Adult Learning Styles

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Goals and Objectives

Applying adult learning principles for effective teaching.

- Specify learning strategies (needs, motivators, roadblocks) and learning domains
- Identify learning theories that explain learner motivation and success

Problems with Non-compliance with Critical Practices

- Appropriate hand hygiene
- Reprocessing endoscopes
- Following isolation precautions
- Wearing appropriate PPE
- Using aseptic practices
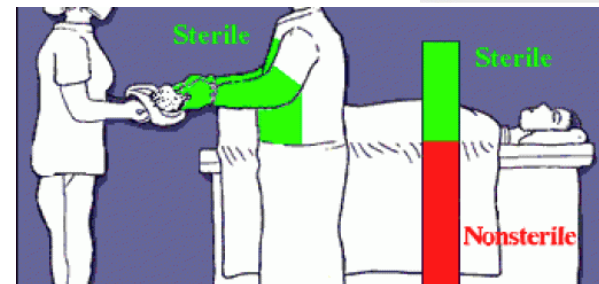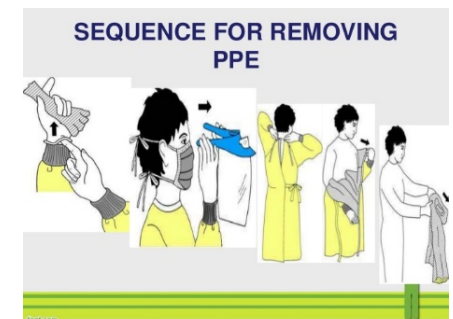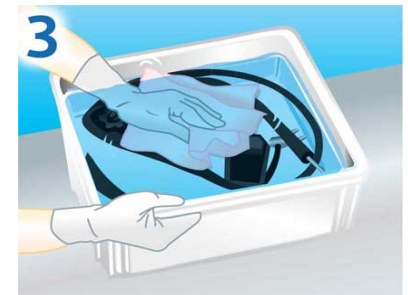
"Learning is a way to transform knowledge, insights, and skills into behavior.

The learning environment in healthcare settings is unique because of the diversity of the healthcare personnel."

APIC Text of Infection Control and Epidemiology 4th Edition

Infection Prevention & Control Audience:

- Patients/Family
- Housekeeping
- Dietary
- Nursing Assistants
- LPNs
- Nurses
- Special Technicians (Radiology, Laboratory)
- Resident/House staff
- Physicians

Adult Learner's Needs

– Acceptance
– Respect
– Support
– Spirit of mutuality
– Freedom of expression
– Known by name
– Valued as unique
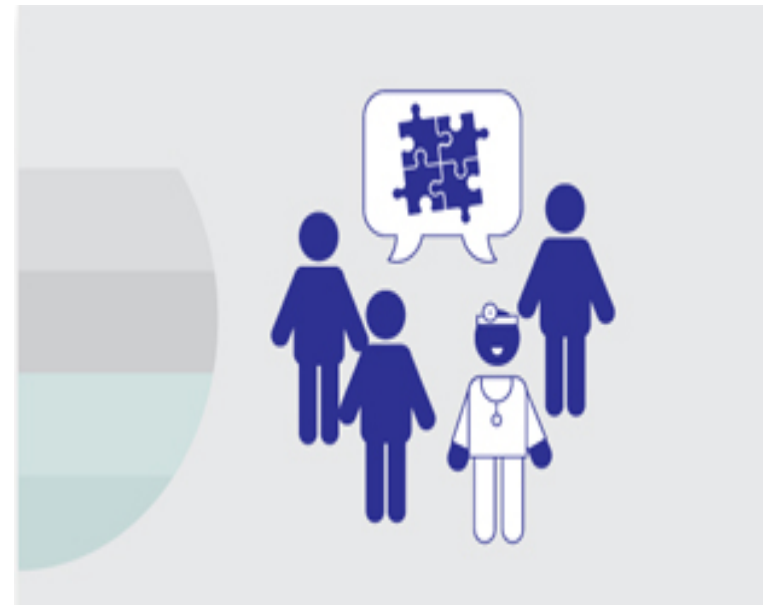
Adult Learner's Motivators

Self concept

- How they see themselves
- How do they want others to see them
- How do they want to be treated

Motivation

- Internal incentives
- Curiosity
- External motivators

Roadblocks to Learning

- Education/training does not always predict improved behavior

- Learners become rapidly bored

- Adults are afraid of embarrassment

- Fear of failure

Learning Styles

- Left brain dominant - technical, rules, regulations

- Right brain dominant - intuitive, artistic, global thinker
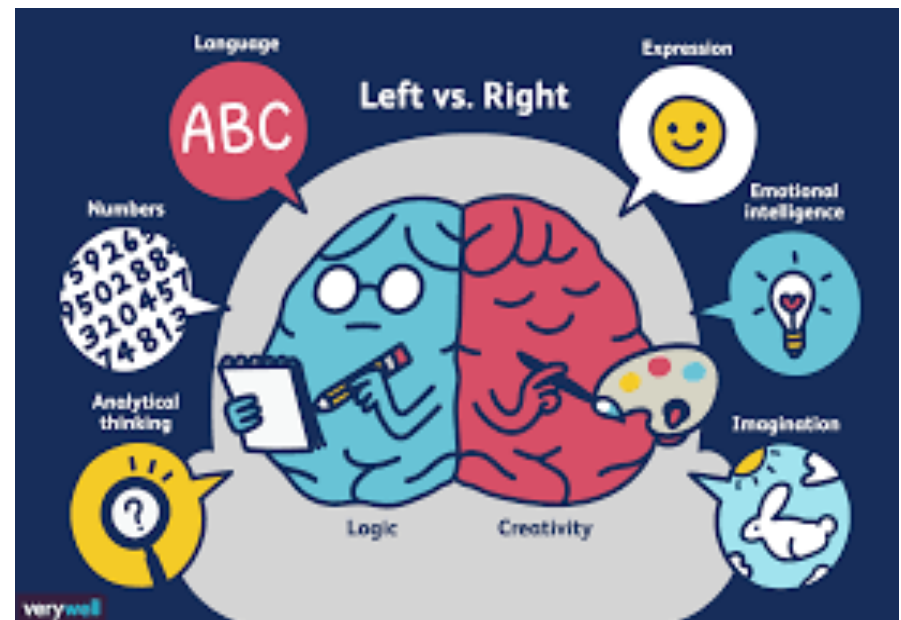
Learning Process

- Transforming new knowledge, skills, and values into behavior

- Directed toward goals

- Involves conflict and resistance to giving up comfortable ways of doing things

- Decision to change is necessary before learning can occur.

