

WELCOME.....

**...to the ICAO
Session at
ORLANDO!**





Plan

- Three presentations:
 - Myself: last 10 years
 - Dr Claude Thibeault: last 15 years
 - Dr Jarnail Singh: health education and prevention of ill health
- Discussion of pilot intended crashes



Topics to mention

(1) REGULATORY AVIATION MEDICINE

- Three Medical Provisions Study Groups
 - 2007 – various amendments to Annex 1
 - 2009 – competency based training
 - 2014 – prevention of ill health
- Upper Age Limit
- Mental Health
- Preventive Medicine
- ICAO Manual of Civil Aviation Medicine
- Safety Management



Topics to mention

(2) PUBLIC HEALTH AND AVIATION

- Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA)

MPSG 2007

- covered many issues





Output MPSG 2007 (a)

- Role of medical assessor clarified
- Requirement to report a medical condition after more than 20 days amended
- Recommendation to increase the emphasis on mental aspects of fitness and health education during periodic exams



Output MPSG 2007 (b)

- Use of anti-depressants acceptable in selected cases
- Guidance material provided on use of insulin in licence holders
- HIV terminology updated and reference to psychological symptoms deleted
- Specific reference to gynaecological issues deleted
- Contents of on board medical supplies updated: **Universal Precaution Kit added**

MPSG 2009

Competency based training for medical examiners

ICAO Manual of Civil Aviation Medicine

Google "ICAO medicine manual"

- Meeting
pandem
present



at time of H1N1
CAO Session



MPSG 2014

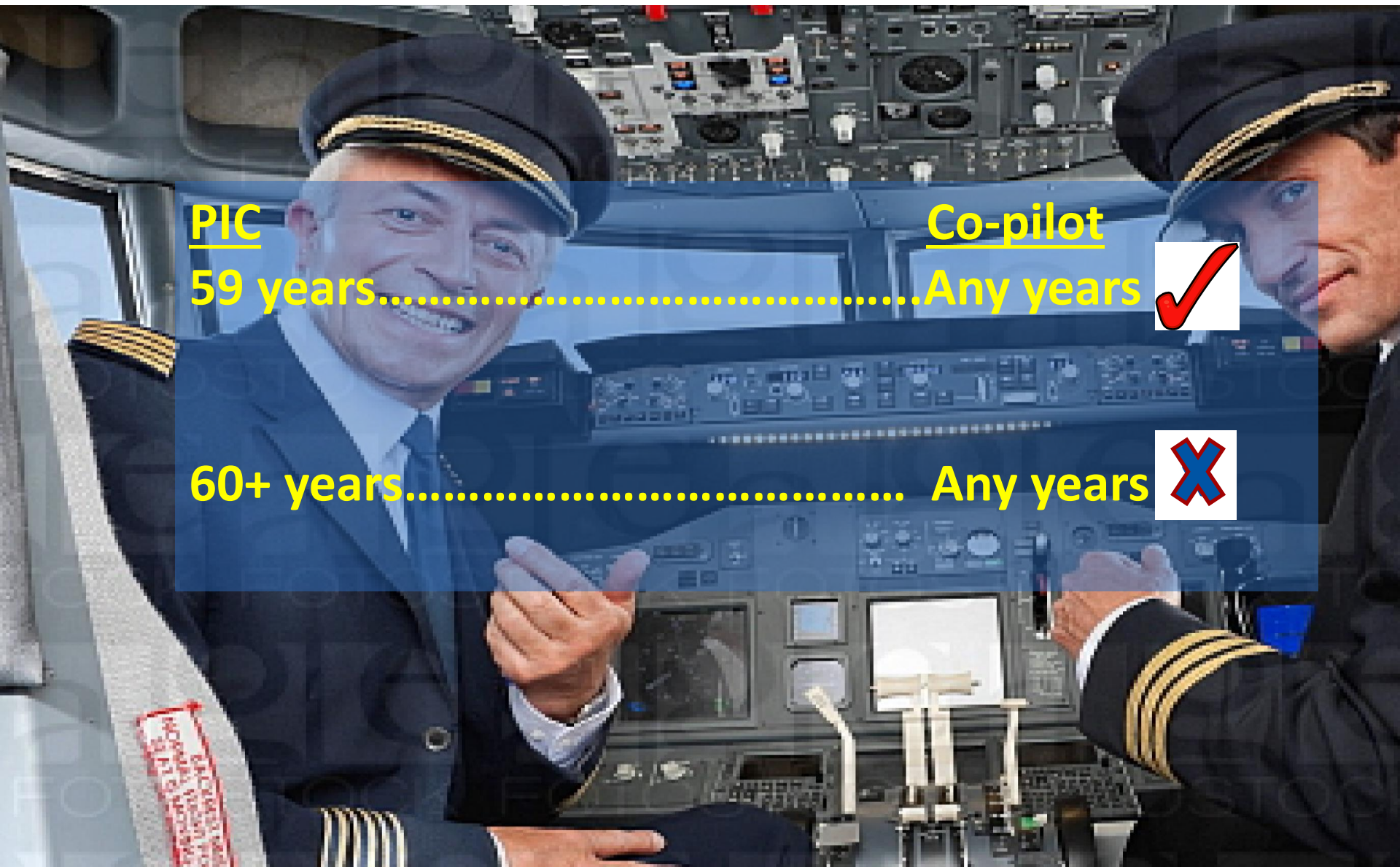
Preventive Medicine/Health Education

- Instigated after AsMA ICAO Session in San Diego (2014)
- Principles
 - Medical examinations do not reliably detect medical problems
 - Mental health/behavioural issues a causal factor in majority of medical cause fatal accidents (two-pilot commercial operations)
- See Dr Singh's presentation....

