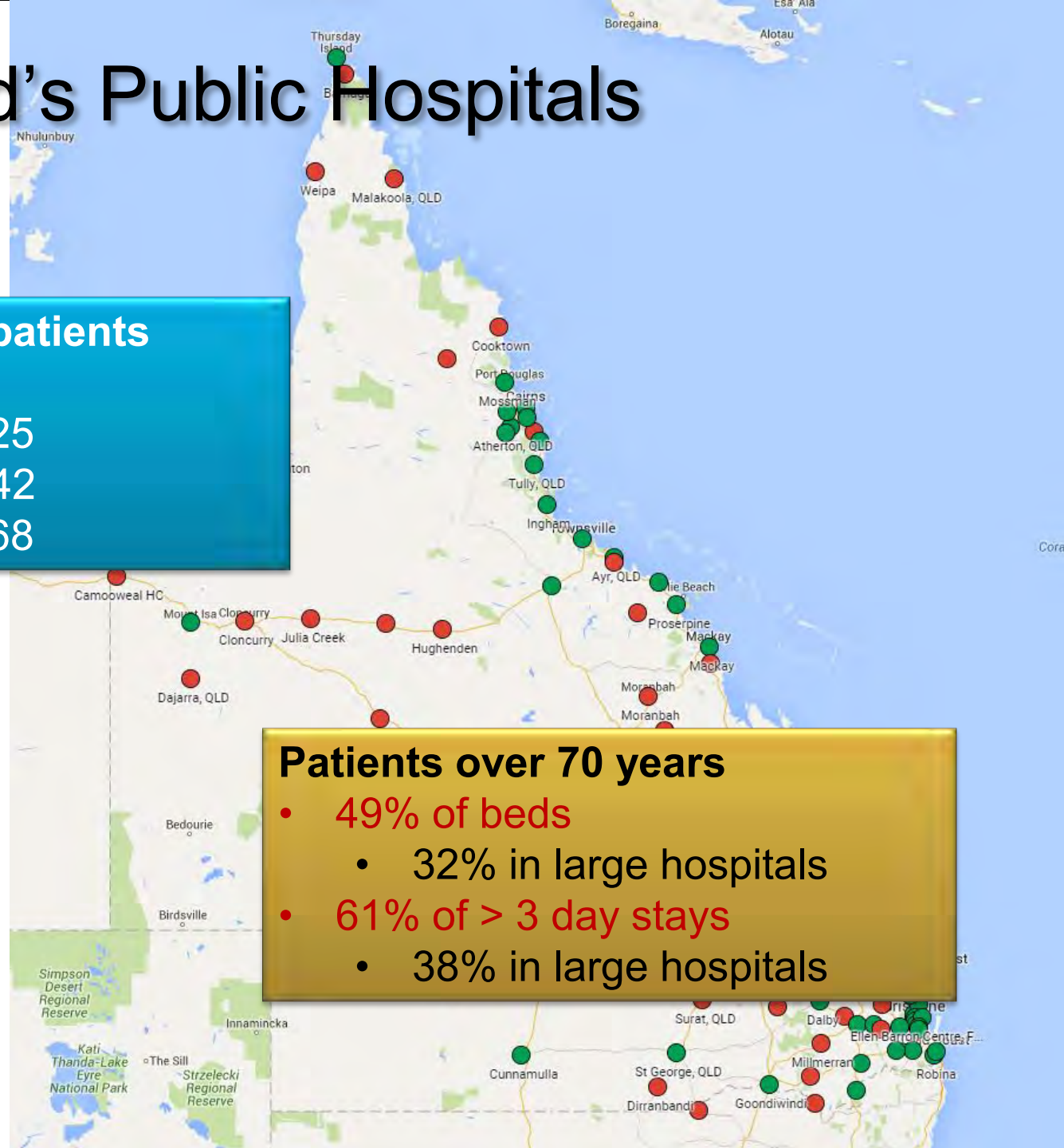
Facilities with inpatients

(n=135)

