

Radiation protection of patients in film-based and digital radiography, diagnostic fluoroscopy and mammography

Co-Chairs: B Keller, Germany & L Lau, Australia

- ❖ Introduction *L Lau, Australia*
- ❖ Ensuring safety in transition to digital radiography in practice *KH Ng, Malaysia*
- ❖ Impact of teleradiology on radiation protection *P Mildenberger, Germany*
- ❖ Radiation protection issues in breast screening *H Bosmans, Belgium*
- ❖ Summary of contributed papers *KH Do, Korea*
- ❖ Discussion



SESSION 7: Radiation protection of patients in film-based and digital radiography, diagnostic fluoroscopy and mammography

Introduction of the topic:

RADIATION PROTECTION IN MEDICINE

Emerging Challenges and Possible Solutions

Lawrence Lau, Melbourne / AU
FACR, FRANZCR, FRCR, FAMS
Chair, International Radiology Quality Network

INTERNATIONAL
RADIOLOGY

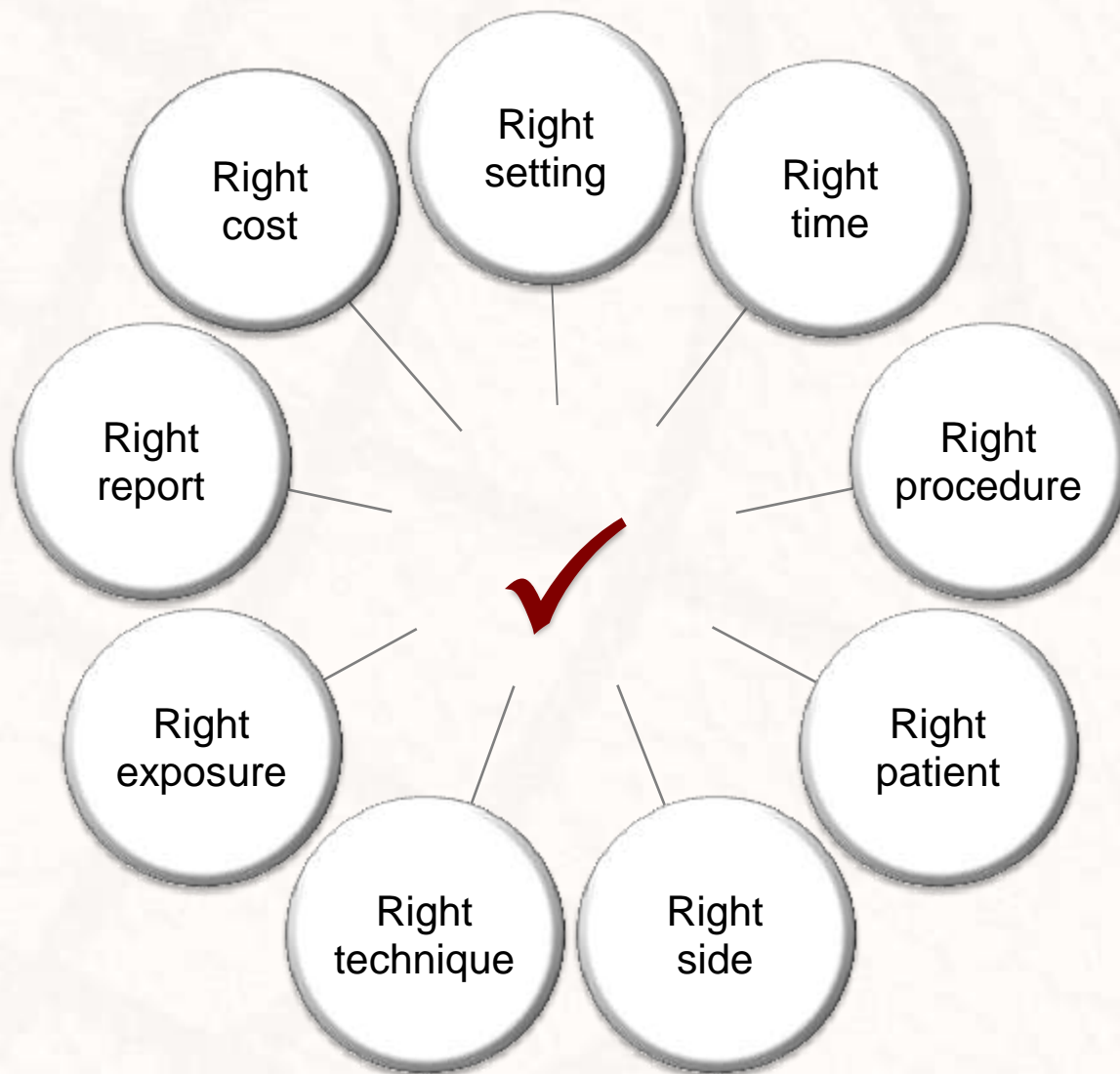


QUALITY NETWORK
Collaboration is
Strength

Stakeholders

- ❖ Local, national, regional & global actions for
 - ✓ Healthcare systems
 - ✓ End-users
- ❖ Stakeholders: consumers – patients, referrers; providers; payers; regulators; professional, academic, research & scientific organizations; international organizations & UN agencies; malpractice insurers; equipment manufacturers & vendors

Objective



Emerging Challenges

- ❖ Increased use
 - ❖ 3.6 billion XR procedures p.a.¹
 - ❖ Appropriate or inappropriate
- ❖ Medical use to all combined sources of ionizing radiation
15% in 1980 to 50% in 2006²
- ❖ Healthcare cost 13.9% of 2001 GNP to 15.3% in 2003³
- ❖ Increased cancer risk from medical radiation⁴



¹UNSCEAR (2010) UNSCEAR 2008 Report to the General Assembly with Scientific Annexes. United Nations

²NCRP (2009) Report No. 160 Ionizing radiation exposure of the population of the United States