Pre-2006 - age combinations

PIC upper limit 60 years (Standard)

Co-pilot upper limit 60 years (**Recommendation**)



PIC

59 years.....

Co-pilot

Any years



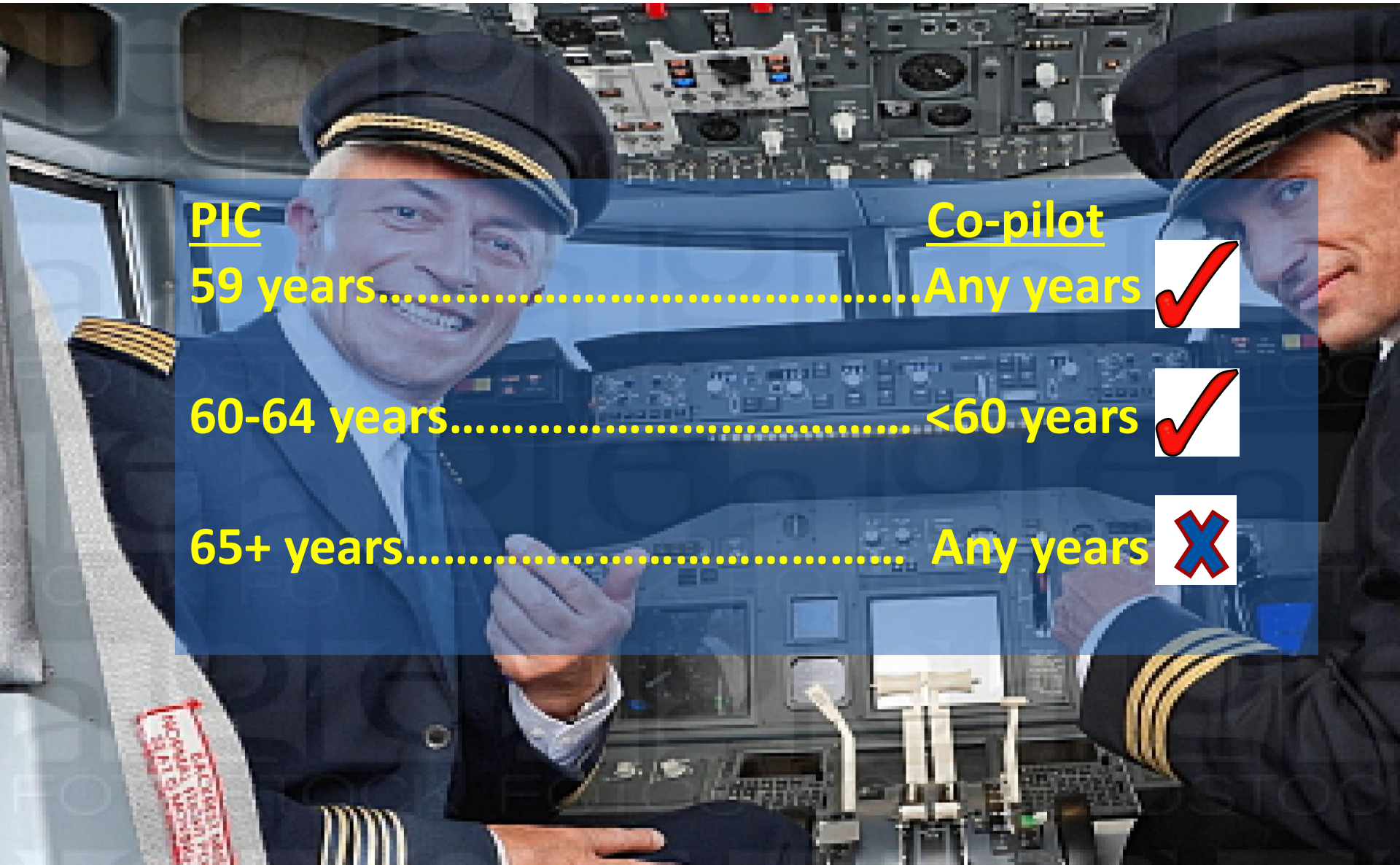
60+ years.....

Any years



2006 – 2014 age combinations

PIC upper limit 65 years: “one over one under”



PIC

59 years.....

60-64 years.....

65+ years.....