Learning Domains

– Cognitive -recall, intellectual, application
– Affective - ideas, feelings, desire to learn
– Psychomotor - learning new skills or new way of acting or doing

BLOOM'S TAXONOMY

COGNITIVE + AFFECTIVE + PSYCHOMOTOR
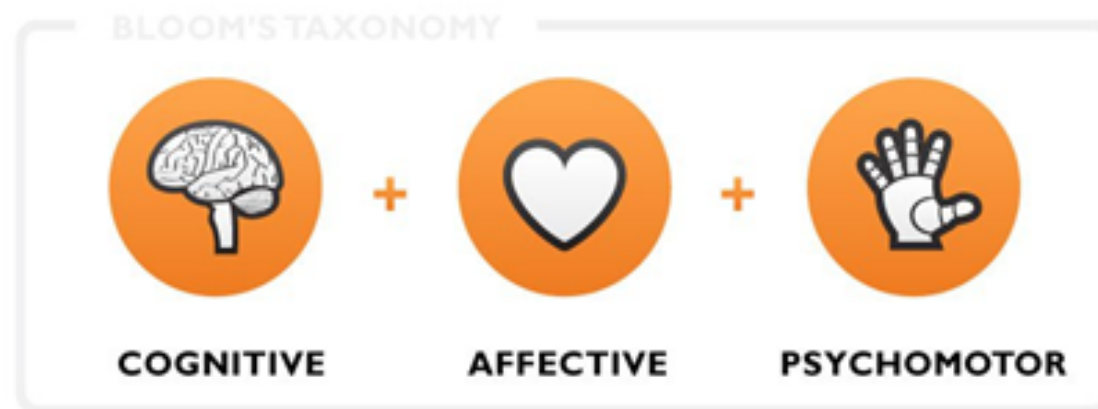
Cognitive Learning Domain

- Definition: Recall or recognition of knowledge involving the acquisition of new insights, new ways of thinking, problem-solving, and the development of intellectual abilities.
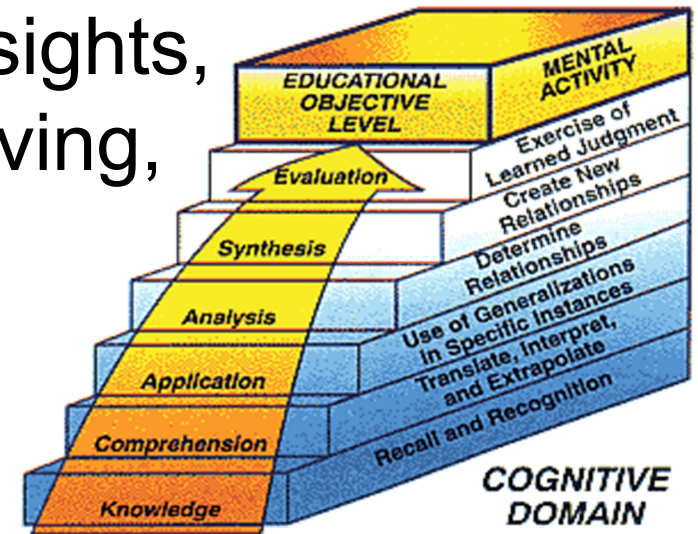
Figure 1-4. Dr. Bloom's hierarchical taxonomy for the cognitive domain (knowledge) includes six educational objective levels.

- Examples:

  1. Recognizes the PPE to be worn in caring for patient on Contact Precautions.

  2. Evaluates OR policies for traffic control.

Affective Learning Domain

- Definition: Learning new attitudes, values, beliefs, and way of being.
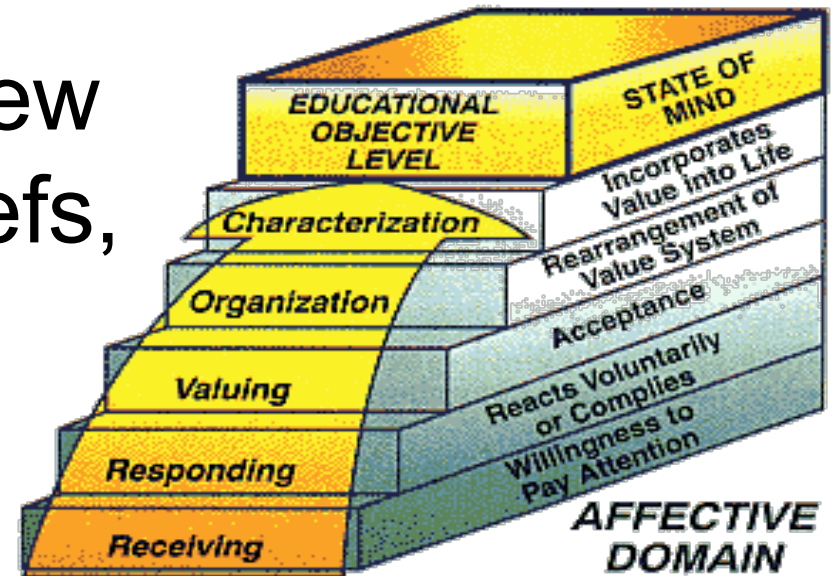
Figure 1-5. D. R. Krathwohl's hierarchical taxonomy for the affective domain (attitudes, beliefs, and values) contains five educational objective levels.