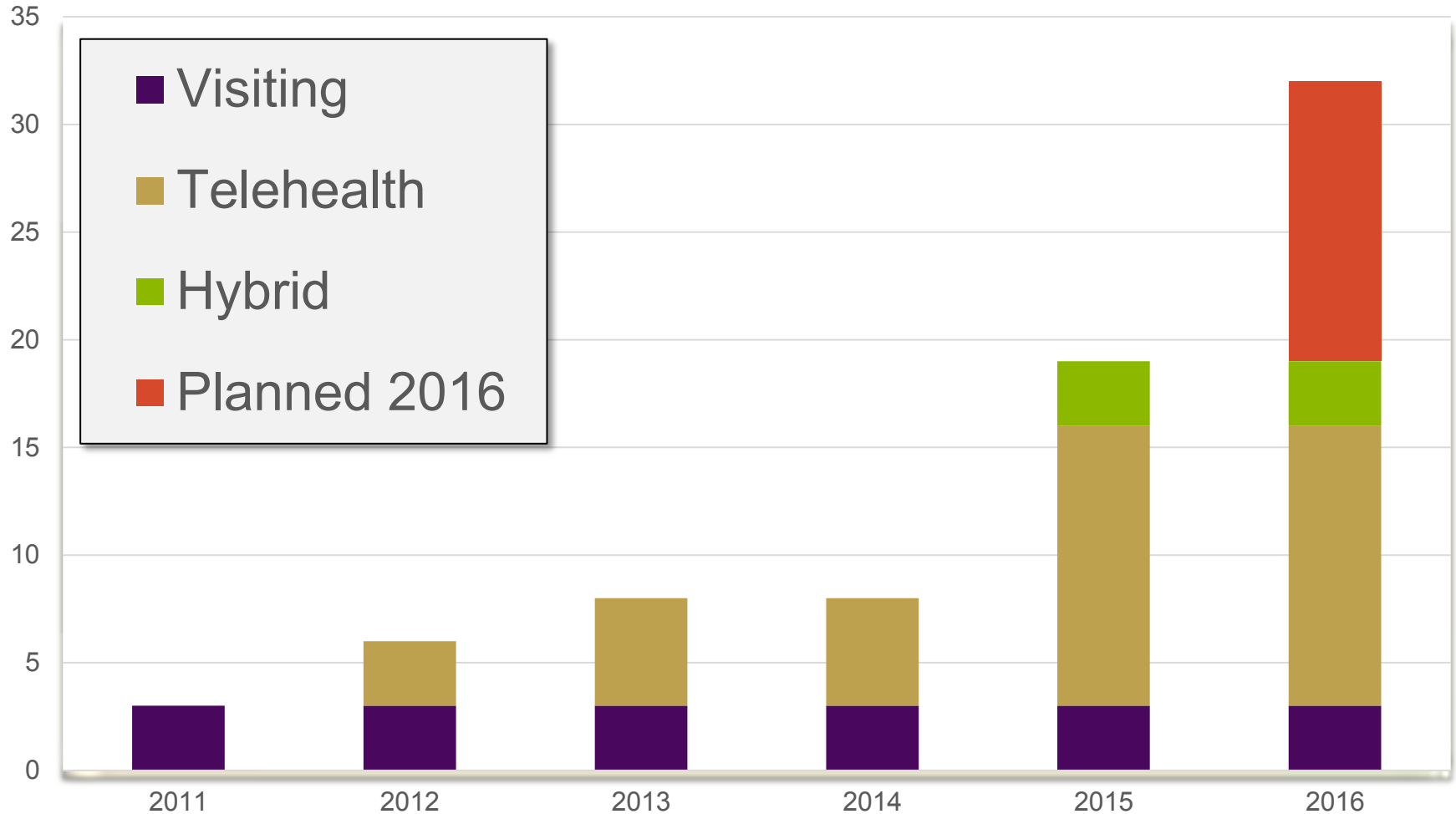
- > 100 beds – 25
- 10-99 beds – 42
- < 10 beds – 68