Co-pilot

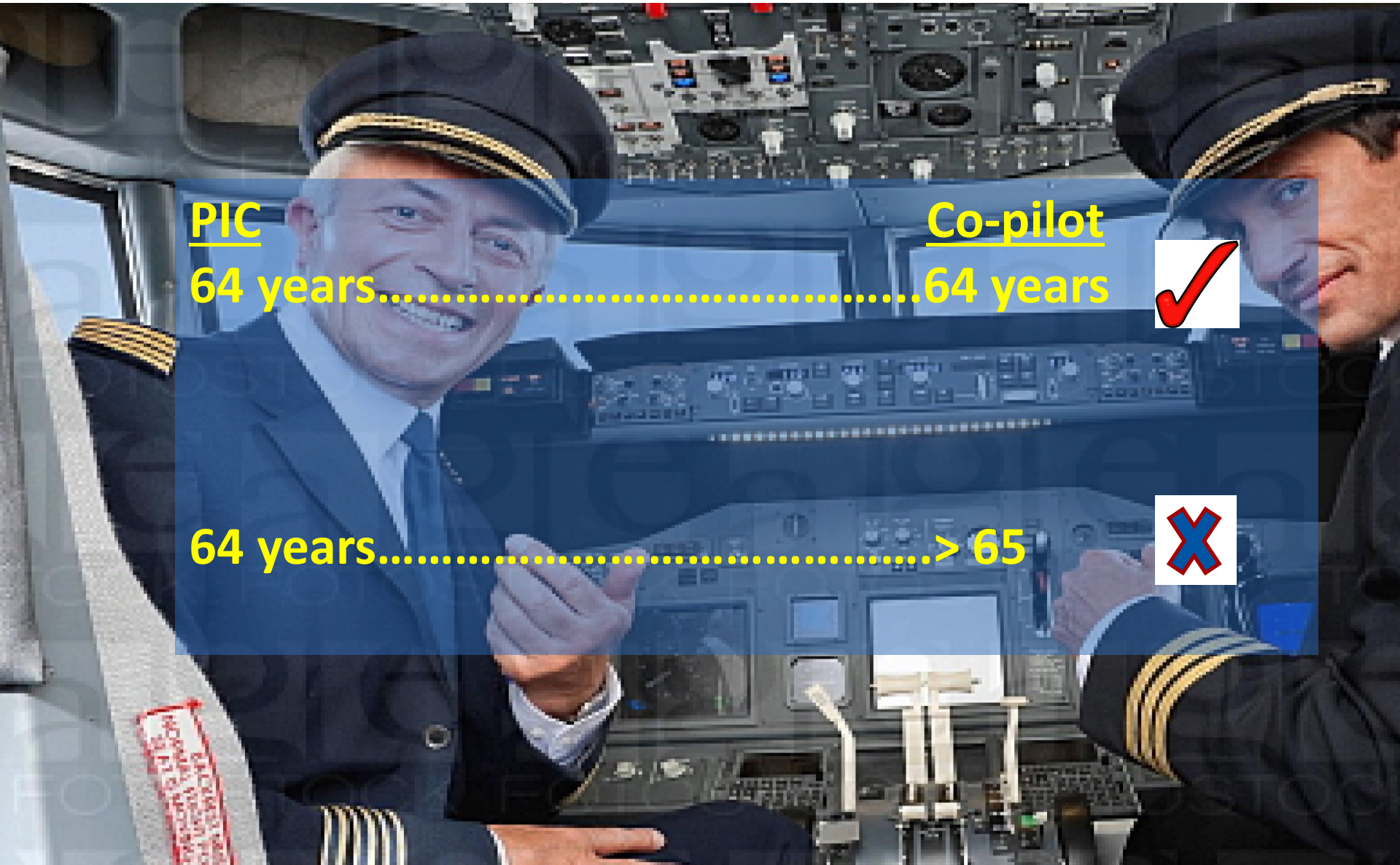
Any years

<60 years

Any years



Current age combinations - Any combination up to 64 years
Co-pilot 65 years as **Standard**



PIC

64 years.....

Co-pilot

64 years



64 years.....

> 65





What upper age limit for the future?