- Examples:
1. Student accepts constructive criticism easily.
2. Student is motivated to learn new material

Psychomotor Learning Domain

- *Definition: Learning new skills or new ways of acting or doing.*
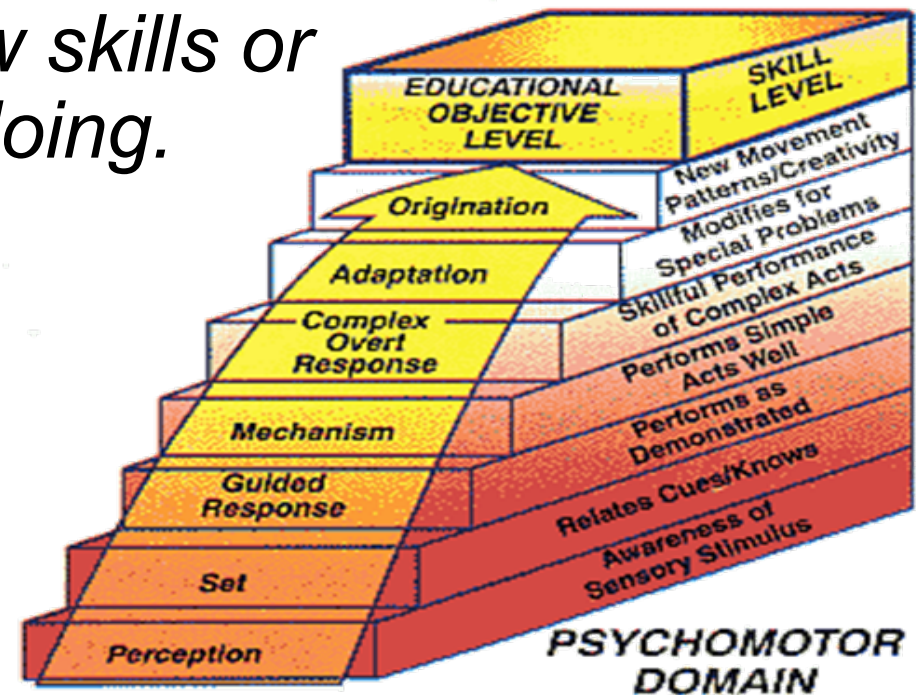
- Example: Demonstrating the appropriate techniques used to suction a tracheostomy.
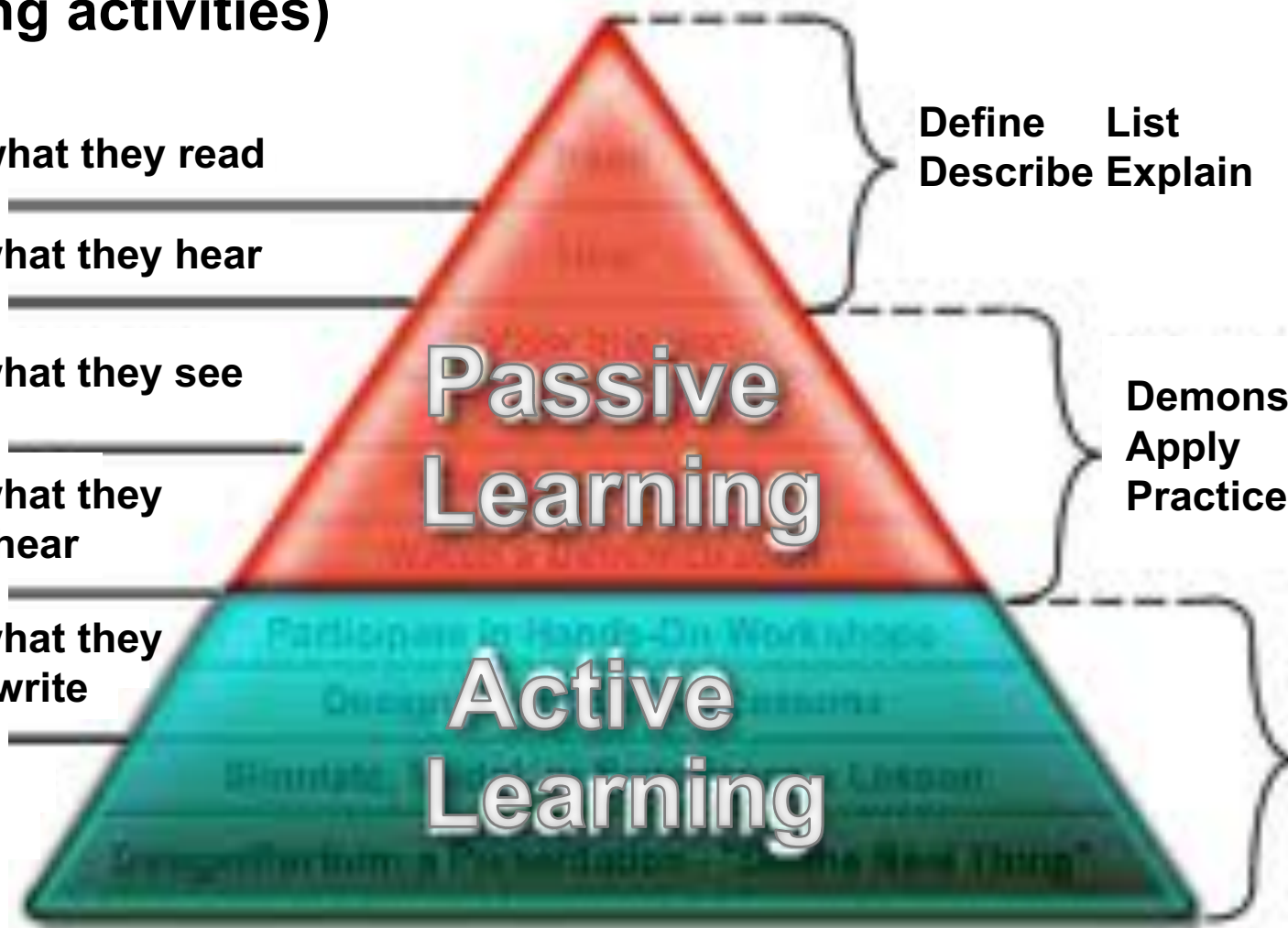
Historical Learning Theories

Learning theory common elements- learning produces a relatively permanent behavior change and is an internal process that varies from person to person.

