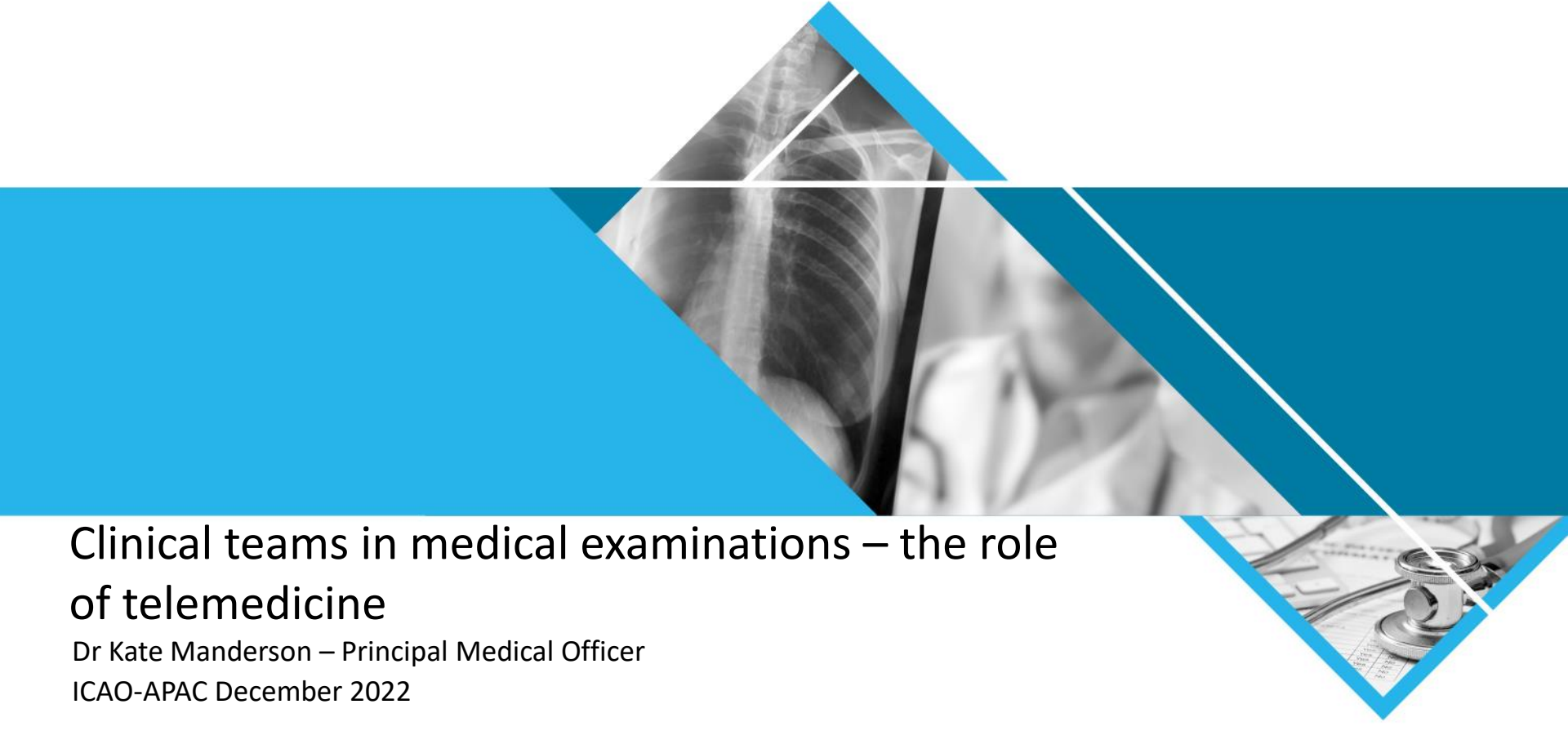
Australian Government
Civil Aviation Safety Authority



Clinical teams in medical examinations – the role of telemedicine

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Declarations

The content of this presentation does not represent official CASA policy

I have no financial declarations

Welcome – Walawaani njindiwan

Telemedicine in medical examination - Overview

- Medical examinations – origin and evolution
- Clinical teams in medical practice
- Telemedicine BC and now
- Using telemedicine in aeromedical examination
- Challenges and opportunities

Medical examination – origins and evolution

The first “medical examination” – mental state and fitness?

Medical examination – origins and evolution

1911 – US Army aeromedical standards; AU/UK/NZ Royal Flying Corps

1912 – US Navy medical standards

1926 – US Aeronautics Branch (Louis H Bauer MD)

Private Pilots. Absence of organic disease or defect which would interfere with safe handling of an airplane under the conditions for private flying; visual acuity of at least 20/40 in each eye; less than 20/40 may be accepted if the pilot wears a correction in his goggles and has normal judgement of distance without correction, good judgement of distance; no diplopia in any position; normal visual fields and color vision; no organic disease of eye or internal ear.

Industrial Pilots. Absence of any organic disease or defect which would interfere with the safe handling of an airplane; visual acuity of not less than 20/30 in each eye, although in certain instances less than 20/30 may be accepted if the applicant wears correction to 20/20 in his goggles and has good judgement of distance without correction; good judgement of distance; no diplopia in any field; normal visual fields and color vision; absence of organic disease of the eye, ear, nose or throat.

Transportation Pilots. Good past history; sound pulmonary, cardiovascular, gastrointestinal, central nervous and genito-urinary systems; freedom from material structural defects or limitations; freedom from disease of the ductless glands; normal central peripheral and color vision, normal judgement of distance; only slight defects of ocular muscle balance; freedom from ocular disease; absence of obstruction or diseased conditions of the ear, nose, and throat, no abnormalities of the equilibrium that would interfere with flying.