PERFORMANCE BASED (INDIVIDUAL) LIMIT



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UNITING AVIATION

Mental Health

Worldwide medical cause fatal accidents 1980-2000

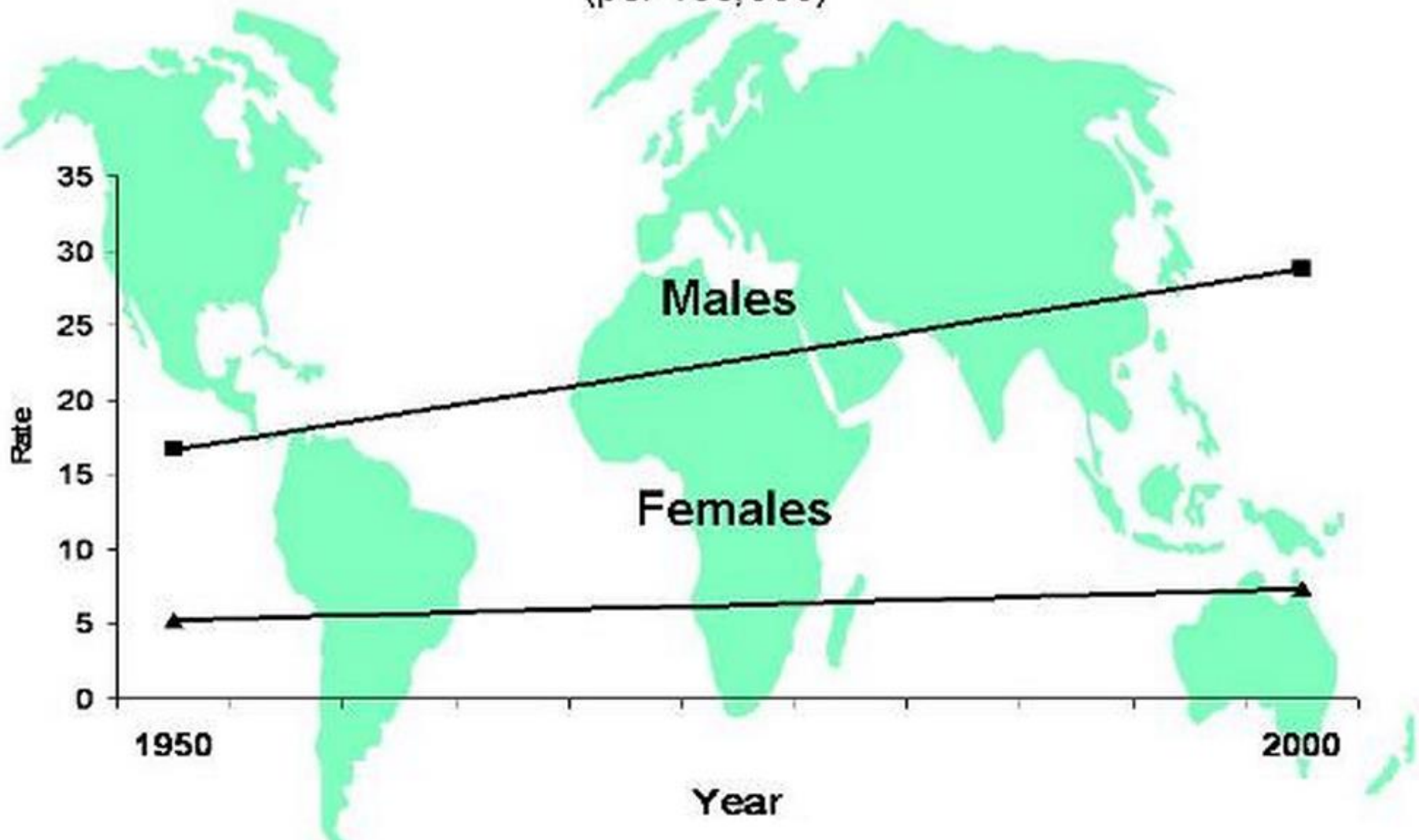
2-pilot aircraft, over 5,700 kg (excludes hypoxia, fatigue, smoke/fumes)

Year	Aircraft	Medical problem	Confidence
1982	DC 8	Schizophrenia *	High
1982	Citation	Alcoholic impairment *	High
1982	Metro	Vomiting (P2)	High
1983	Learjet	Use of marijuana (P1 & P2)*	High
1988	Metro	Use of cocaine	High
1989	FH 227	Alcohol (P2)	High
1990	Learjet	Slurred speech, ? cause *	Medium
1993	Learjet	Alcohol/cocaine (P1)	High
1994	ATR 42	Suicide *	Low
1999	An 26	Alcohol (P1 & P2) *	Medium