Patients over 70 years

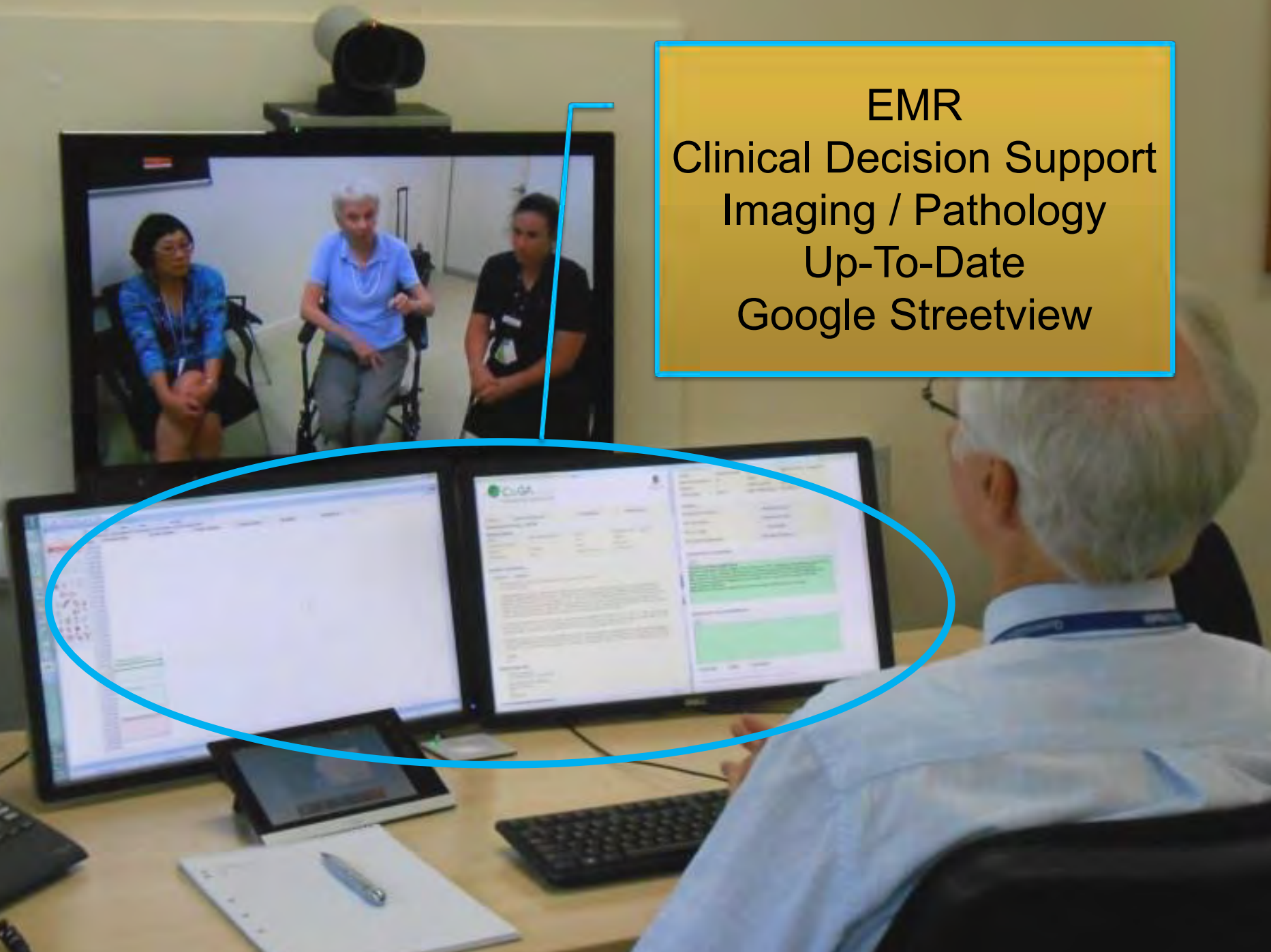
- 49% of beds
 - 32% in large hospitals
- 61% of > 3 day stays
 - 38% in large hospitals