- **Psychoanalytic**-control urges (Freud)
- **Behavioralist**–reward-motivation-conditioning-productivity (Pavlov, Skinner)
- **Humanist:** hierarchy of needs to achieve highest level of self actualization (Maslow)
- **Cognitive**: affiliation, power (Piaget)

Alternative Learning Theories

- Andragogy vs. pedagogy-adult/child
- Constructivism
- Social Psychology Theory "Social Power"
- Shared consciousness

Knowles Theory of Andragogy

Andragogy vs. pedagogy-adult/child (Knowles)

Characteristics of Adult Learners:

1) Motivated by job needs
2) Accumulated life experiences
3) Prefers practical information
4) Immediate application
5) Problem solving orientation to learning

Constructivist Theory

Learners come with already formulated knowledge, ideas, and understandings. Learning by experience.

Teachers pose questions and guide students to find their own answers.
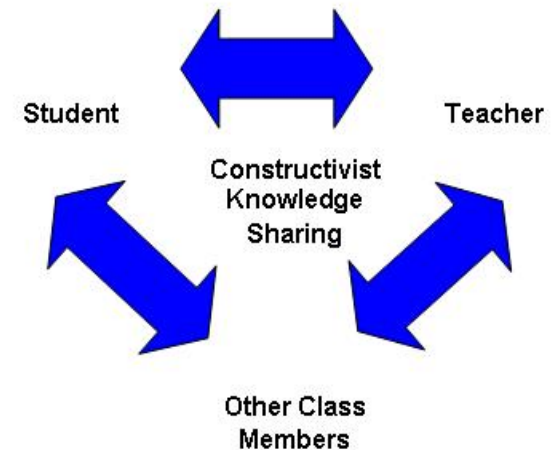
Social Psychology Theory "Social Power"
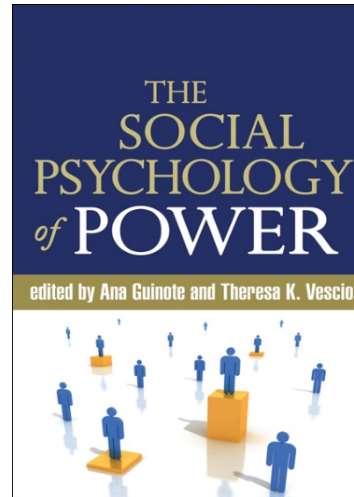
- **Opinion leaders**
  - Those who can exert significant influence over others within their social/work groups
  - Can also influence how effectively new information is accepted by the group

Shared Consciousness Theory
"100th Monkey Phenomenon"
The Tipping Point
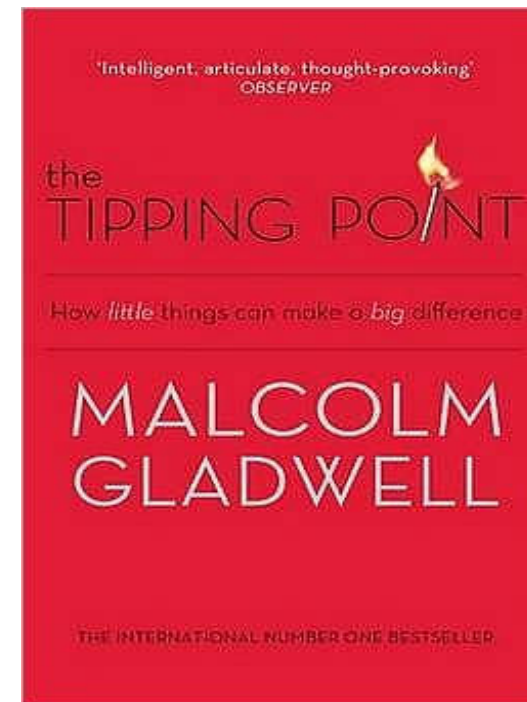
Customized IPC Education

Differentiated Learning Strategies Factors:

- General educational background

- Reasons for attending

- Level in the decision-making tree

- Current level of knowledge

Peer to Peer Mentoring Model

- Students learn by explaining their ideas to others and by participating in activities where they learn from their peers.

- Example: CDC NSHN HAI criteria and surveillance

  https://www.effectiveinstitutions.org/media/The_EIP_P_to_P_Learning_Guide.pdf

Improves competency and compliance

"Well-constructed peer groups serve as an anchor for learning."

Precede Model

- **P**redisposing factors - OR staff must believe wearing head coverings will prevent HAIs

- **R**einforcing factors – positive feedback

- **E**nabling **C**onstructs - reduce barriers comfort and convenience

- **D**iagnosis and **E**valuation - compliance measurement

Hybrid Educational Program Model

- "Hybrid" or "blended" learning is a formal education course.

- Some traditional face-to-face or classroom methods are replaced by online learning activities.

- Example: attendance at a live event with assigned follow-up activities.

Summary

HCP education and training is unique and complex because of a diversity of personnel. Successful strategies includes considering:

- Age, cultural background, ethnicity, educational level, and learning styles

- Literacy, cultural diversity, cross training and technological advances

- Applying learning theories and educational needs of learner population and institution

"I believe that education is the principal component of infection control.
Without education, every other activity of our specialty is just so much meaningless busy work."