³Dunnick NR et al (2005) J Am Coll of Radiol 2(5):401-406

⁴Pearce MS et al (2012) Lancet 380(9840):499-505

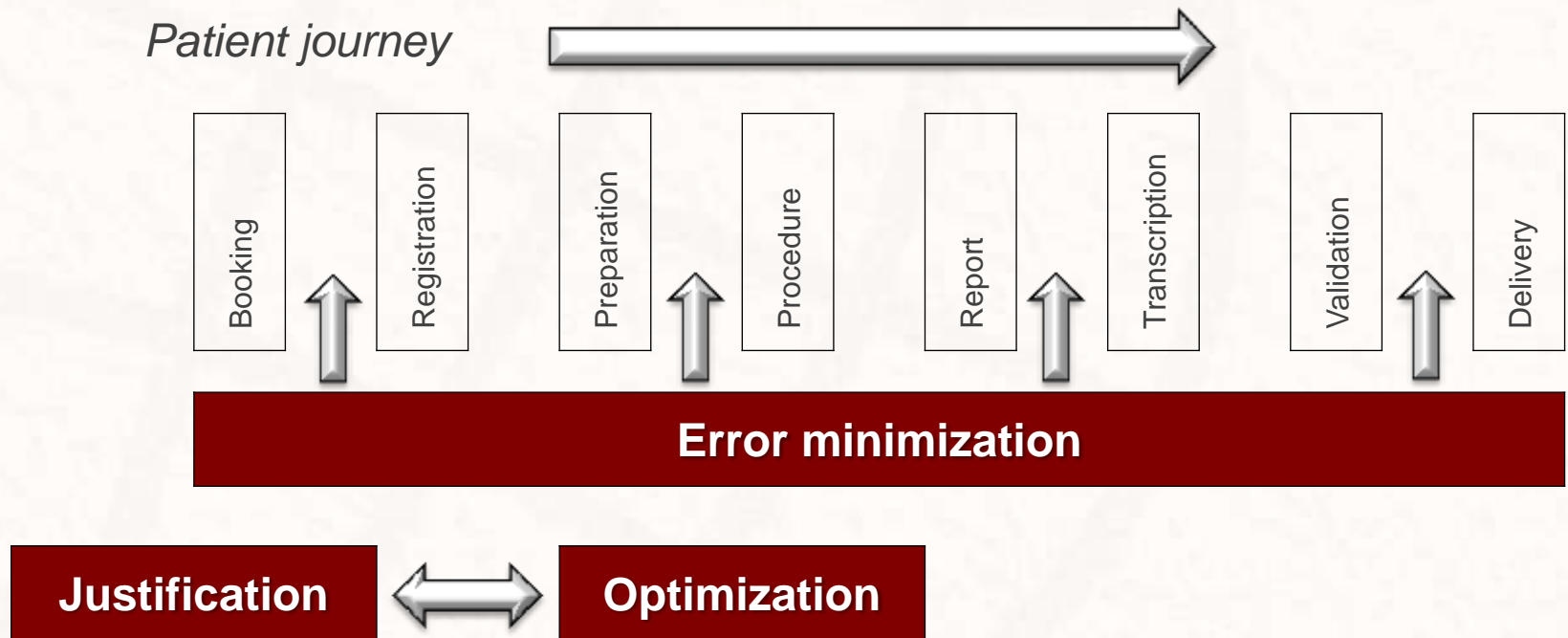
Emerging Challenges - 2

- ❖ Inappropriate use
- ❖ Knowledge & competency
- ❖ Guidance tools