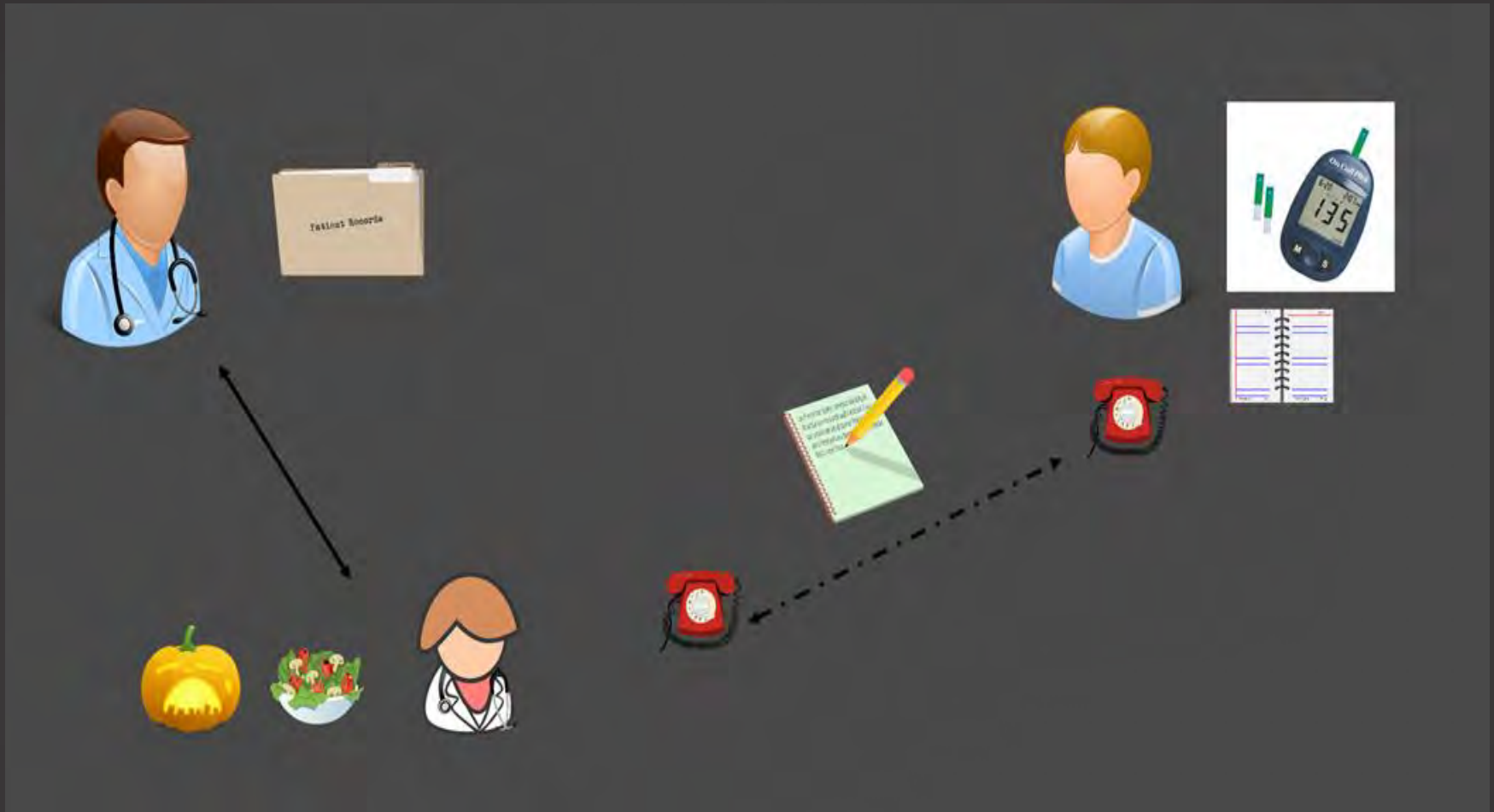
Geriatric Services in Small Rural Hospitals