Sandra J. Pfaff, 3rd Annual Carole DeMille Lecture
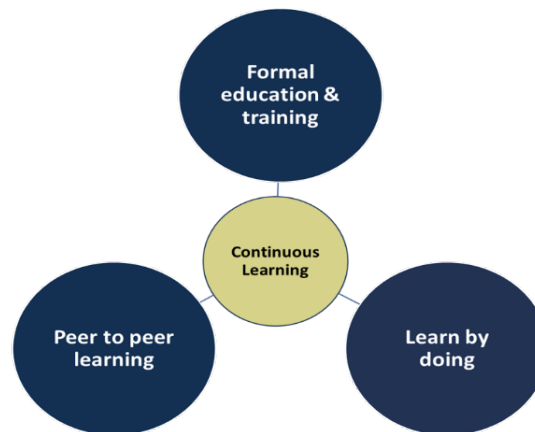
Advantages, pitfalls, and lessons learned from high-tech learning and teaching strategies

Professor Marilyn Cruickshank
President

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- Federation of states & territories

- Health funded by commonwealth but managed by states & territories

- 60% surgery undertaken in private hospitals

Rural and regional hospitals

- About 1/3 of hospitals in Australia are ≤ 20 beds

- Depend on GP visiting medical officers

- Lack of access to ID physicians, clinical microbiology, pharmacists or pathology services

- Lack of access to education and training

- Difficulty in retaining experienced clinicians

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Survey of "who is responsible for infection control"

IC&P is just one of many roles

- IC RN
- IC CNS
- IC CNC
- IC NM
- Other
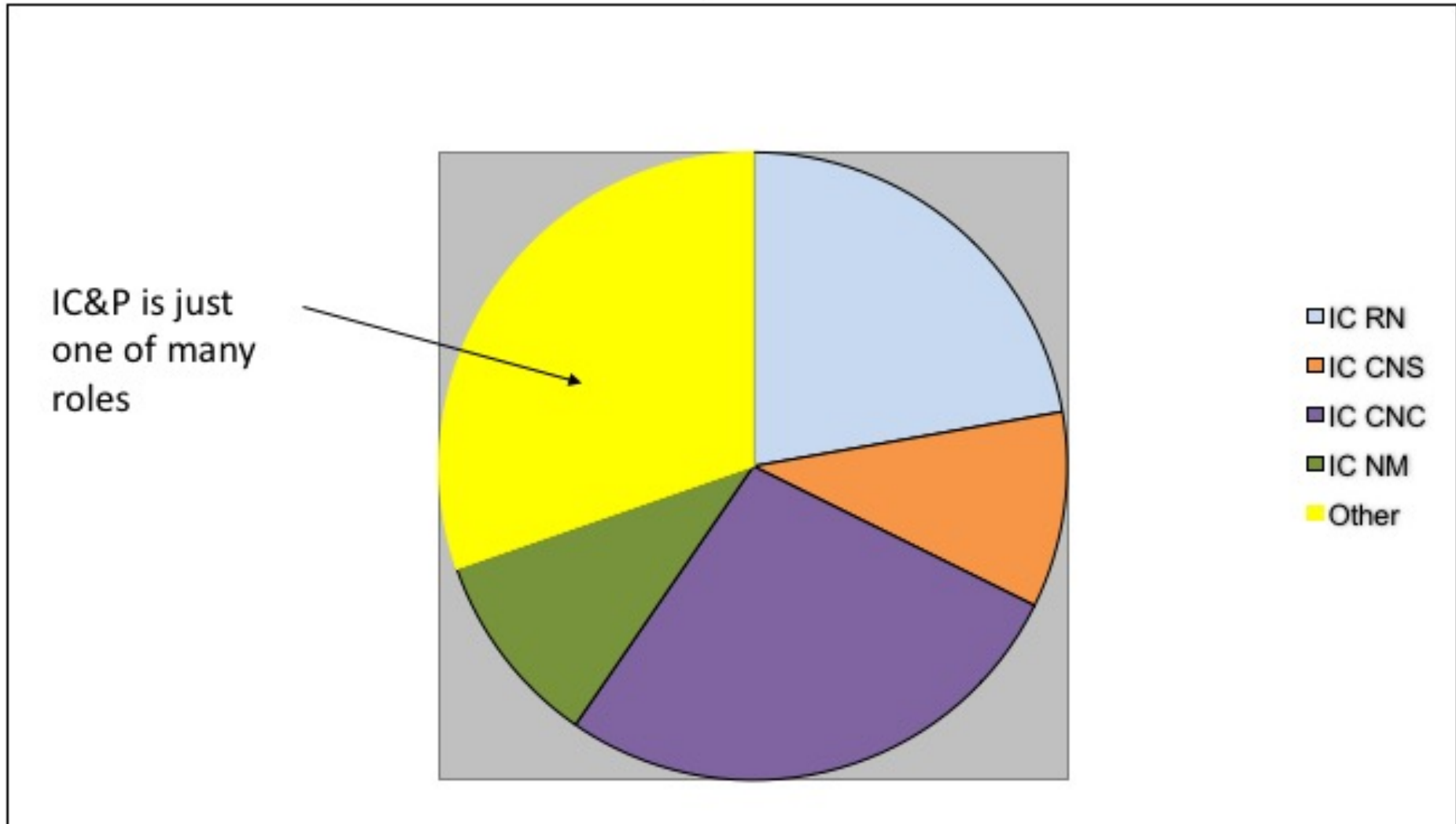
277 hospitals