* Primary Cause

Evolution of global suicide rates 1950-2000

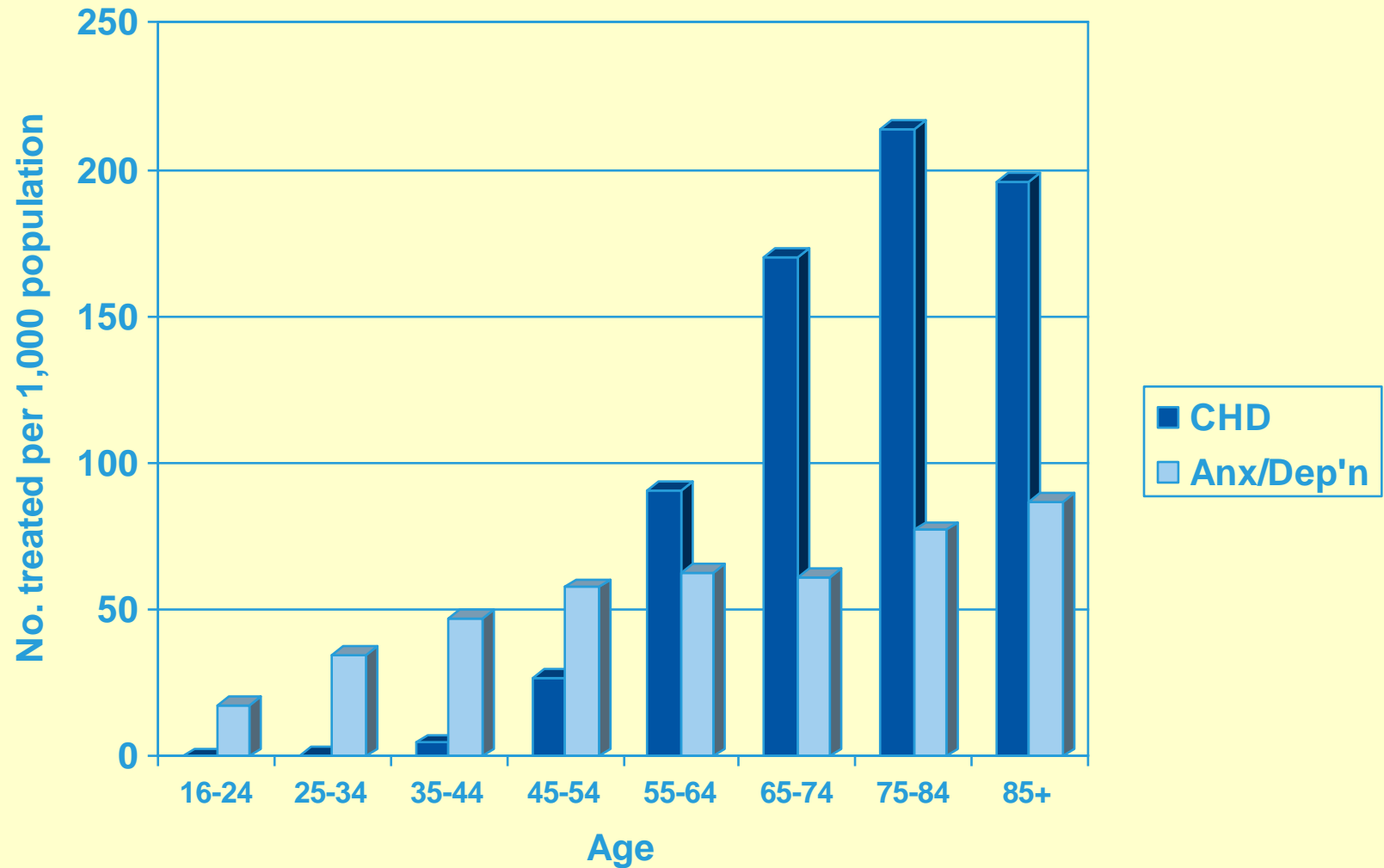
(per 100,000)



World Health Organization

http://www.who.int/mental_health/prevention/suicide/evolution/en/index.html

Prevalence of treated coronary heart disease and anxiety/depression per 1,000 male patients by age: 1996



Air Canada 2008



4 NEWS

THURSDAY 31 JANUARY 2008 THE INDEPENDENT

'The pilot was swearing and asking for God'

Crew member suffers a nervous breakdown at the controls of transatlantic jet

By Terri Judd and Pat Flynn

A transatlantic flight had to make an unscheduled landing in Ireland after one of its pilots began behaving strangely and had to be restrained by fellow crew members.

Passengers said the co-pilot of Air Canada Flight 848 from Toronto to Heathrow was forcibly removed from the cockpit as the plane was diverted to Shannon airport. He was carried from the aircraft shouting, swearing and "asking for God".

The mid-air commotion erupted just over an hour before its scheduled arrival at Heathrow on Monday and the captain made the decision to divert the plane. A doctor and paramedics were waiting to meet the flight when it landed.

It is understood that the agitated co-pilot began "acting in a peculiar manner and was talking loudly to himself". He was restrained by the flight crew and

a passenger believed to be an off-duty member of the Canadian military.

Witnesses said the man became very distressed, "threatened people and was yelling, swearing and asking for God". He was placed in restraints and kept in a seat in the cabin.

One of the passengers, Sean Finucane, said: "He was very, very distraught. He was yelling loudly at times."

It appears that the unnamed first officer suffered a nervous breakdown and he was admitted to an acute psychiatric unit at Ennis General Hospital in County Clare. His wife was said to have flown to Ireland to be by her husband's side and a fellow pilot had been sent "to assist in whatever way is required".

A spokesman at Shannon airport said there had been no need to make an emergency landing and the plane was simply diverted from its London destination. The 146 passengers disembarked safely shortly after 7am and were put up in a local



An Air Canada plane en route to Heathrow diverted to Shannon airport in Ireland after one of the flight crew became agitated and mentally unstable

hotel for eight hours until a new crew was found to fly them to Heathrow.

Air Canada confirmed yesterday that a member of its staff was in hospital care. A spokesman added: "The captain and crew of AC848 followed standard operating procedures in light of the co-pilot falling ill. The captain elected to divert to Shannon and

landed without incident. At no time was safety compromised."