- ❖ Workforce shortage
- ❖ Healthcare resources & access

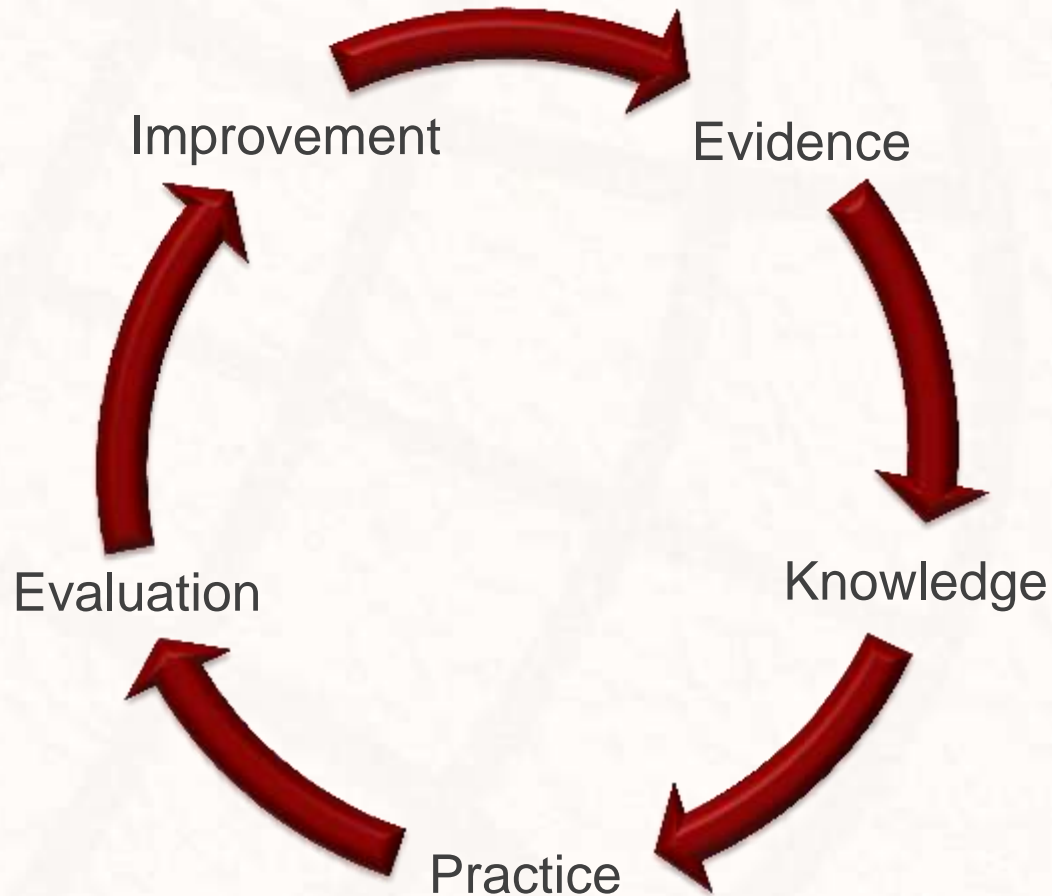
Emerging Challenges - 3

- ❖ Infrastructure & policies
- ❖ Fragmentation & discontinuity
- ❖ Transient improvement
- ❖ Volunteering
- ❖ Funding & lead-time

