



Random Testing - Helping or Hurting Aviation Safety?

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Aviation Medicine Advisory Service

65th ICASM

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AMAS
AVIATION MEDICINE ADVISORY SERVICE



DISCLOSURES

- No financial disclosures to report
- I am the FAA/ALPA HIMS Program Manager
- I use no-notice abstinence testing
- Dr. Nomy Ahmed AsMA 2017 slides
Will EASA's Drug and Alcohol Testing Proposals Improve Flight Safety?, Denver 1.5.17
www.flyingmedicine.uk
- FAA Drug & Alcohol Testing Data
Dr. Nicholas Lomangino, HIMS 2017, Denver, 25.09.17

Action → Reaction



- Germanwings 9525 March 2015

- BEA Task Force May 2015
https://www.bea.aero/uploads/tx_elydbrapports/BEA2015-0125.en-LR.pdf
- EASA Task Force on Measures July 2015
<https://ec.europa.eu/transport/sites/transport/files/modes/air/news/doc/2015-07-17-germanwings-report/germanwings-task-force-final-report.pdf>
- AsMA Pilot Mental Health Update Sept. 2015
<https://www.asma.org/asma/media/AsMA/pdf-policy/2015/AsMA-Pilot-Mental-Health-Working-Group-Recommendations-September-2015.pdf>
- FAA Pilot Fitness ARC November 2015
<https://www.asma.org/asma/media/AsMA/PDF-News/july-2016/Pilot-Fitness-Aviation-Rulemaking-Committee-Report.pdf>
- EASA Opinion 14/2016 December 2016
<https://www.easa.europa.eu/document-library/opinions/opinion-142016>

BEA Task Force Recommendations



- **Recommendation 3:**

The Task Force recommends to **mandate** drugs and alcohol testing as part of a **random programme of testing** by the operator **and at least in the following cases:** initial Class 1 medical assessment or when employed by an airline, post-incident/accident, with due cause, and as part of follow-up after a positive test result.”

EASA Opinion 14/2016



- Ensuring that all pilots have access to a *support programme*;
- Mandating airlines to perform a *psychological assessment* of pilots before the start of employment;
- Introducing **systematic *Drug & Alcohol (D&A) testing*** of flight and cabin crew upon employment, after a serious incident or accident, with due cause (i.e. following reasonable suspicion), as well as
- ***Unannounced*** D&A testing after rehabilitation and return to work;
- As an additional safety barrier for airlines which are not already subject to a national programme for psychoactive substance testing: **mandatory random alcohol screening** of flight and cabin crew within the EU RAMP inspection programme.

<https://www.easa.europa.eu/newsroom-and-events/news/pilot-mental-fitness-easa-puts-forward-new-rules-air-operations>

WHAT ARE WE TESTING FOR?

- Alcohol – *Impairment*
- Others Substances – *History of Use*
 - ILLEGAL
 - LEGAL but Impairing
 - Most Impairing Substances Not Tested
 - Impairment not Quantified with Levels
- Enhancing Safety or Judging Behavior?



Air India union opposes DGCA's mandatory alcohol test warning

Why the aviation regulator has not conducted any audit for the past two years, asks Indian Commercial Pilots' Association.

An Air India pilot union has expressed apprehension over the aviation regulator Directorate General of Civil Aviation (DGCA)'s reported warning to pilots for not complying with **post-flight breath analysis test** on international flights.

FlightSafety.org Flight Safety Information, #182 September 12, 2017

<http://www.thehindu.com/news/national/air-india-union-opposes-dgcas-mandatory-alcohol-test-warning/article19670071.ece>



Dr. Quay Snyder

65th ICASM, Rome, Italy

Substance Use Disorders

- Many Substances are Addictive
 - Alcohol is Only One, but is Legal in Most Countries
 - Legal and Addictive (prescription, recreational)
 - Illegal
- All act in the same areas of the Brain
- All part of same Disease



- Testing Terms

“Substance Use” vs. “AOD” vs. “Drug & Alcohol”

TYPES of TESTING

- Random – Unannounced, Not Predictable
- Defining Event – Not Random
 - Pre-Employment
 - Post-Accident
 - Reasonable Suspicion
 - Return to Duty
 - Pre and Post Duty (Alcohol)
- Abstinence after Treatment - Targeted



PURPOSE of TESTING

- GOAL – Insure that Safety Sensitive Professionals are Medically Fit to Perform Assigned Duties



- Russian proverb, “Доверяй но Проверяй”



- Trust, but Verify

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REASONS to TEST – SAFETY!

- At least 1 pilot per week tests fails a random test worldwide
 - Each removal from flight may be viewed as improved flight safety
 - Vast majority of pilots testing positive are *officially* ‘unknown’ despite
 - Flying with other pilots
 - Having annual AME medicals
 - Access to Peer support programmes/ EAP
 - Undertaking training/ education programmes
- www.flyingmedicine.uk



Regulators Rationale for Testing

- Act as a deterrent
- Unbiased
- They *may* pick up flight safety issues
 - Those with underlying illness (Substance Use Disorders)
 - Those undertaking code violations
 - Those with risk taking behaviours