The Air Canada Pilots Association, the country's largest professional pilot group, which represents the 3,300 pilots who operate Air Canada's mainline fleet, commended the crew for its effective handling of the incident. "Although the illness of flight crew is rare, pilots are fully trained for

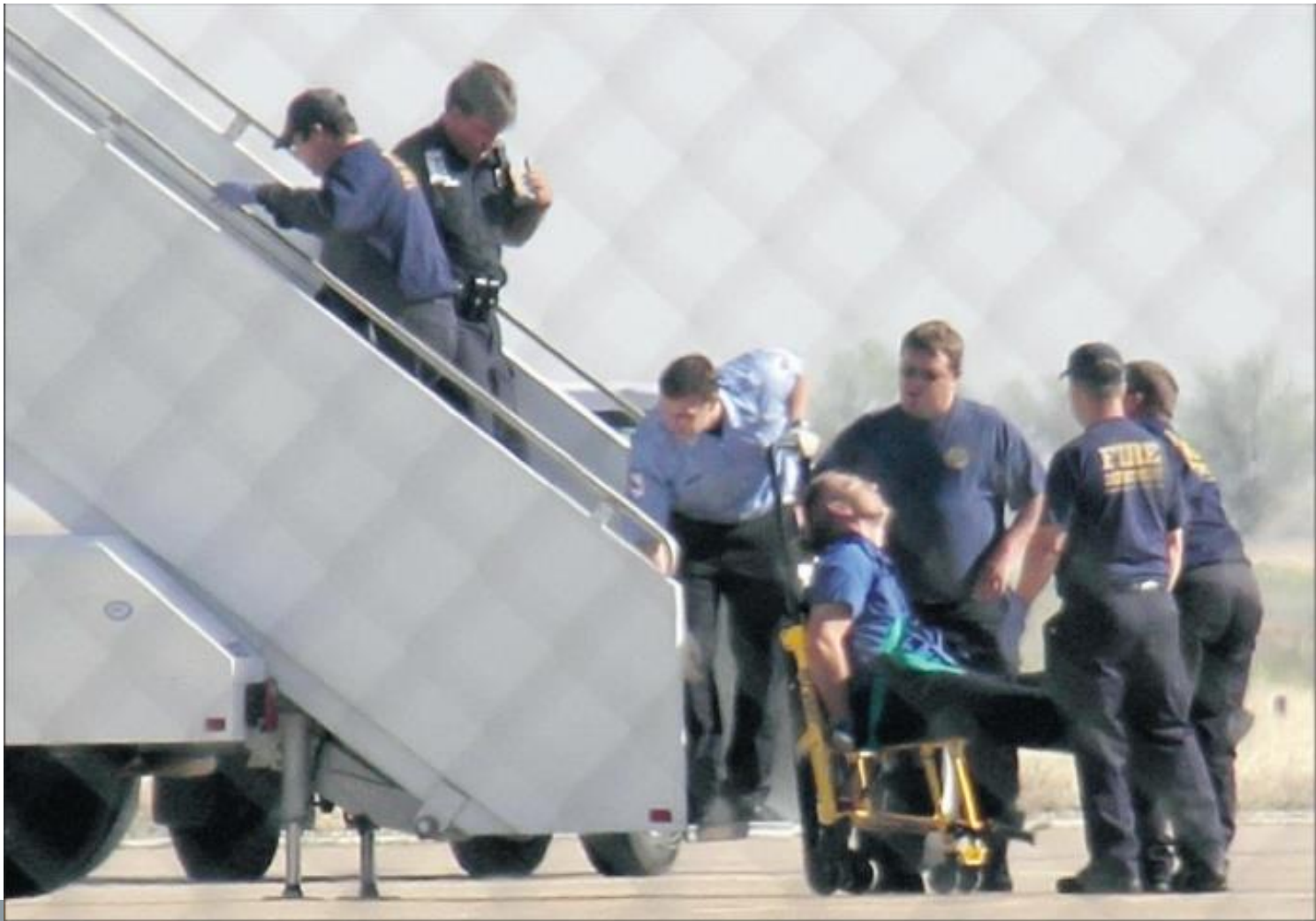
such an event," said Captain Andy Wilson, president of ACPA.

"The safe diversion was the result of the pilot following standard operating procedures in the professional manner that is expected of Air Canada pilots."

While pilots undergo annual health check-ups, twice a year if they are over 40 years old, they do not automatically undergo

psychiatric assessments. According to Transport Canada, whose officials will be interviewing all crew members on the flight, the doctors who conduct check-ups are general practitioners approved by Transport Canada. "A psychiatric evaluation is not done unless the GP decides a pilot needs to see a specialist," a spokeswoman said.

Jet Blue flight 191, April 2012



ICAO Manual of Civil Aviation Medicine, Third edition, 2012

<http://www.icao.int/publications/pages/publication.aspx?docnum=8984>

Google “ICAO medicine manual”

Doc 8984
AN/895



Manual of Civil Aviation Medicine

Approved by the Secretary General
and published under his authority

Third Edition — 2012

International Civil Aviation Organization

- All chapters updated
- Much new material
- Objective incapacitation risk
- Mental health and periodic medical examination
- Mental illness and neurology chapters separated
- HIV
- Malignant Disease
- Fatigue and Flight Ops
- Competency based training for medical examiners
- Communicable disease and international air travel