Radiation Protection Measures



Closing the Gaps



..... and making a difference

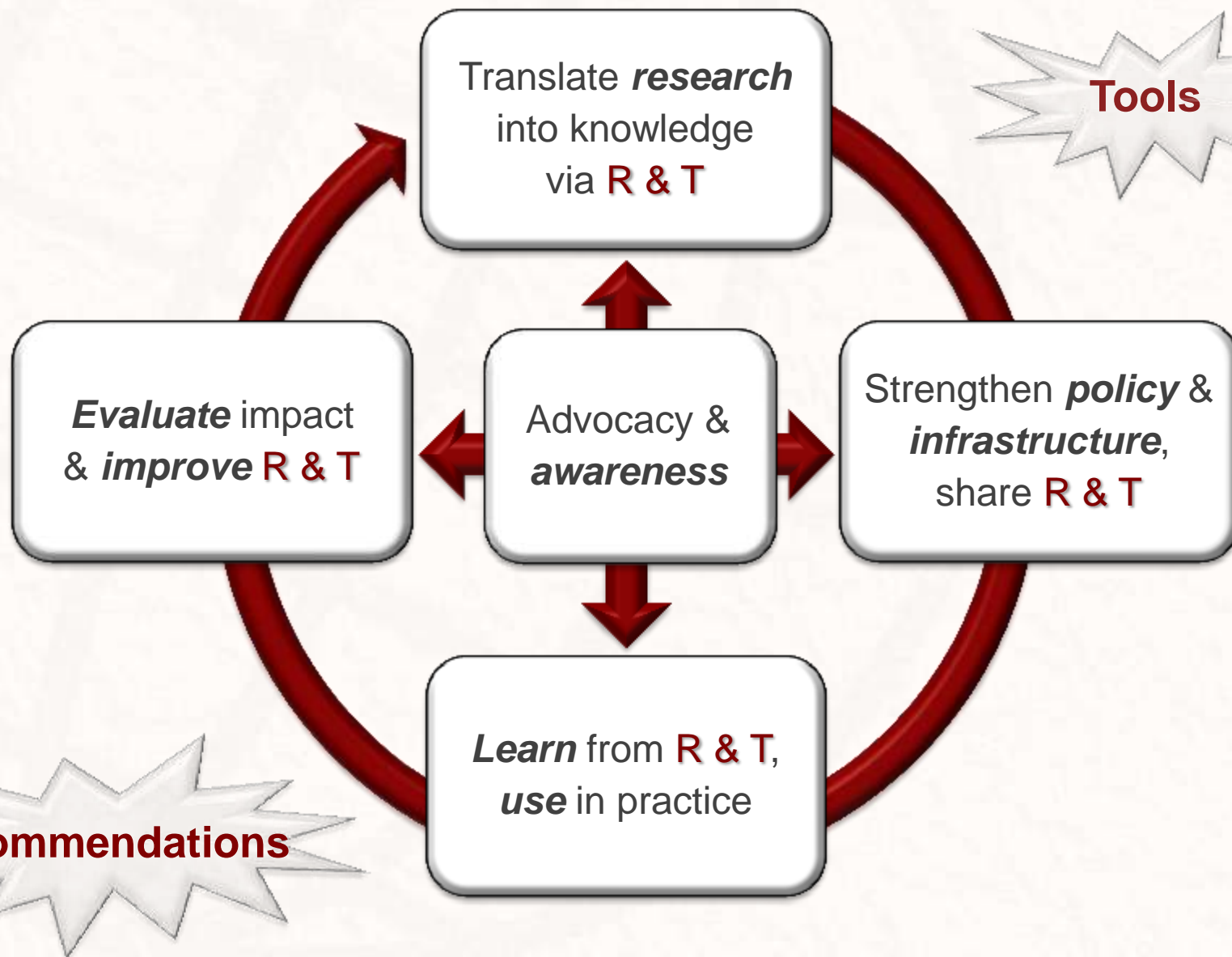
Teamwork



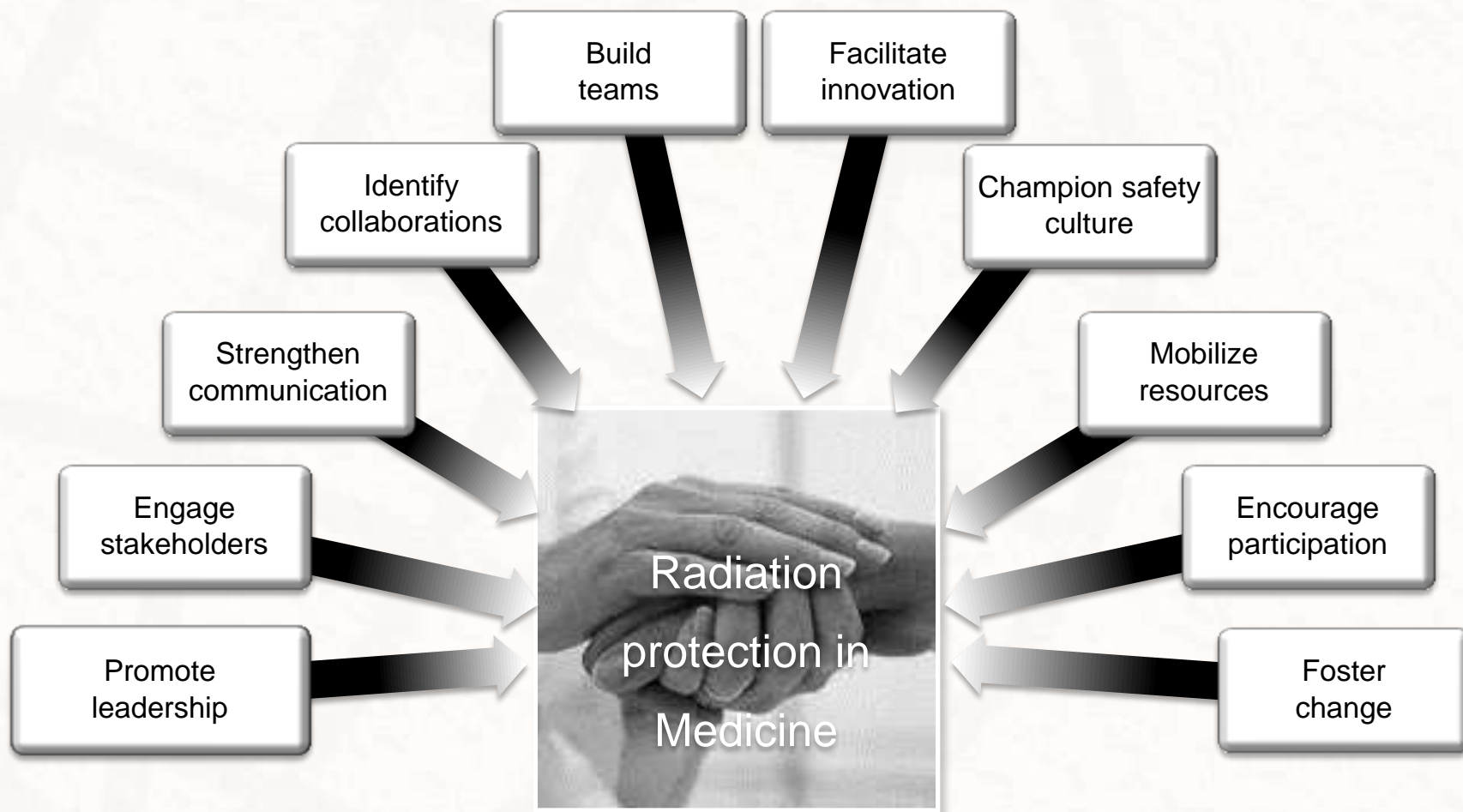
Framework for Healthcare Systems & End-users

Protection measures	Implementation strategies	Process improvements
Justification	Conduct research	
Optimization	Promote awareness	
Error minimization	Provide education	
	Strengthen infrastructure	
	Implement policies	
	Evaluate impact	
	Apply on-going improvement	

Synergy



Process Improvement



Radiation Protection Actions

Protection measures	Implementation strategies	Process improvements
Justification	Conduct research	Promote leadership
Optimization	Promote awareness	Engage stakeholders
Error minimization	Provide education	Strengthen communication
	Strengthen infrastructure	Identify collaboration
	Implement policies	Build teams
	Evaluate impact	Facilitate innovation
	Apply on-going improvement	Champion safety culture
		Mobilize resources
		Encourage participation
		Reward change & excellence

Teamwork + Framework = Doing it right !

... for healthcare systems & end-users



RADIATION PROTECTION IN MEDICINE

Emerging Challenges and Possible Solutions

Thank you very much for your attention





International Conference on
RADIATION PROTECTION IN MEDICINE

Setting the Scene for the Next Decade

3 – 7 December 2012

Bonn, Germany