Australian Government
Civil Aviation Safety Authority



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Reason to Test - Safety

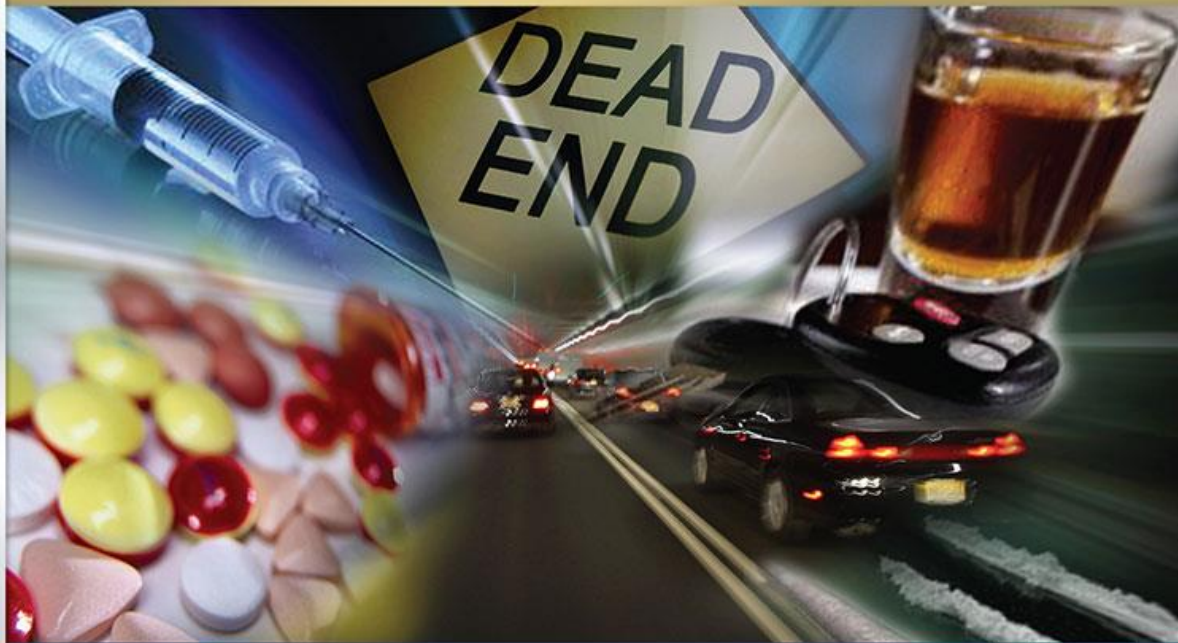


NTSB MOST WANTED LIST

OF TRANSPORTATION SAFETY IMPROVEMENTS 2015

CRITICAL CHANGES NEEDED TO REDUCE TRANSPORTATION ACCIDENTS AND SAVE LIVES

END SUBSTANCE IMPAIRMENT IN TRANSPORTATION



www.nts.gov/mostwanted

REASONS to TEST – SAFETY!

- Detect Disease – Substance Use
 - Early Detection of Disorders
 - Referral for Treatment
 - Prior to Progression
 - Prevent / Minimize Physiological Consequences
 - Reduce Cognitive Impairment
- Ethical Obligation to Treat



Certification / Employment

- SAFETY Salient Issue – Not Behavior
- **???? SUD ≠ Others DISEASES ?????**
 - Coronary Artery Disease
 - Cancer
 - Diabetes
 - Depression
- Treat → Reassess → Recertify → Monitor