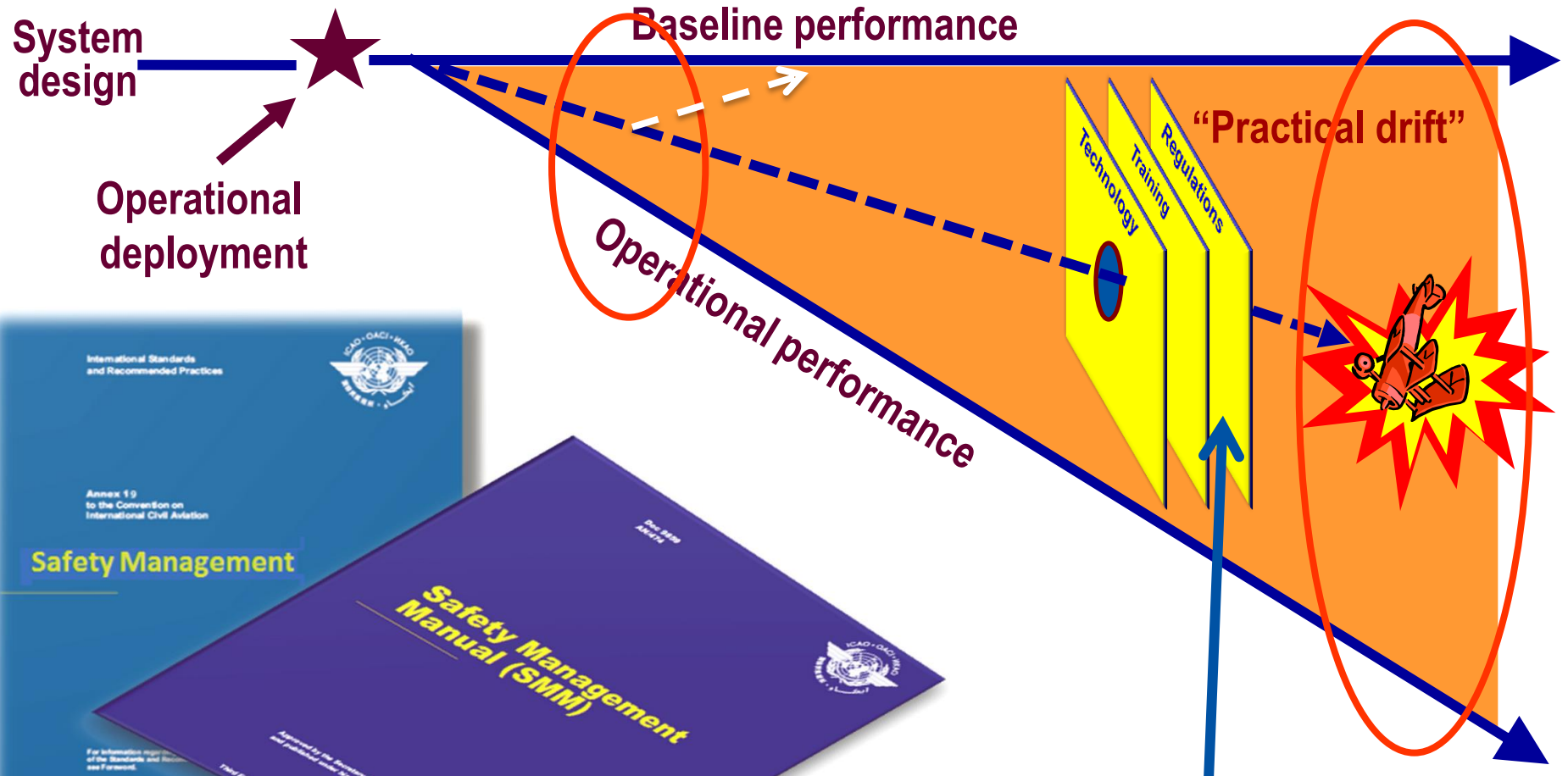


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UNITING AVIATION

Safety Management

Earlier intervention may prevent accidents



Relying on the medical examination
Too little/too late





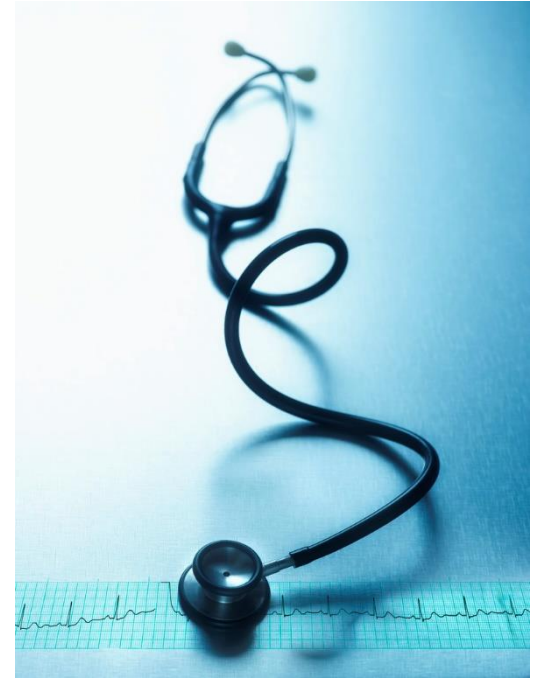
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Public Health and Aviation