Clinical teams

Clinical teams

Operating theatres

Hospitals & wards

Clinical teams

Nursing profession

General practice nurses

Nurse Practitioners

Physician assistants and extenders

Military Medics

Clinical teams

Remote clinical services

- Telemetry
- Robotic surgery
- Space

→ Clinical teams by telemedicine

Telemedicine

Technology-based

Telemedicine

Needs-based

Telemedicine

TRUST based

With strong standards

Telemedicine and aeromedical examinations?

Technology

Trust

Standards

….Needs?

….Permissions?

Permissions?

The designated medical examiner

1.2.4.5 Contracting States shall designate medical examiners, qualified and licensed in the practice of medicine, to conduct medical examinations of fitness of applicants for the issue or renewal of the licences or ratings specified in Chapters 2 and 3, and of the appropriate licences specified in Chapter 4.

- Qualified and licensed in the practice of medicine
- *Conduct* medical examinations

Permissions?

1.2.4.7.2 If the medical examination is carried out by two or more medical examiners, Contracting States shall appoint one of these to be responsible for coordinating the results of the examination, evaluating the findings with regard to medical fitness, and signing the report.

- Two or more medical examiners…. one of these to be responsible for coordinating the results of the examination

Permissions?

Australia:

CASA must issue a medical certificate to the applicant if ….

… each relevant examination has been carried out by an examiner …

- A DAME
- A DAO
- Other health professionals that *CASA has directed*

Permissions?

Are we permitted to have a “virtual” medical examination?

“Conducted by”

“Carried out by”

Permissions?

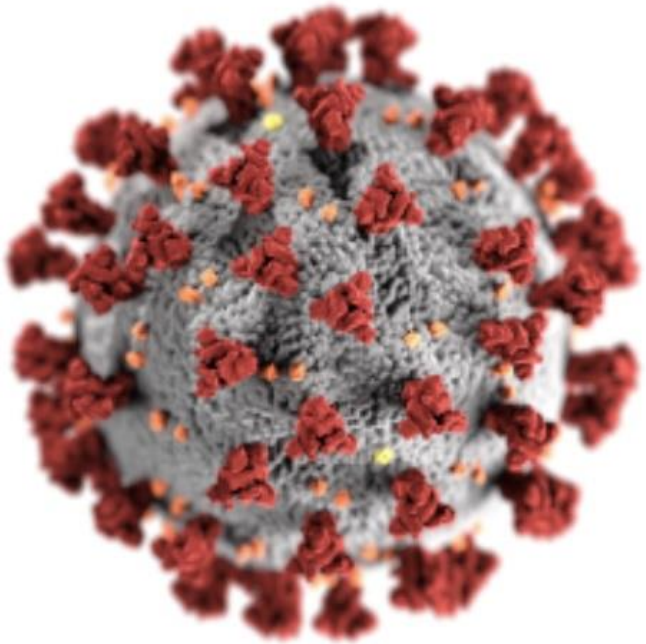
The reality:

- Nurse: BP, HR, height, weight, visual acuity, colour vision, urine…
- Doctor: history, examination, interpretation, assessment and certification

Telemedicine and aeromedical examinations

…. And then ….

Needs!



30,000 certificate-holders

LOCKED DOWN!

- Confined to home / 5km radius
- Only visit doctors for “medically necessary” purposes

- Is an aviation medical examination “medically necessary”?

NO

- Not allowed to leave home
- Nearest doctor is not a DAME
- DAMEs required to “conduct” the medical examination

Risk assessment

Safe to extend 100% of medicals with current restrictions (nobody is flying anyway!)

→ 6 month extension of *all medicals*

Risk assessment

- Higher risk medicals and operations: “find a way” to undergo a medical examination without breaching the Public Health Orders

- GPs and other Specialists moving to telemedicine
- Why not DAMEs too?

A framework for “tele-avmed”

Clinical teams

- Qualifications
- Additional training

Standards and guidance

- Accreditation
- Facilities, resources, skills

A framework for “tele-avmed”

Clinical team members:

- Pharmacist for blood pressure, HR, height and weight
- Pathology collection service for height and weight
- Optician for visual acuity and Ishihara
- Community nurse for BP, HR, height and weight, urinalysis
- *Specialist GP for clinical examination*

A framework for “tele-avmed”

- *Specialist GP for clinical examination*

DAME to directly observe (video)?

DAME to double-check?

Only for low-risk medicals?

Shorter-term validity?

Tele-avmed challenges

LEGISLATION – need to be allowed to have a non-AME contribute as part of the assessment team

Authorisation of a suitable proxy to perform elements of the medical examination

Coordination and responsibility remains with the ME

Tele-avmed challenges

RISK – need to acknowledge that non-AMEs may miss aeromedically-important findings

- Risk appetite and thresholds
- Risk management and safeguards

Tele-avmed challenges

TRUST – need to be able to trust the clinical team members to perform the role effectively

- Training
- Accreditation
- Supervision

TRUST ….. BUT VERIFY

Tele-avmed opportunities

Better availability of DAMEs and non-GP Specialists

More contribution & collaboration from GPs and other Specialists

Opportunity for quality assurance and review

Summary

Telemedicine has been bringing together clinical teams for more than 100 years

Telemedicine is safe and effective when it is done with good governance

Telemedicine has a useful role in aviation medical examination and assessment

Telemedicine can augment, BUT NOT REPLACE, the face-to-face AME visit within the aeromedical system

Questions

Thankyou – Walawaani njindiwan