AOD programs: an airline perspective
AMDA 2017

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Group Medical Director
Scope

- Incidence and impact of AOD use in society and commercial aviation industry
- Regulatory framework for AOD programs
- Airline program and tracking performance
- HIMS introduction in Asia Pacific region

Disclaimers

- I have no financial interests in this subject other than being a Qantas employee.
- These views are my own and do not necessarily reflect a Qantas position
The impact of alcohol and drugs in the workplace

- Impacts relationships, safety and productivity.
- AOD cost to Australian workplaces an estimated $6 billion / yr
- Half of Australian workers drink at harmful levels, 13% use cannabis and 4% use amphetamines.
- 1 in 10 workers has experienced the negative effects associated with a co-worker’s misuse of alcohol.
- Hangover / ‘come down’ as problematic as being intoxicated.
- Prescription & OTC medications (opiates, benzodiazepines)
- New and emerging drugs (synthetics)?
Impact on Workplace Safety: 2014 survey*

- NHMRC estimates 5-10% workplace fatalities involve AOD
- WHO estimates 4-11% workplace fatalities involve AOD

* Australian Drug Foundation’s poll on alcohol and drugs in the workplace, which surveyed 1,000 employees in Victoria
Evidence in relation to addiction

- A chronic relapsing medical disorder with relapses and remissions, that needs treatment.
- Has complex genetic, environmental and individual influences.
- It is NOT a moral weakness.
- Does not spare socioeconomic groups – ‘Jail to Yale’
- Characterized by loss of control. – a disease of volition
- “Just say no!” does NOT work.
- ICAO defines alcoholism as “a chronic and progressive illness”
- Has a biochemical basis with genetic predispositions
Reward pathways and neuroadaptation

- **PFC** - Willpower, decision making, craving
- **NA** – Reward centre? / initiation
- **Amygdala** – emotional memory / fear / alerts to temptation / negative emotions
- **VTA** – Dopaminergic neurons – reward initiating behaviours = motivation
- **Hippocampus** – conditioned contextual clues

![Diagram of brain indicating reward pathways and neuroadaptation](image)
AOD use spectrum – general population

Zero use 20% 10% 60% Regular Use Abuse Dependence 10%

Problematic use

Safety and legal risk Health risk

Early Mid-stage Late
Is there a problem in the Aviation industry?

“My team has created a very innovative solution, but we're still looking for a problem to go with it.”
Anonymous AUDIT Results (AIPA/Bull study)

- 77.5% - risky or hazardous alcohol use
- 2.6% - presence or incipience of dependence
- 14.5% - significant life problems due to alcohol use

<table>
<thead>
<tr>
<th></th>
<th>Pilots</th>
<th>NDSHS</th>
<th>AFL (during season)</th>
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<tbody>
<tr>
<td>Short-term harm on at least monthly basis (6+ drinks)</td>
<td>40.2%</td>
<td>16.6%</td>
<td>51.0%</td>
</tr>
<tr>
<td>Long-term harm</td>
<td>16.4%</td>
<td>11.6%</td>
<td>2.0%</td>
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Does problematic use translate to the flight deck?

27 August 2016: Glasgow, UK
United Airlines GLA-EWR Pilots aged 35 and 45, held in cockpit by police

22 August 2016: Frankfurt, Germany
Sri Lankan Airlines FRA-CMB Crew reported concern

18 July 2016: Glasgow, UK
Air Transat GLA-YYZ Pilots aged 39 and 37 remanded in Custody

27 August 2015: New York
Jet Blue JFK-MCO-JFK Pilot aged 44, arrested AFTER flight; seen “drinking an unknown beverage from a cup” before and during the two flights.

8 August 2015: Oslo
AirBaltic Olso-Crete Police tipped off prior to departure by a passenger who suspected the crew had been drinking; 38 year old co-pilot 7x over the legal limit; 6 mths prison(Captain and 2 FA’s also disciplined)

30 October 2014 CORNWALL UK - A 48 year old Flybe pilot was removed from a plane and arrested on suspicion of being over the drink-drive limit just before he was due to fly from Newquay Airport in Cornwall to London Gatwick …. a fellow crew member became concerned.
Does problematic use translate to the flight deck?

28 September 2013: LEEDS UK. An airline pilot was about to captain a flight from England’s Leeds Bradford Airport to Islamabad, Pakistan. Unusual behaviour caught the attention of airport staff. A court has heard the 54-year-old was “unsteady on his feet and smelt of intoxicants”. He’d chewed gum and eaten breath mints in an attempt to hide the odour. Alcohol level 4x the limit

14 June 2013: TAMPA, FL - Air cargo pilot who admitted he was drunk when he flew from Greensboro, N.C., to Tampa, Fla., faces a long term in federal prison. The maximum sentence is 15 years. Pilot for Flight Express in Orlando, Fla., was tested after he landed on Dec. 8, 2012, and his blood alcohol was found to be 0.27 %. During the flight, he was out of touch with air traffic control for long periods and changed altitude without authorization. Controllers alerted Tyndall Air Force Base in Panama City, Fla., because of his behaviour in the air. He was the only person on board the plane.