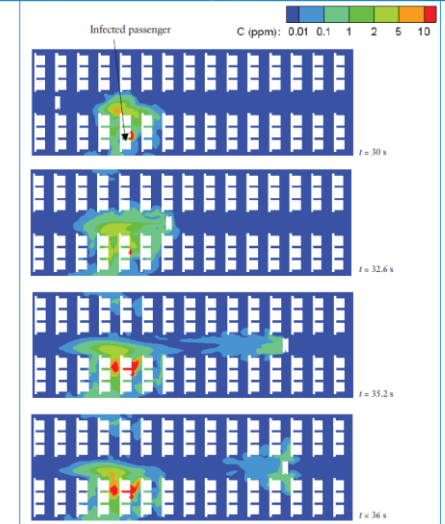
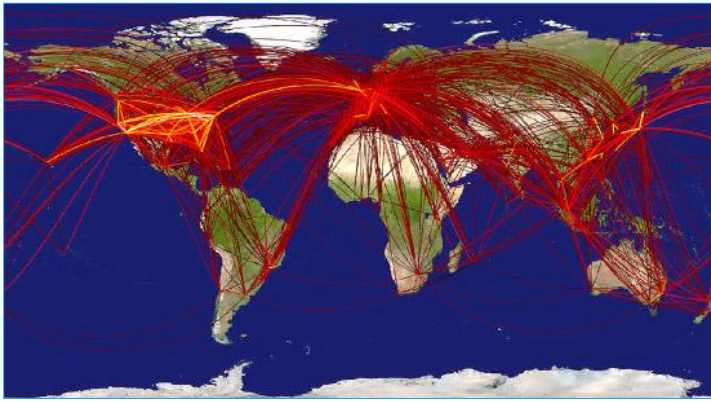


PUBLIC HEALTH AND AVIATION-AN AREA OF INCREASED INTEREST SINCE 2003





Some health-related issues



Bennett, JS – NIOSH, 2009

Challenges

- **Aviation is:**
 - Focused primarily on *prevention of accidents*, and
 - Personnel not generally knowledgeable about public health
- **Public health is:**
 - Focused primarily on *non-transport related health issues*
 - Personnel not generally knowledgeable about aviation
- **And so.....**

***Preparedness planning in aviation
can fall into a gap between both
sectors***



Action taken by ICAO (2003-2009)

- **2003** – Guidance developed to reassure passengers concerning SARS
- **2004** - Assembly Resolution: (A34-12). ***“Protection of health of passengers and crews on international flights is an integral element of safe air travel”***
- **2006** - CAPSCA project commenced in Asia Pacific Region
- **2006** – First of four grants from UN Central Fund for Influenza Action
- **2007-2009**: SARPs/procedures/instructions amended
 - *Annex 6- Operations*
 - *Annex 9 – Facilitation*
 - *Annex 11 – Air Traffic Services*
 - *Procedures for Air Navigation Services-Air Traffic Management*
 - *Annex 14 – Aerodromes*
 - *Technical Instructions for the Safe Transport of Dangerous Goods by Air*



Action taken by ICAO (2009 - 2013)

- **2009** – ICAO Council Declaration on H1N1 “**Contracting States that have imposed restrictions which are not in accordance with WHO advice, are urged to withdraw these restrictions**” (State Letter AN 5/17.4-09/75)
- **2010** - Assembly Resolution (A36-12): “**Contracting States to join and participate in the....CAPSCA project, where available**”
- **2011 – CAPSCA established in all regions. Regional coordinator established in each ICAO Regional Office**
- **2013** - Questions on public health preparedness planning included in USOAP
- **2013 to early 2014** - CAPSCA programme winding down, very little funding available

Action taken by ICAO (2014 - 2015)

- **2014** – Ebola outbreak commences. ICAO Contribution to development of WHO and CDC guidance
- **2015 – ICAO-WHO Ebola Virus Disease - Aviation Action Plan**
 - Funded by UN Multi Partner trust fund
 - Assistance visits and training events commenced in Africa





Is public health an opportunity to expand aviation medicine?

- Majority of C/MED work focused on public health (not medical standards for licence holders)
- Opportunity to expand the field of aviation medicine
 - Aviation medicine departments to include public health medicine?
 - Second ICAO High Level Safety Conference:
 - http://www.icao.int/Meetings/HLSC2015/Documents/WP/wp015_en.pdf
 - Include in aviation medicine training courses?
- If we don't embrace it.....public health officers will eventually become trained in aviation
 - > lost opportunity



Summary and final thoughts for future

- Upper Age Limit: *performance based*
- Objective aeromedical decision-making: *useful tool, continue refining*
- Mental Health – *increase emphasis*
- Preventive Medicine – *increase emphasis*
- Competency based training – *improved harmonization: ICAO approval of trainers and courses*
- ICAO Manual of Civil Aviation Medicine – *needs continuous revision....*
- Safety Management – *increase emphasis*
- Public Health – *not going away opportunity to expand aviation medicine*



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