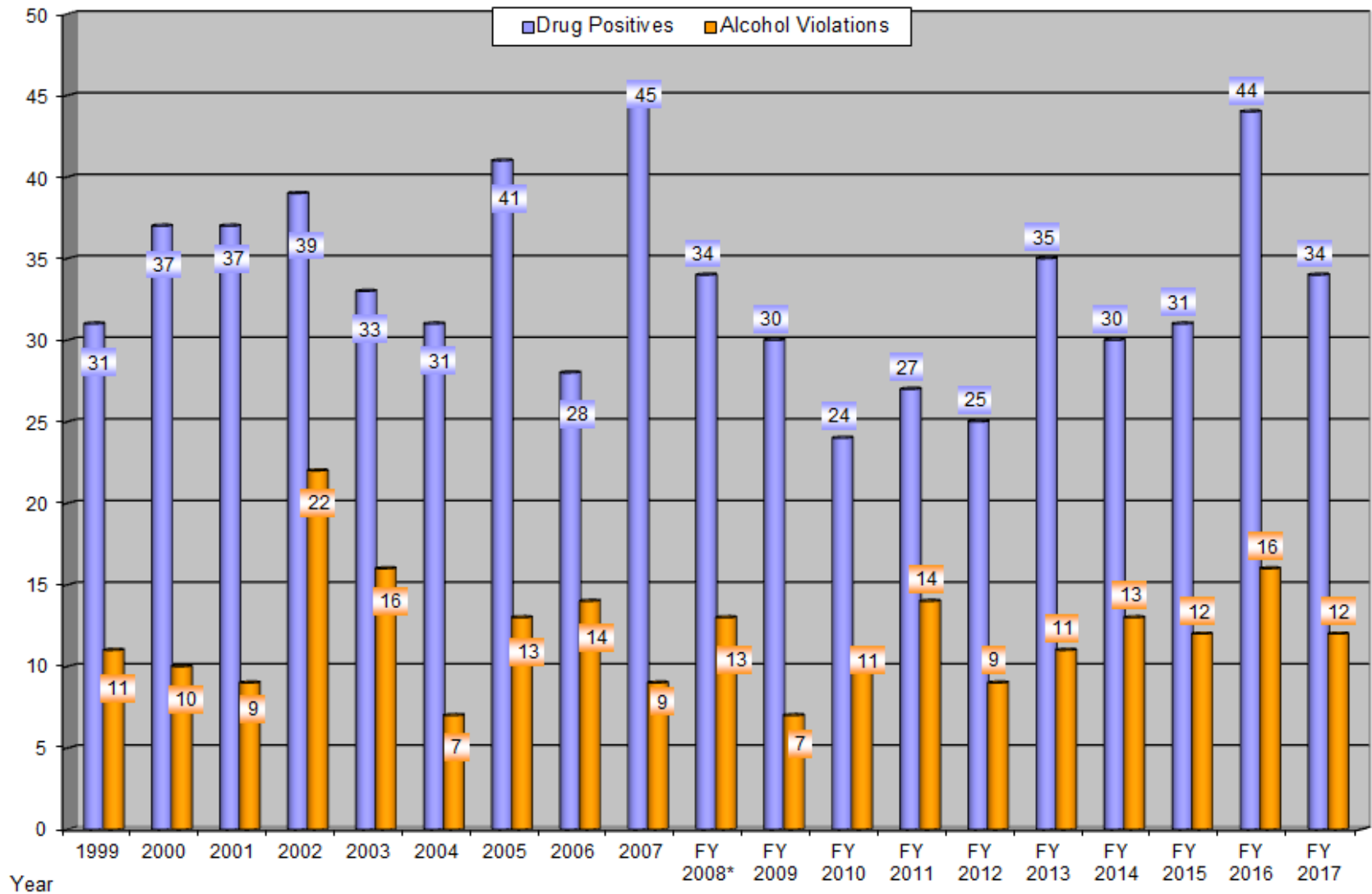


Rationale For Testing

- Sends a Strong Message To:
 - Aircrews considering flying after substance use
 - Flying public that safety is paramount
 - Politicians showing industry serious on risk mitigation www.flyingmedicine.uk
- Pilots with Substance Use Disorders:
MAY encourage seeking help
MAY encourage concealing the disease – Not Safe!



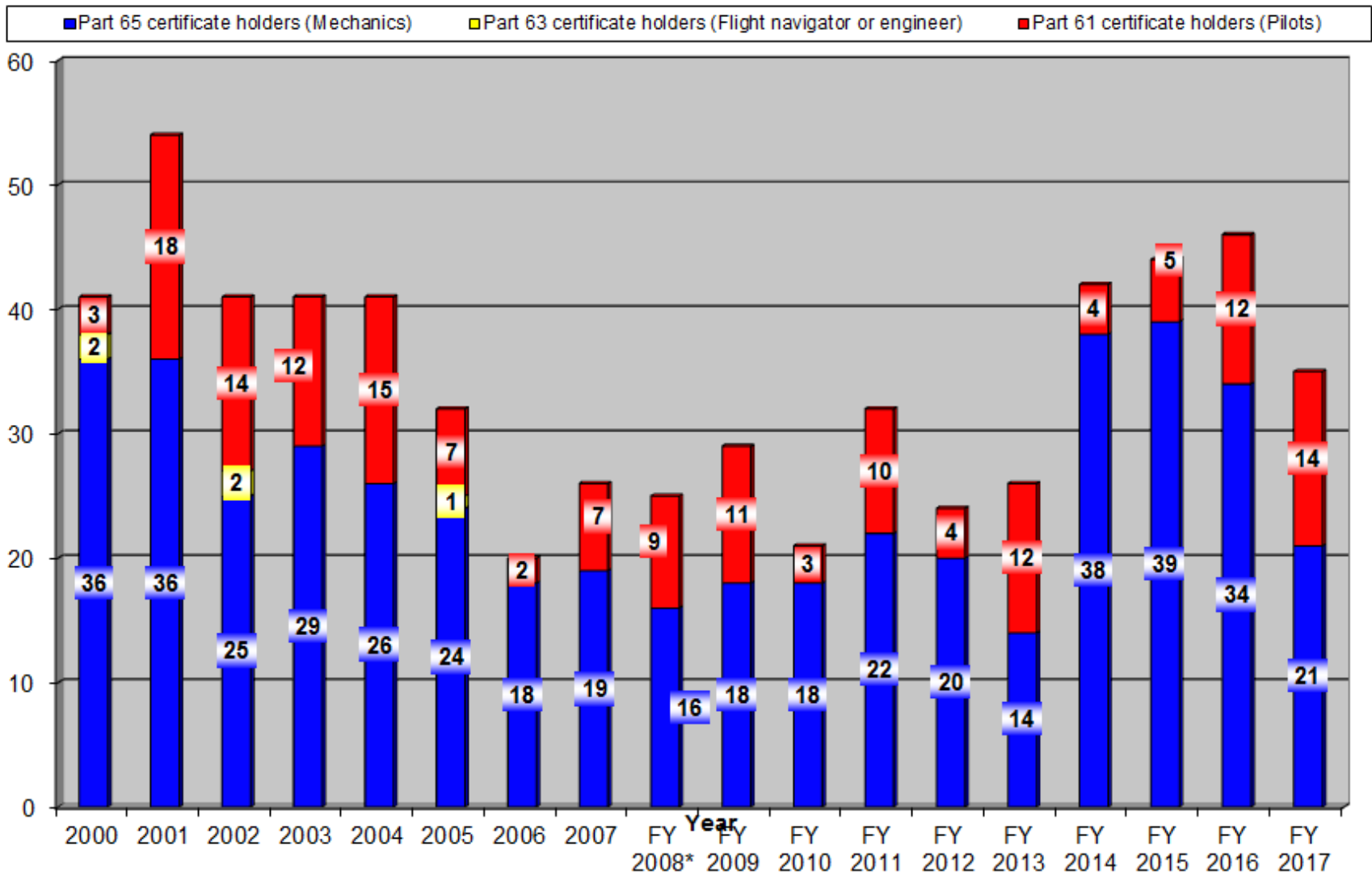
Part 67 (Pilot) Drug Positives and Alcohol Violations



* Represents change from Calendar year to Fiscal year. 1997-2007 are based on Calendar year reported numbers. FY2008 data reflects cases investigated between Jan. 1, 2008 and Sept. 30, 2008. FY2009 is calculated between Oct. 1, 2008 and Sept. 30, 2009.