EMR
Clinical Decision Support
Imaging / Pathology
Up-To-Date
Google Streetview

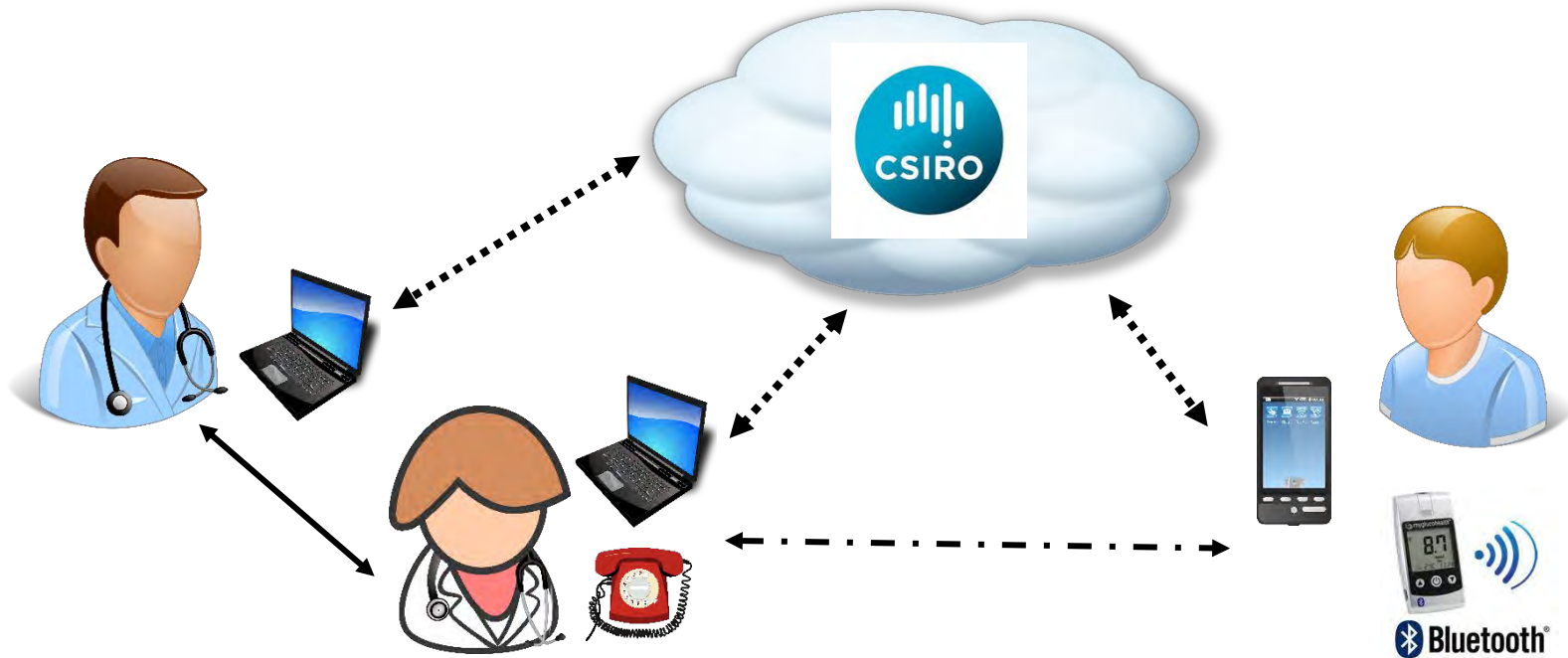








Mobile-based REMOTE Monitoring system



Clinician Dashboard

MoTER - Insulin Stabilization

Home



Mr Dean Jones

Summary

Insulin and BGL

Meats

Graphs

Discharge

Settings

Weekly Insulin and Blood Glucose

Latest Prescription

Day	Time	Insulin Prescribed	Units Prescribed				Discussed
			Before Breakfast	Before Lunch	Before Dinner	Before Bed	
Thu 30 Apr	11:32	NovoRapid FlexPen Lantus	10 20	10	10		Discuss with patient
30 Apr 15, 11:32 Dr Farhad Fatehi: This is the existing prescription at time of registration with ISS.							