8 June 2013: CANBERRA - Australia’s air safety regulator says Qantas Airways Ltd. has suspended a pilot for attempting to fly while under the influence of alcohol. Civil Aviation Safety Authority spokesman said the woman exceeded the limit for pilots of 0.02 percent alcohol in the blood in a test last week. AAP reported the pilot was detected as she was about to fly a Boeing 767-300 from Sydney to Brisbane. CASA said 45 pilots had exceeded the alcohol limit in 51,000 tests in Australia since 2008.

https://youtu.be/DjUEf8ITW1c
Drug Use Trends in Aviation – Post mortem data

- 1990 - 2012 fatal accidents – toxicology results
- Did not evaluate Alcohol
- OTC, Prescription and illicit drugs, overlap
- Societal trends increasing use

US NTSB SS 14/01 “Drug Use Trends in Aviation - Assessing the Risk of Pilot Impairment”
Does problematic use present a flight safety risk?

Worldwide medical cause fatal crashes 1980-2011 (Mitchell after Evans)
<table>
<thead>
<tr>
<th>Year</th>
<th>Aircraft</th>
<th>Medical problem</th>
<th>Confidence</th>
</tr>
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<tbody>
<tr>
<td>1982</td>
<td>DC 8</td>
<td>Schizophrenia *</td>
<td>High</td>
</tr>
<tr>
<td>1982</td>
<td>Citation</td>
<td>Alcoholic impairment *</td>
<td>High</td>
</tr>
<tr>
<td>1982</td>
<td>Metro</td>
<td>Vomiting (P2)</td>
<td>High</td>
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<tr>
<td>1983</td>
<td>Learjet</td>
<td>Marijuana (P1 &amp; P2)*</td>
<td>High</td>
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<tr>
<td>1988</td>
<td>Metro</td>
<td>Cocaine</td>
<td>High</td>
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<tr>
<td>1989</td>
<td>FH 227</td>
<td>Alcohol (P2)</td>
<td>High</td>
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<tr>
<td>1990</td>
<td>Learjet</td>
<td>Slurred speech ?cause *</td>
<td>Medium</td>
</tr>
<tr>
<td>1993</td>
<td>Learjet</td>
<td>Alcohol/cocaine (P1)</td>
<td>High</td>
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<tr>
<td>1994</td>
<td>ATR 42</td>
<td>Suicide *</td>
<td>Low</td>
</tr>
<tr>
<td>1999</td>
<td>An 26</td>
<td>Alcohol (P1 &amp; P2) *</td>
<td>Medium</td>
</tr>
</tbody>
</table>

* Primary Cause
Regulatory framework
Legislation for testing in Australia

- **OH & S legislation** *(Implied)*
- Road Transport
- Mining
- Rail *(Specified)*
- Maritime
- Aviation

Civil Aviation Safety Reg Part 99 (2009)
Pre-Part 99 (2009) regulatory situation

Part 67 of the Civil Aviation Safety Regulations 1998 (CASR)
an applicant for a medical certificate, i.e. a pilot or air traffic controller, must not “engage in any problematic use of substances (within the meaning given by section 1.1 of Annex 1, Personnel Licensing, to the Chicago Convention)”, and if an applicant for a medical certificate has a history of “problematic use of substances”, then he or she must demonstrate that he or she has abstained from such use, has no safety-relevant medical problems associated with that use, and is undertaking or has completed a course of therapy for that use.

Regulation 256 of the Civil Aviation Regulations 1988 (CAR)
proscribes the use of drugs and alcohol by aircraft crew and air traffic controllers while on duty and for eight hours before duty, and precludes them from carrying out duties while affected by drugs or alcohol.

- No maximum permissible BAC specified
- No legislative basis for CASA or the ATSB to test as part of a transport safety investigation
- No authority for Police to detain or test pilots suspected of substance abuse.
Hamilton Island occurrence September 2002 – 6 fatalities

Post-mortem toxicological examination of the pilot’s blood revealed:
• (BAC) of 0.081%,
• presence of an inactive metabolite of cannabis
• analgesic preparation consistent with a therapeutic dosage.

The possibility that the pilot’s BAC reading resulted at least in part from post-mortem alcohol production could not be discounted.