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Yass – 3 hour drive from Sydney and just under an hour drive from Canberra
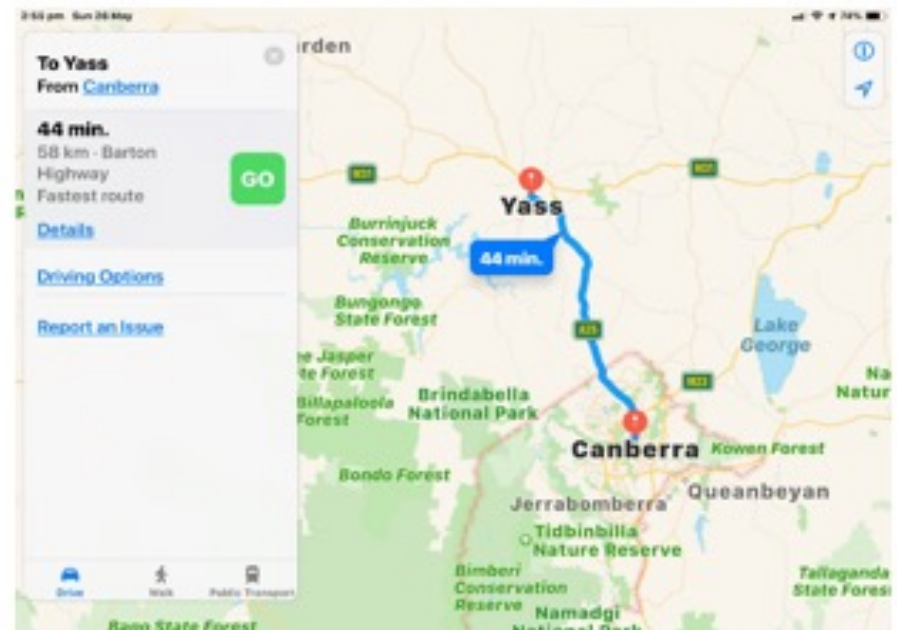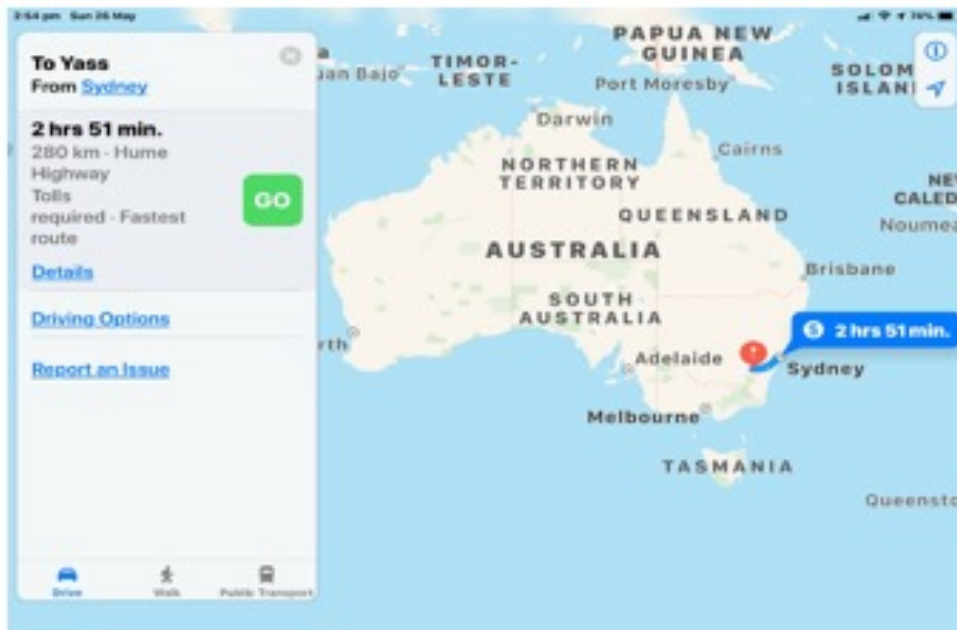
Multi Purpose Service

10 acute beds

1 Visiting medical officer (local GP)

1 bed emergency department 140 presentations / month

700 non-admitted occasions of service per month

- Physiotherapy, Occupational Therapy, Social Worker, Dietitian. Community District Nursing Services in the home, Wound Clinics, Women's Health Services, Child and Family Health, Audiometry and Health Promotion Programs.

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Grenfell Multi-Purpose Health Service

To Grenfell
From Yass, NSW, Austral...

1 hr 42 min.
148 km · Henry
Lawson Way
Fastest route
GO

Details

1 hr 43 min.
147 km · Murringo
Gap Road
Alternative route
GO

Details

1 hr 45 min.
150 km · Burley
Griffin Way
Alternative route
GO

Details

Driving Options

Drive   Walk   Public Transport

1 hr 43 min.

1 hr 42 min.

1 hr 45 min.
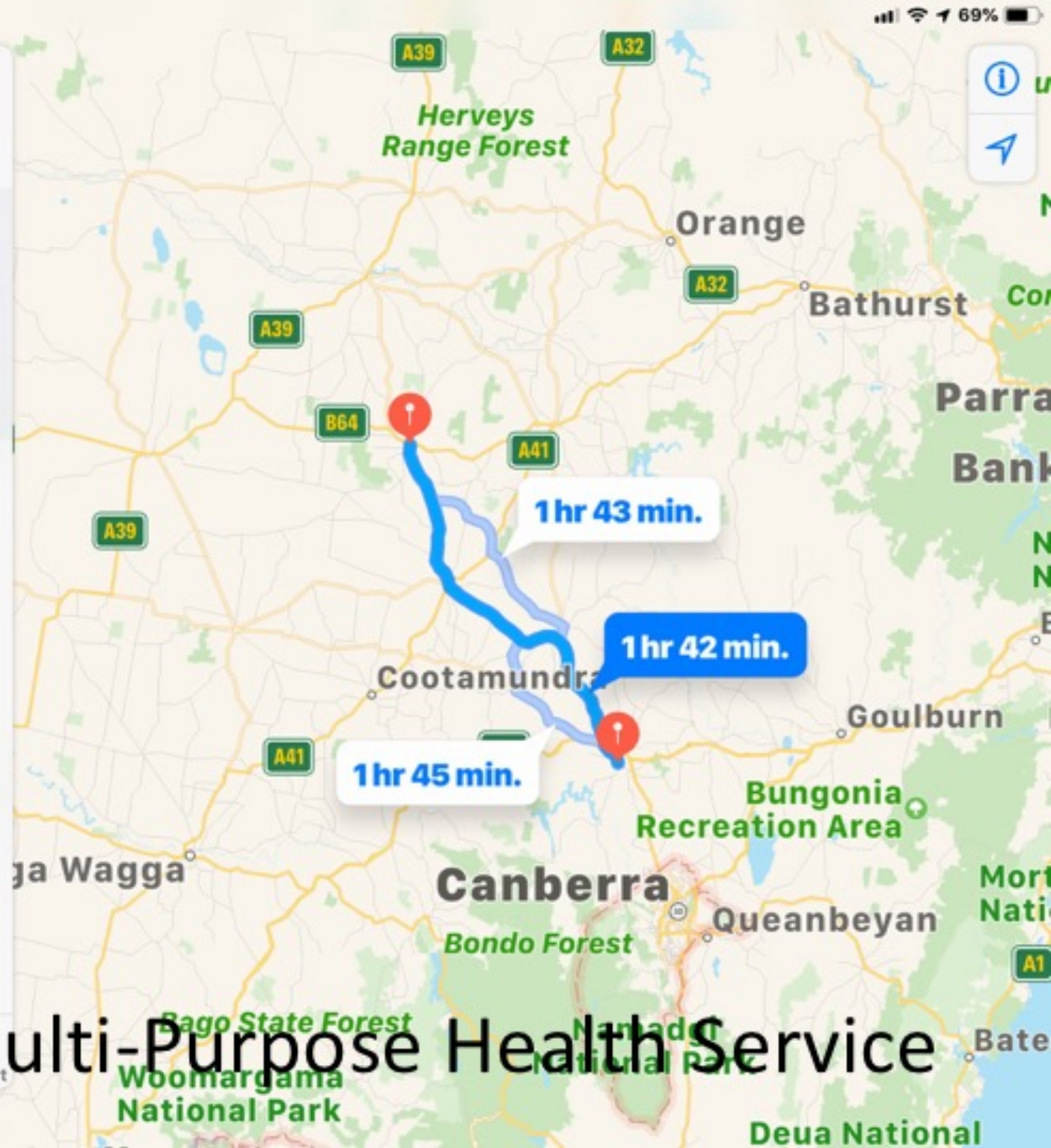
Grenfell Multi-Purpose Health Service