Prev Today Next

Insulin and Blood Glucose

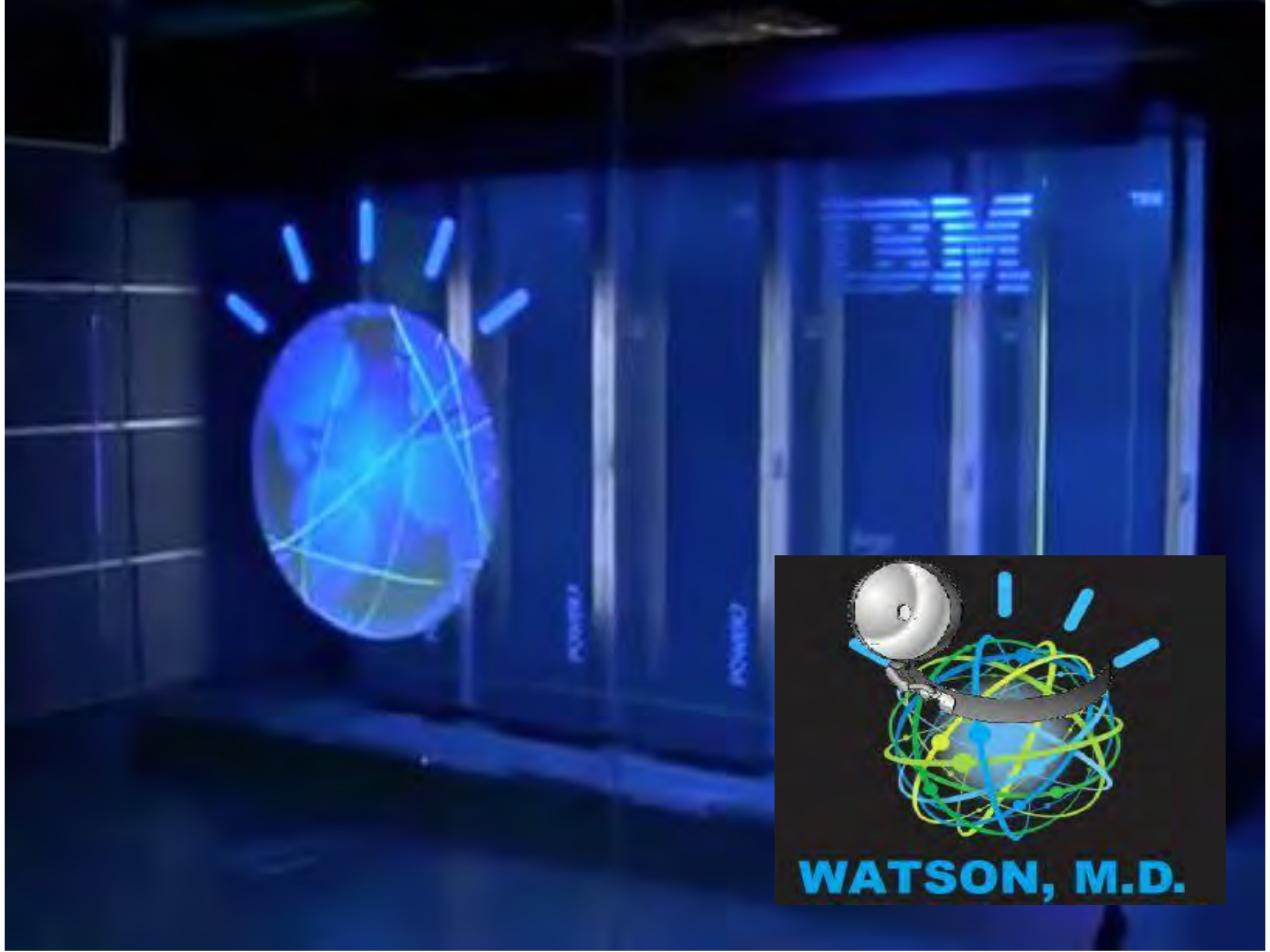
Day	Type of Insulin	Insulin Injections				Monitoring Blood Glucose							
		Units given				Breakfast		Lunch		Dinner		Before Supper or Bed	Over night
		Breakfast	Lunch	Dinner	Before Bed	Before	After	Before	After	Before	After		
Mon 27 Apr													
Tue 28 Apr													
Wed 29 Apr													
Thu 30 Apr	NovoRapid FlexPen		10.0					1.3 11:44	9.0 11:52		2.0 10:12		
Notes: 11:44: busy active morning. 11:52: Feeling unwell.													
Fri 1 May	NovoRapid FlexPen		5.0						4.8 12:10				
Notes: 12:10: gave less insulin as forgot to take it.													
Sat 2 May	Lantus				20.0			1.8 12:02	1.9 14:10			2.1 22:33	
	NovoRapid FlexPen		10.0										
Extra BGL: 12:06: 8.9 AL													
Extra Insulin: NovoRapid FlexPen: 12:02: 10.0 BL													
Sun 3 May									5.3 16:07		2.0 22:07		