There was insufficient evidence to definitively link the pilot’s prior intake of alcohol and/or cannabis with the occurrence. However, the adverse effects on pilot performance of post-alcohol impairment, recent cannabis use and fatigue could not be discounted as contributory factors to the occurrence. In particular, the possibility that the pilot experienced some degree of spatial disorientation during the turn as a combined result of the manoeuvre, associated head movements and alcohol-induced balance dysfunction could not be discounted.

At least in part from post-mortem alcohol production could not be discounted.
• 36 drug and alcohol-related events (31 accidents and 5 incidents).
• 0.4 % of all accidents.
• Majority related to alcohol (22 of 36).
• The drugs identified included prescription drugs, OTC medications and illegal drugs (including heroin, amphetamine and cannabis).

*Accidents and Incidents Involving Alcohol and Drugs in Australian Civil Aviation 1 January 1975 to 31 March 2006 Newman, D.G.
ATSB recommendation - 2004

“that the Civil Aviation Safety Authority, in conjunction with the Department of Transport and Regional Services, establish the safety benefits of the introduction of a drug and alcohol testing program to the Australian aviation industry for safety-sensitive personnel.

Where possible, this program should harmonise with existing and evolving national and international regulations”.

Cost benefit analysis sanctioned (Allen report)
Considered various options within the report

- Commercial only vs. commercial + private
- 3rd party testing vs. employer testing
- 5% vs. 10% testing rates

Benefits include:

- Improved flight safety, (2% of total)
- Reduced absenteeism, workers comp & common law costs, health costs and
- Improved road and ground safety (22%)
- Productivity

N.B. Recommendations all resulted in strong net benefits to the community ($120M-$280M, C:B ~4)
Key principals underpinning CASR Part 99

- Consistent with the harm minimisation framework
- A multi-component program (not just AOD testing)
  - Education and training
  - Safety promotion, media and marketing
  - Information, support and referral
  - AOD testing with MRO involvement
  - Assessment and treatment
- Focus on safety, and minimising likelihood of AOD-related hazard in the aviation workplace
- Link to the evidence-base (where it exists)
- Recognition that addiction is an illness
Scope: Safety Sensitive Aviation Activities (SSAA)

Activities conducted by (airside or not):

- flight crew (incl private and recreational pilots)
- cabin crew
- flight instructors
- aircraft dispatchers and load controllers
- aircraft maintenance and repair personnel
- aviation security & screening personnel
- air traffic controllers
- baggage handlers
- ground refuellers
- Firefighters, and;

Any other safety-sensitive activities carried out by persons with airside access.

= approximately 120,000 personnel
AOD testing and governance under CASR Part 99

Testing to include minimum:
Alcohol, Cannabinoids, Amphetamines (Meth and Dex), Opioids, Cocaine
Testing requirements

Testing by DAMPs

Pre-placement
Post-accident / serious incident
Reasonable suspicion (trained supervisors)
Return to work
+/- Follow-up
+/- Random
Urine or oral fluid
Breathalyser for alcohol (0.02%)

CASA testing

No notice testing
Breathalyser for Alcohol (< 0.02%)
Saliva for other drugs (cut off levels as per Australian Standard)
Drug testing process

POC test

Lab

MRO Review

Rehabilitation?

CASA or DAMP review & decision

RTW Test

RTW on SRTWP*

Non-negative

Cease SSAA

No further action RTW

drug level valid?

-drve test

+ve test

Comprehensive assessment

Administrative or safety actions?

Enforcement / infringement actions?

Sample

-ve test

-ve

Lab sample

RTW on SRTWP*

*Safe Return to Work Plan
AMROA

Established 2010
Conducts initial and reaccreditation training
2017 first NZ course held
Course covers all safety sensitive industries
MRO role only legislated in aviation thus far
MRO also has role in RTW process
Airline Program
Qantas AOD program components

- **Policy**
  - Group Safety and Health
  - DAMP (covers all AOCs, all personnel)
  - Allows for up to 2 rehab opportunities

- **Education**
  - SSAA employees - Mandatory Initial and 30 month renewal
  - non-SSAA - Initial only, non-mandatory
  - Online training scenario based interactive
  - Face to face for those initiating testing

- **Testing**
  - Pre-deployment, post-incident, show-cause, return to work, follow-up
  - Currently not random (is permitted)
  - Includes overseas ports

- **Interventions**
  - Assessment, treatment, re-education and rehabilitation
  - Disciplinary processes (in parallel or in lieu)

- **Quality assurance**
  - Testing KPIs
  - Rehab success measures
ALCOHOL AND OTHER DRUGS

In September 2008 the Civil Aviation Safety Authority (CASA) implemented legislation, CASR Part 99, regulating AOD Programs in the aviation industry. See CASA for full information.