Flight
paths

Wilcannia

3:07 pm Sun 26 May

Melbourne

Drive   Walk   Public Transport
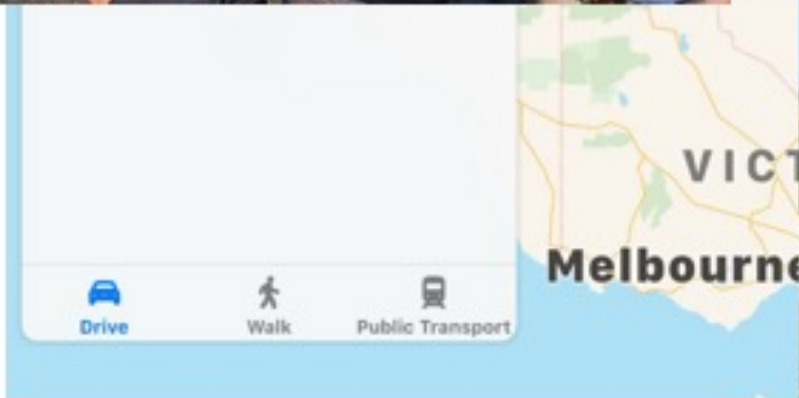
Building clinician capacity

1. Web based modules for new antibiotic prescribers

2. Seminars for ID/Micro trainees

3. Workshops AMS for nurses

4. AMS and Antibiotic classes videos

5. Online orientation for infection prevention and control

6. Hand hygiene modules

7. 10 infection & prevention modules

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Basic principles of infection management

1. Principles of infection control

2. Basic epidemiology/statistics

3. Surveillance   **> 23,500 registered users**

4. Basic microbiology/multi-resistant organisms

5. Introduction to infectious diseases

6. Immunisation of healthcare workers

7. Outbreak investigation and management

8. Building works

9. Occupation exposure management

10. Cleaning, disinfection and sterilisation

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Hand hygiene Online Learning Package Completions

Nursing Package - 452,705

Standard Package - 340,248

Allied Health package 97,844

Medical package - 66,290

Royal Australasian College of Surgeons package - 4,399
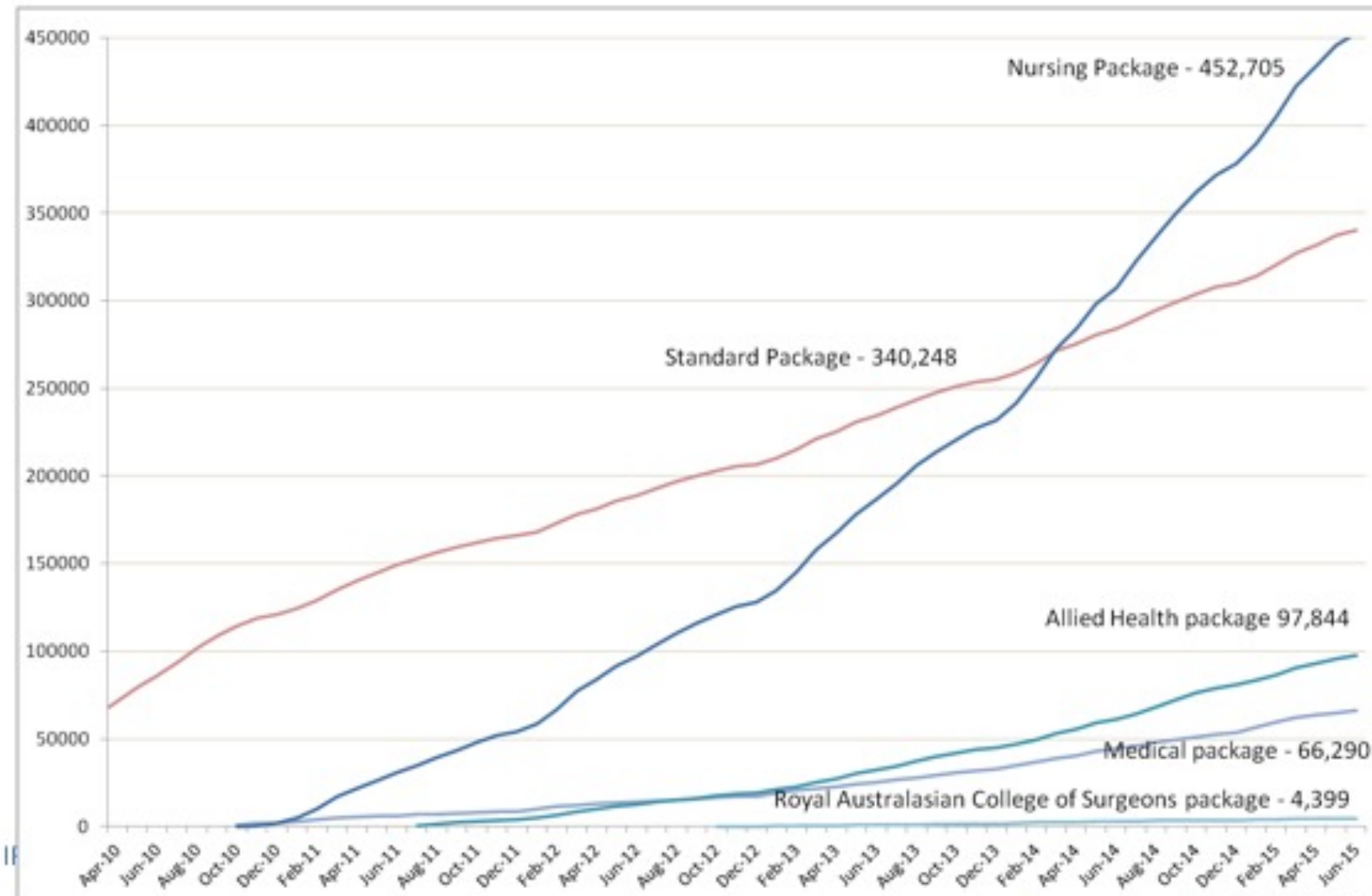
What does the research show us?

Computer assisted learning is as effective as traditional teaching (Buchowski, 2002)

Some studies found computer teaching better than traditional (Desai, 2000; Wharrad, 2001, Jefferies, 2001)

Blended learning resources (Coyne, 2018)

Flexible learning for distance education (Lewis, 2016)

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Research questions

1 What extent are nurses willing to use technology for ongoing learning?

2. How do nurses' learning preferences vary based on the educational delivery mode?

3. What influence does the type of ongoing education have on nurses' preferences to learn with technology?

4. What role do demographic factors have on nurses' willingness to learn with technology?

Demographics of respondents employed in rural and regional hospitals (n = 387)

Professional designation

- Infection control professionals 38%

- Registered nurses 22%

- Clinical Nurse specialists 10%

- Other nurses with IC roles 30%

What were nominated as successful sessions

1. Introduced to basic theory

2. Theory needs to be processed to participate in interactive hospital scenario

3. Assessment to demonstrate consolidated learning

4. Video quiz to test users' observations of errors in different scenarios

5. Important words need to be hyperlinked for glossary

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Technology as a solution to deliver IC education

- Access anytime during 24 hours

- Learn at time to suit needs and workload

- Most popular time are overnight and weekends

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Positive responses from nurses

- Easy to use and understand

- Visual, fun, quick, can do it in my own time and pace

- To the point

- Interesting and interactive

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Common barriers reported

Management need to ensure staff have time to complete

Installation of systems can be difficult and time-consuming

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The pitfalls and benefits of using technology to provide education and professional development opportunities in infection control

20

Technological issues with implementation

- Plug-in required to be downloaded – can take some hours to identify from possible lists and then downloaded

- Loading software onto internet servers – administrator rights

- Networked PCs connect to hospital intranet server

- Basic computers on wards operating on central servers

- Different kinds of computers

- Technical issues

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Implementation issues

- Nurses need access to logon and password

- Refusal by hospital IT teams to download plug-in – affect primary role of delivering healthcare information

- Access denied – need administrator rights to access – need a local account with generic username and password – can be contrary to hospital policy

- Availability of PCs – often not available to nurses – managers offices – doctors rooms

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Programming errors

- Display size – complete picture not displayed without scrolling can affect ease of use and enjoyment

- Access to sound and printer – often complementary not essential but can impact on enjoyment

- Time and costs of IT services – web managers and IT technicians required to sort out access

- Video clips not recognised on hospital computers

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The pitfalls and benefits of using technology to provide education and professional development opportunities in infection control

23

Negative comments

- Problems going through the package due to lack of knowledge with computers

- Images unclear

- No chance to ask questions

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Suggestions for improvement

- Pictures could load faster

- Know the score as you go

- Print out any learning

- More scenarios with pictures of patients

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Conclusion
What makes a successful IT learning package?

- Learner must be active in process of learning

- Variety of activities and self assessments needed for engagement

- Relevance to environment and social context

- Pictures and videos of realist hospital settings

- Humour, song and interactivity – fun and original

- Small chunks of learning

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Thank you to nurses who participated and a special thanks to Shelley Bates for data analysis

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May 29, 2019	*(FREE Teleclass – Broadcast live from the IPAC Canada conference)* **ONE HEALTH: THE RISKS AND REWARDS OF LOVING ANIMALS** Speaker: **Prof. Jason Stull**, Ohio State University ***Broadcast sponsored by GOJO Canada***
June 5, 2019	*(South Pacific Teleclass)* **THE ROLE OF ACTIVE SURVEILLANCE CULTURE IN RESOURCE-LIMITED SETTINGS** Speaker: **Prof. Anucha Apisarnthanarak**, Thammasart University Hospital, Pratumthani, Thailand
June 13, 2019	*(FREE Teleclass)* **SSI SURVEILLANCE STRATEGIES IN UNDER-RESOURCED SETTINGS** Speaker: **Dr Joseph S Solomkin**, University of Cincinnati College of Medicine, and World Surgical Infection Society ***Sponsored by the World Surgical Infection Society***

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