Management History

Day	Time	Insulin Prescribed	Discussed
		Units Prescribed	

Changing the interaction

- Reviews conducted online by DNE / Endocrinologist
- Patient interaction determined by desktop review
 - Text / email message to patient and GP
 - Telephone consultation
 - Video-consultation
 - Clinic visit



WATSON, M.D.



CGA FOR TELEHEALTH

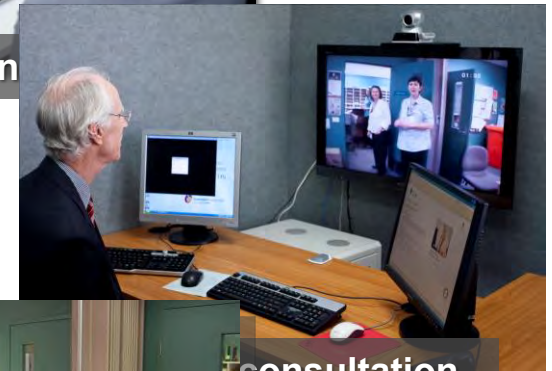
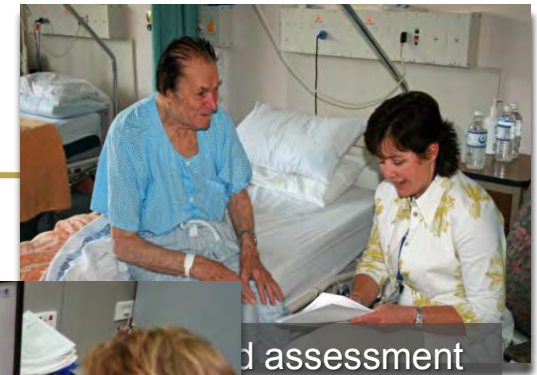
Nurse assessor finds cases