In response Qantas has reviewed the AOD Policy (see below) and developed a Drug & Alcohol Management Plan (DAMP).

Summary Links

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<th>How to Test?</th>
<th>Information for Qantas Group Employees</th>
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<tbody>
<tr>
<td>Qantas Drug and Alcohol Management Plan (DAMP)</td>
<td>How to arrange a DAMP test</td>
<td>Customs (Prohibited Imports) Regulations 1956 Schedule 4</td>
</tr>
<tr>
<td>Qantas Safety and Health Policy</td>
<td>Managing Onsite Alcohol &amp; Other Drugs Result</td>
<td>Advice on Codeine &amp; Benzodiazepine use in relation to the Workplace</td>
</tr>
<tr>
<td>Information for Managers</td>
<td>What Happens after a Positive test?</td>
<td>Tools and Resources</td>
</tr>
<tr>
<td>Manager's Toolkit</td>
<td>MRO Process - Final Result Determination</td>
<td>Qantas Appointed Alcohol &amp; Other Drugs Testing Agents</td>
</tr>
<tr>
<td>Manager DAMP Testing Notification</td>
<td>DAMP Entry Process - Final Result Determination</td>
<td>QF Group Flight &amp; Cabin Crew Pre Employment AOD Information</td>
</tr>
<tr>
<td>When to test? (test triggers)</td>
<td>How to return an employee to work?</td>
<td>QF Group Ground Staff Pre Employment AOD Information</td>
</tr>
<tr>
<td>Post Incident Testing</td>
<td>Safe Return to Work Plan Process</td>
<td>Safe Use of Medication</td>
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<tr>
<td>Show Cause Testing</td>
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<tr>
<td>CASA Random Testing</td>
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</table>
Monitoring performance – testing and case management dashboards
Outcome Benchmarking: US DOT Aviation Testing

US FAA Aviation positive rates – 2015

Random testing alcohol - 0.083%
Random testing other drugs - 0.523%

Positivity Rates by Testing Reason
Urine Drug Tests – For Federally-Mandated, Safety-Sensitive Workforce

More than 2.5 million tests from January to December 2015

Quest Diagnostics Drug Testing Index™ Full Year 2015 Tables
Benefits of current ‘case by case’ approach vs zero tolerance

- Allows flexibility in management depending on circumstances
- Consistent with just culture
- Consistent with National AOD strategy (harm minimisation model)
- Consistent with antidiscrimination legislation
  - Allows treatment for those who need it
  - Recognises the relapsing remitting nature of the illness
- Retains valuable skill base
- Significant IR and morale benefits
- Reduces exposure to challenge in unfair dismissal proceedings and disputes under enterprise bargaining agreements.
- Recognises that a positive test does not prove impairment
- Encourages self-referral
- Avoids shifting the problem
HIMS (Human Intervention Motivation Study) Program
About HIMS

In any community, a proportion of people use alcohol or other drugs in a way that is unsafe. The nature of alcohol and drug problems is such that an individual may not fully realise the implications of their use. In aviation this can have significant consequences, but if a problem is identified early and managed well, safety can be maintained without jeopardy to employment.

What is HIMS?

HIMS is a programme for members of the aviation community, aimed at helping anyone whose use of alcohol or other drugs is of concern. A cornerstone of HIMS is the understanding that substance dependence is a treatable medical condition. HIMS is modelled on well-established overseas programmes (see links to our colleagues in New Zealand and the United States under the “More Information” tab) which has assisted thousands of pilots in returning to work. Here in Australia it is an industry-wide effort in which employers, unions and CASA will work together to preserve careers and further flight safety.

Supporting Organisations

The following key organisations within the Australian aviation sector have expressed assistance for the HIMS approach to the handling of substance use disorders with support for the objectives, guiding principles and processes of the HIMS programme:

- Australian Federation of Air Pilots (AFAP)
- Australian and International Pilots Association (AIPA)
- Virgin Independent Pilots Association (VIPA)
- Australian Aircrew Officers Association (Australian based Cathay Pacific Airways Crew)

Additional organisations have expressed strong support and will be added as HIMS Australia is fully established.
Program design

**Disease Model**
- Chemical dependency/addiction
- Chronic, primary, progressive
- Control, Compulsion, Consequences
- Insidious, denial

**Identification**
- Family
- Peers
- Supervisors

**Intervention**
- Classic
- Company Led
- Peer
- Combination

**Treatment**
- Abstinence
- Inpatient 28+ days
- Outpatient 3+ years weekly aftercare
Relationship between HIMS and CASA Part 99 in Australia
Thank You