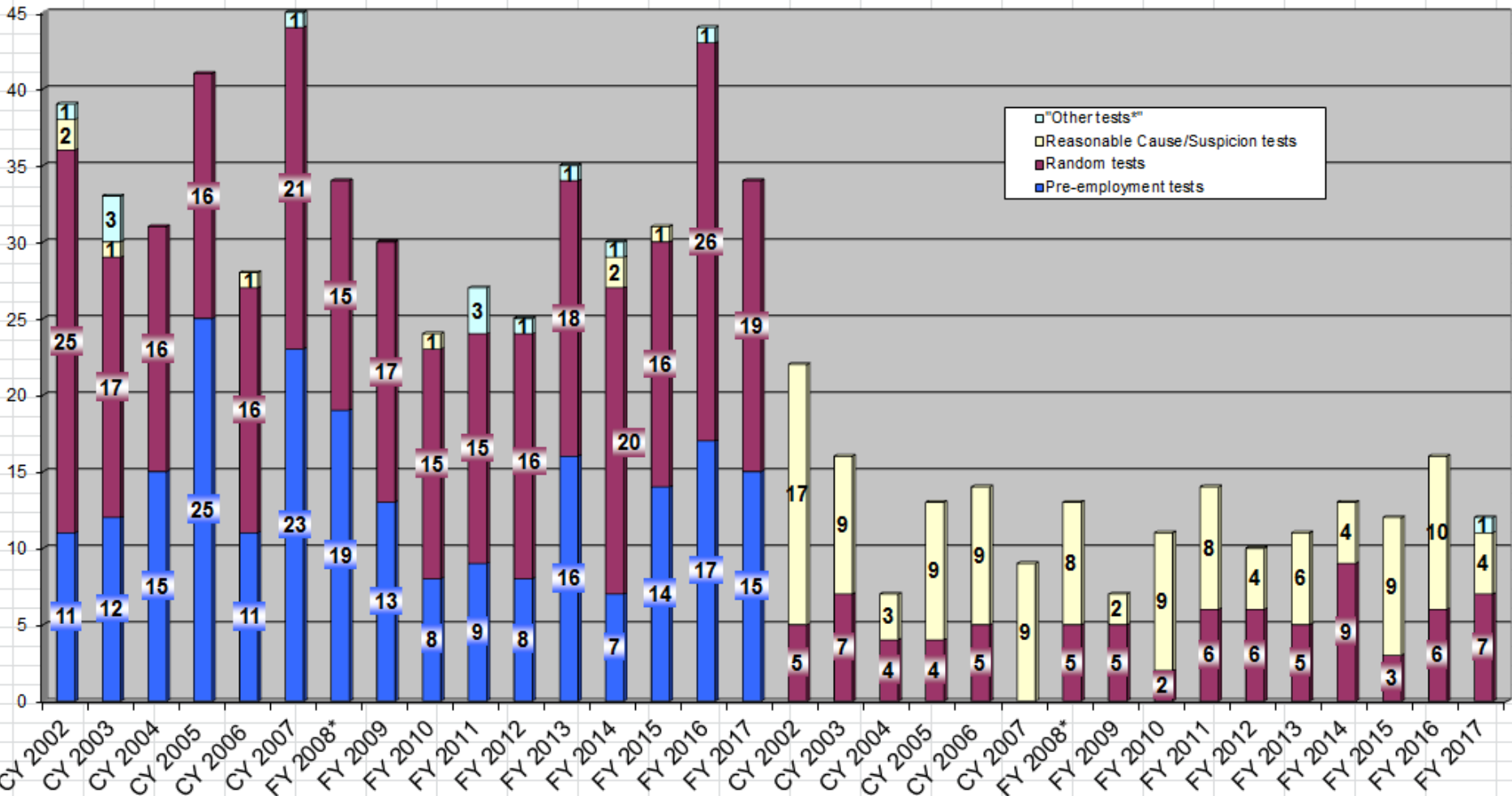
Refusals To Take A Drug or Alcohol Test



* Notes change in reporting from Calendar year to Fiscal year. Numbers reported from 1997-2007 are Calendar year.



Part 67 (Pilot) Drug Positives and Alcohol Violations by Type of Test

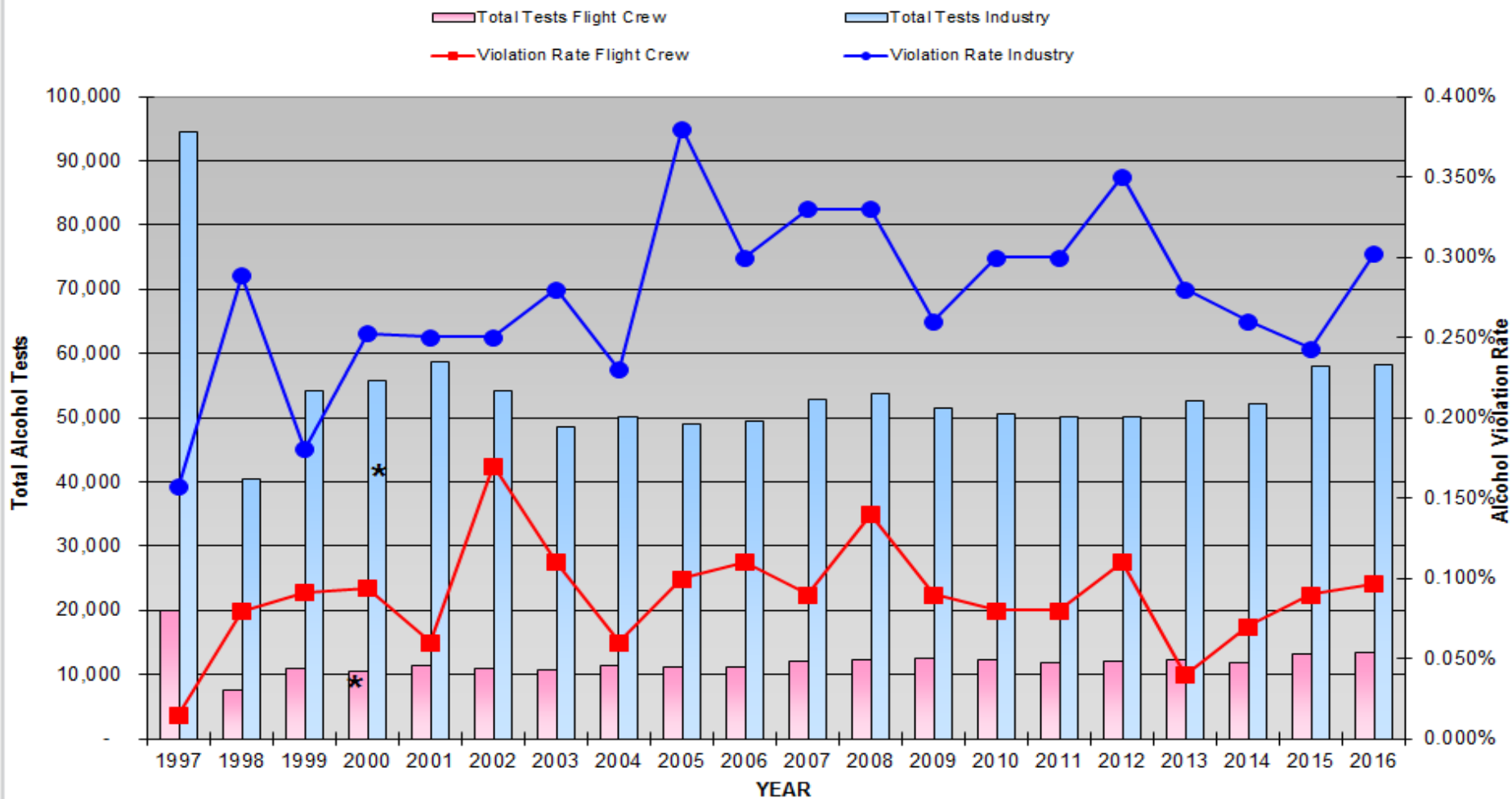


Drug Positives * Change from CY to FY
 For FY2008, data reflects cases investigated between January 1, 2008 and September 30, 2008. FY2009 is calculated between October 1, 2008 and September 30, 2009.

Alcohol Violations * Change from CY to FY
 For FY2008, data reflects cases investigated between January 1, 2008 and September 30, 2008. FY2009 is calculated between October 1, 2008 and September 30, 2009.



Alcohol Tests and Violation Rates over Time



* Decrease attributed to changing random testing rate from 25% to 10% beginning in CY1998

***Flight Crew consists of cockpit personnel only.

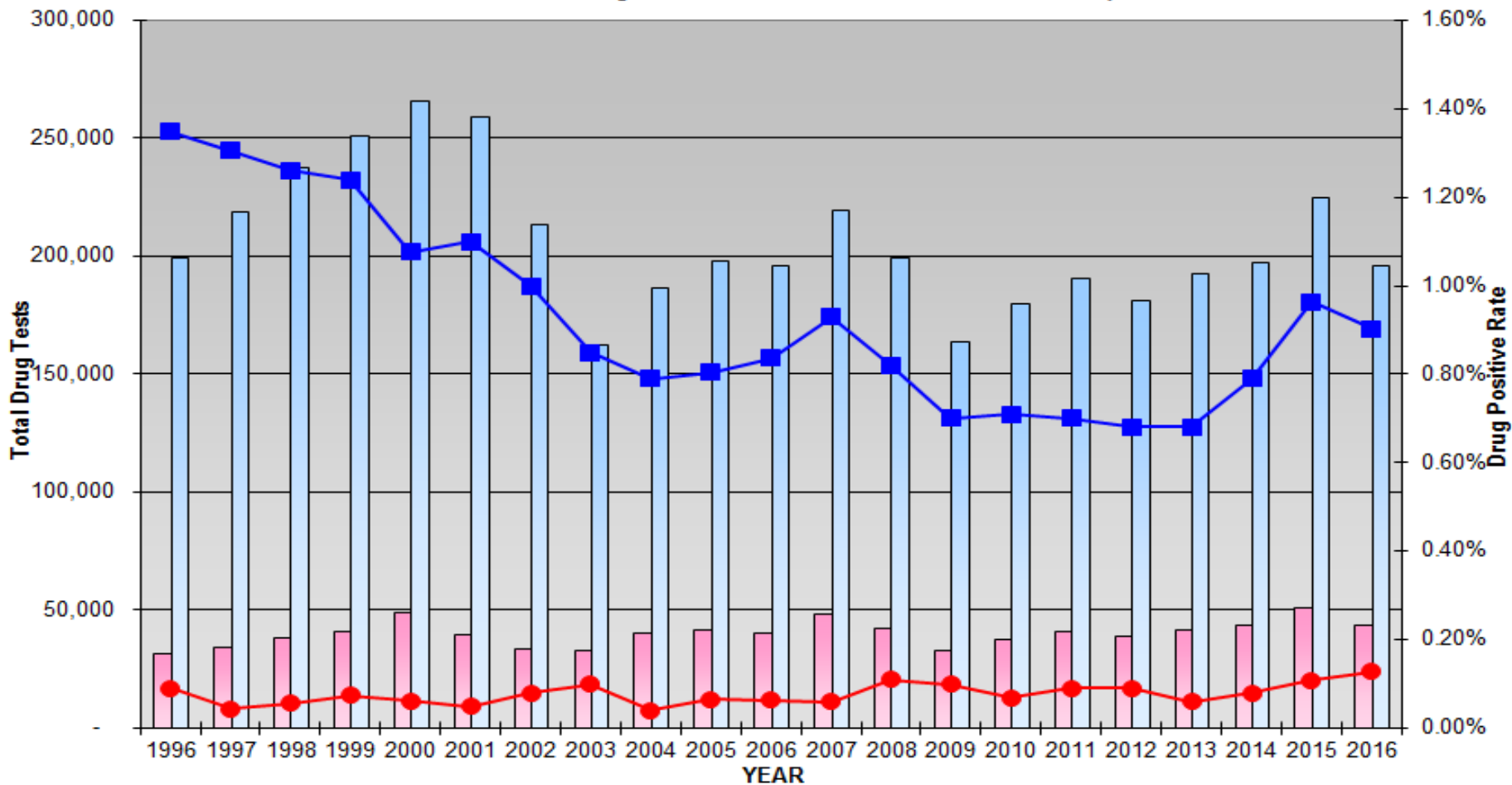
***Industry includes cockpit personnel, flight attendants, flight instruction duties, aircraft dispatcher duties, maintenance and preventive maintenance duties, ground security coordinator duties, aviation screening duties and air traffic control duties.

Source: Industry annual reports submitted to Management Information System.



Drug Tests and Positive Rates over Time

■ Total Tests Flight Crew ■ Total Tests Industry
● Positive Rate Flight Crew ■ Positive Rate Industry



***Flight Crew consists of cockpit personnel only.

***Total includes cockpit personnel, flight attendants, flight instruction duties, aircraft dispatcher duties, maintenance and preventive maintenance duties, ground security coordinator duties, aviation screening duties and air traffic control duties.

Source: Industry annual reports submitted to Management Information System



REASONS NOT to TEST

- Potentially huge cost to the employer/ employee
 - Testing costs
 - Additional training resource costs
 - Delayed flights
 - Aircrew downtime
 - False positive results
 - MRO reviews
 - Assessments by Substance Use Professionals
 - Human Resources reviews/ processes
- May decrease flight safety by increasing the potential for withdrawal seizures in flight
- Therefore not cost effective and poor return on investment



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PEER SUPPORT



- Ensuring that all pilots have access to a *support programme*; EASA Opinion 14/2016
- Not Defined
- Focused Mainly on Psychological Distress

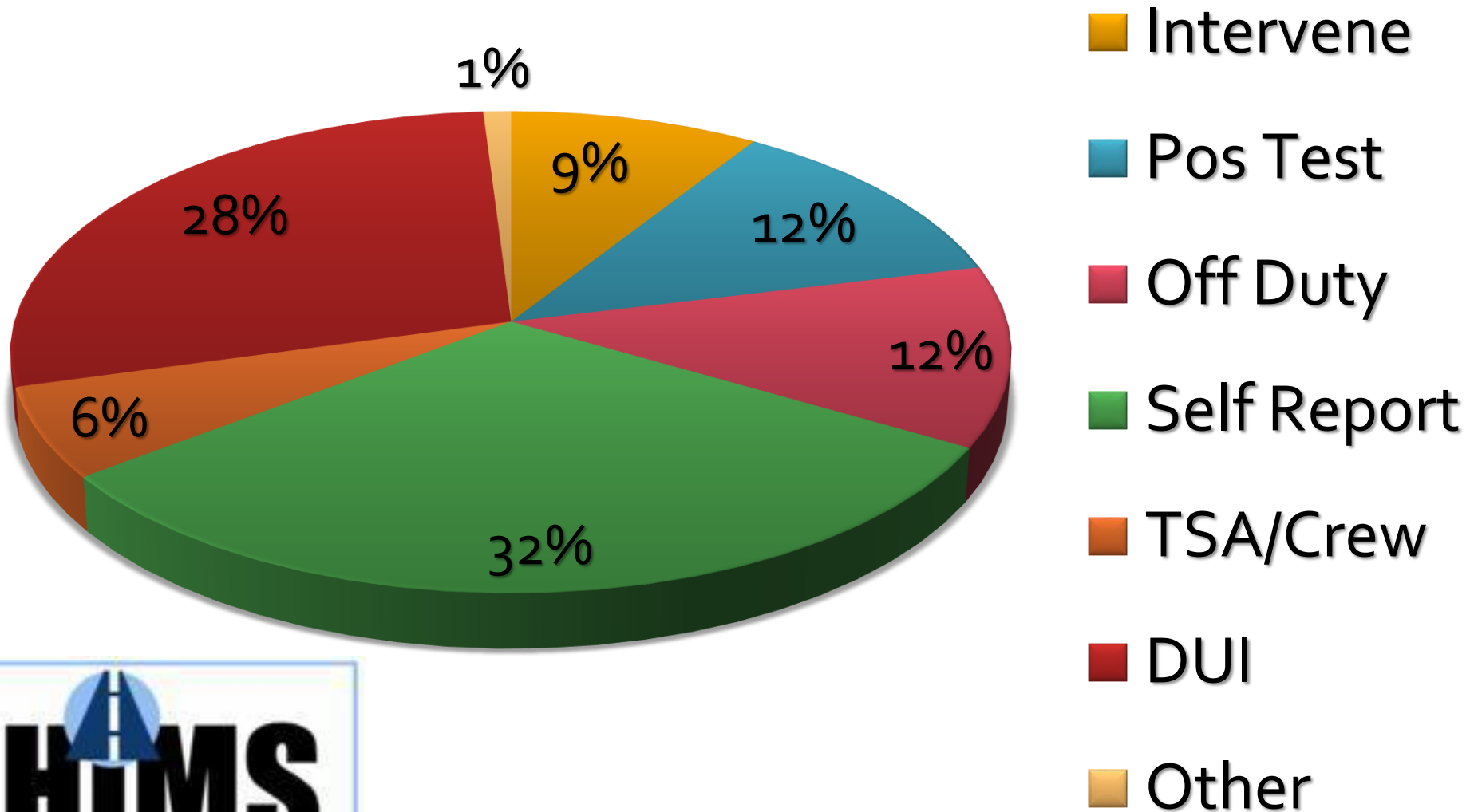
- Pilots TRUST Pilots
- Barriers to Seek Help Reduced
- Prevalence of SUD HIGH, Detection is LOW



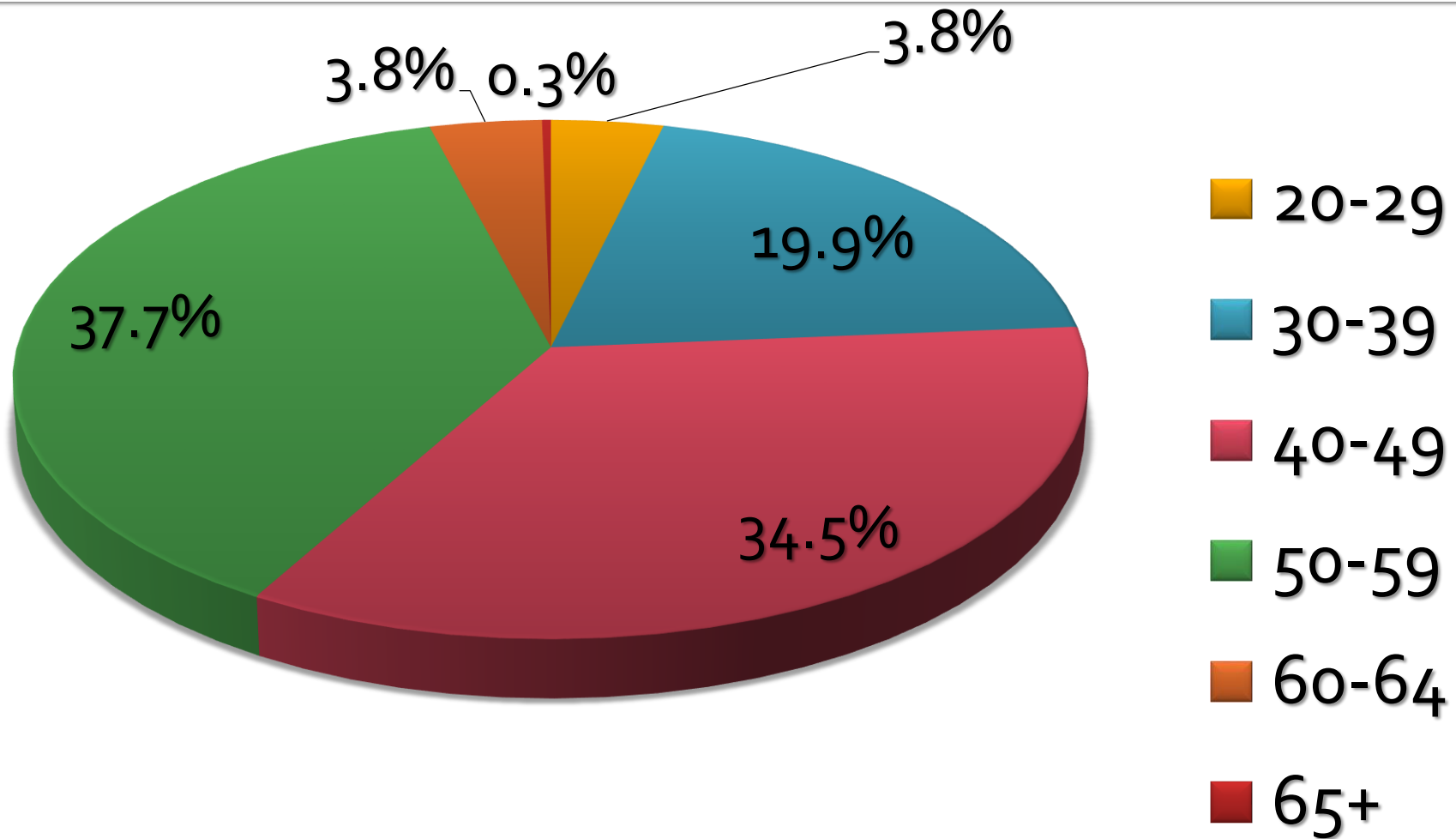
- Started in 1974 – 43 years of Experience
- ~ 6000 Pilots Recertified
- 85% Long-term Sobriety
- Includes ALL Substances
- Cooperative Program
 - Pilot Unions
 - Airline Employers
 - Regulator
 - Medical Experts



How Entered Program



Age Distribution



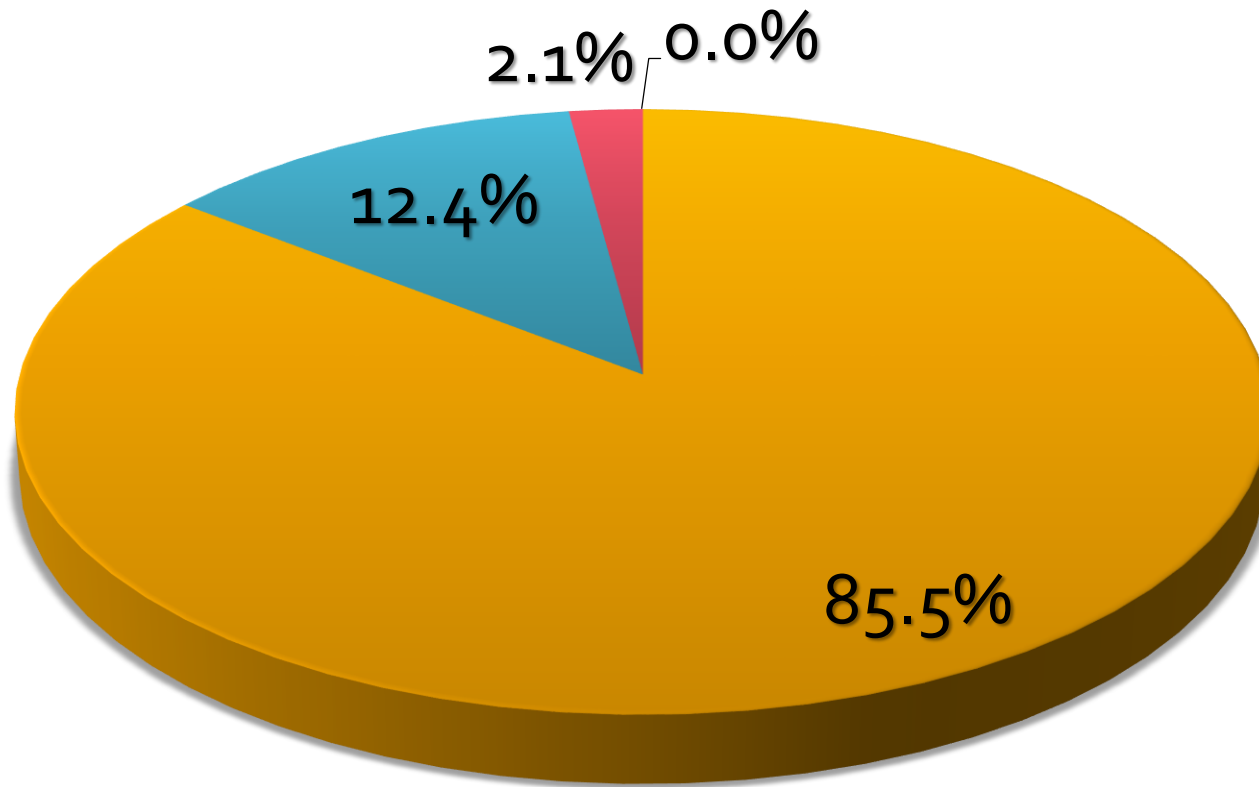


Drugs of Choice

Primary Drug	Relapse Cases %	Secondary DOC 15% of Total
■ Alcohol - 91%	12%	Opioids - 1/3
■ Cocaine - 2%	24%	Marijuana - 1/3
■ Opiates - 2%	42%	Coke/Stim - 1/3
■ Opioids - 1%	33%	
■ Marijuana - 2%	7%	
■ Other Stim- 1%		
■ Rx Other - 1%		



Relapse Rates



■ None

■ One

■ Two

■ Three



HIMS Return on Investment



- “Random” Testing
 - Detects ~ 5 - 20 pilots per year
 - < 0.1% of pilots worldwide test positive
 - Direct Costs ~ \$6 M USD annually in 2000
- HIMS Program
 - Enrolls ~ 200 pilots per year
 - > 87% of Pilots identified Without Testing
 - Direct Costs ~ \$ 225K annually in 2010
 - **Return on Investment ~ 26:1 [9 – 43 : 1]**

Testing Without HIMS – Peer Support

- Only Latest stages of SUD detected
- Without “Safe Haven” pilots hide their use
- Peers unlikely to report fellow pilot
- Family members participate in deception
- Alcohol Withdrawal Seizures more likely
- Public Embarrassment for All
- Employers & Pilots Unfamiliar with Disease



Conclusions

- Random Substance Use Testing Alone
 - Low Probability of SUD Detection in Pilots
 - Minimal Deterrent for Use
 - Expensive to Administer
 - May Compromise Safety
- Random Testing with Peer Support Programs
 - Reduces Barriers to Identification & Treatment
 - Cost Savings
 - Critical for Aviation Safety Management Systems

Considerations

- Delay Implementation of AOD Testing until:
 - CAA's accept SUD's as a medical condition
NOT a permanently disqualifying condition
 - Employers support & resource
HIMS type programs
 - Pilot unions train Peers in Substance Use Disorders
 - Effective Treatment is Available for SUDs
 - AMEs are Educated on Monitoring SUD Recovery
 - Pilots know a Safe Haven exists for Seeking Help

Priorities & Rationale

- Aviation Safety
- Pilot Health
- Ethical Medical Practice
- Return on Human & Financial Investment

www.HIMSprogram.com



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