Structured assessment

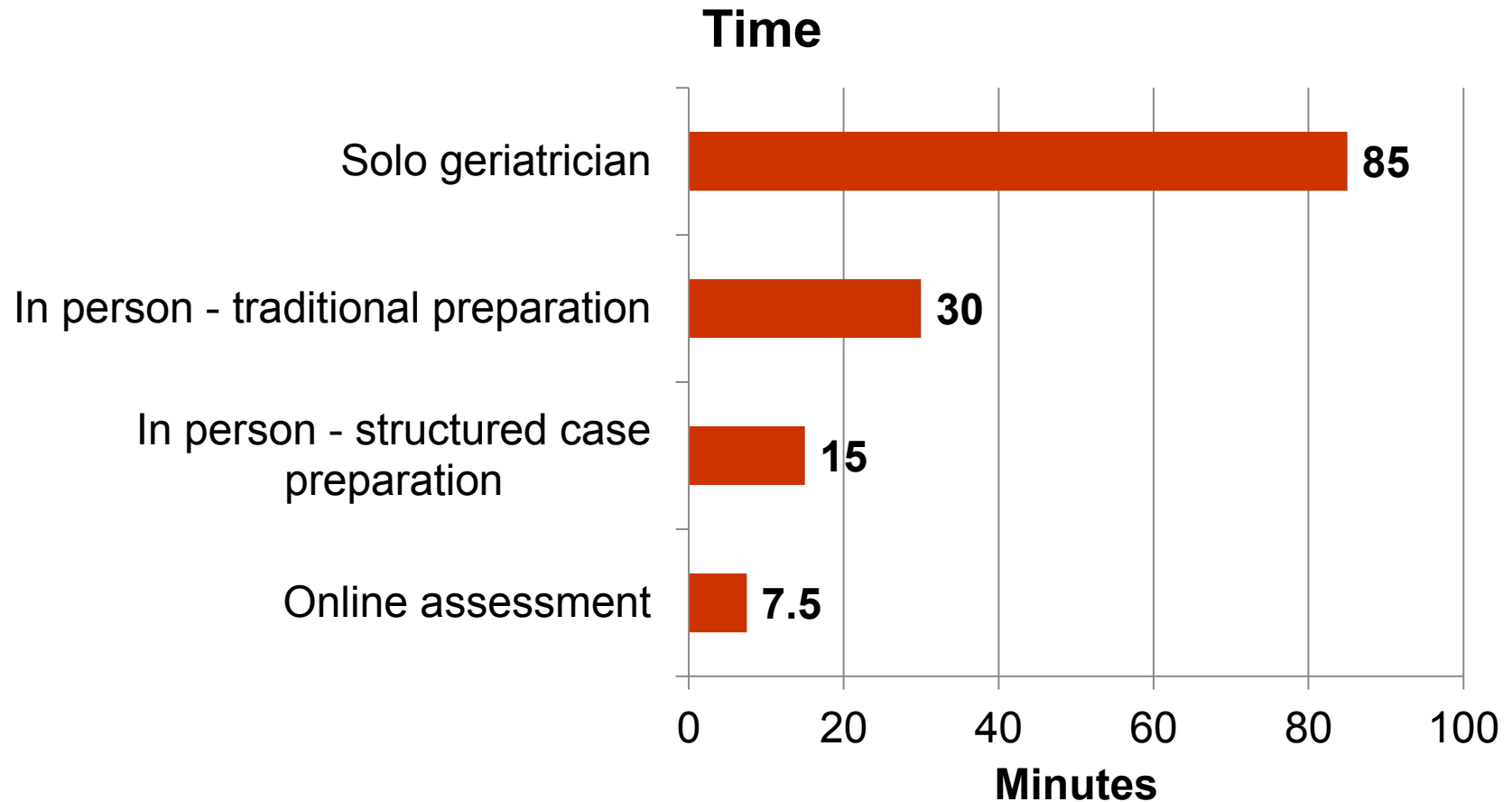
Geriatrician reviews case "online"

Case review by video-conference

Case conference



GERIATRICIAN CONSULTATION TIME



RELIABILITY OF ONLINE ASSESSMENTS

Live-live vs live-online inter-rater reliability

- Diagnoses: dementia, delirium, depression
 - **NO DIFFERENCE**
- Recommendation for long term care & rehabilitation
 - **NO DIFFERENCE**
- Predicted discharge disposition & location at 3 months
 - **NO DIFFERENCE**

New technology changing the dynamics of healthcare

In person consultation

Video-consultation

Online consultation

Mobile health

Autonomous consultation

Provider controlled



Consumer controlled



Humans Need Not Apply



Eric Topol

Author of *The Creative Destruction of Medicine*

THE PATIENT WILL SEE YOU NOW

The FUTURE of MEDICINE
is in YOUR HANDS

"Everyone concerned with the future of
work must read this book"
Professor Lord Robert Skidelsky

THE RISE OF THE ROBOTS

Technology and the Threat of
Mass Unemployment

MARTIN FORD



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA