

# **Pilot Fitness for Duty Assessments - Closing Pandora's Box**

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**Aviation Medicine Advisory Service**

**NBAA Safety / FSF BAC**

**BASS May 13, 2015**

**AMAS**  
AVIATION MEDICINE ADVISORY SERVICE



# OVERVIEW

- What is the Challenge?
- How To Recognize Problems
  - Barriers to Evaluation
  - Findings to Date
- Strategy – Minimize Risk  
– Maximize Safety



# What Is The Challenge?

## The “Failing” Aviator

- CRM Challenge
- Reliability Question
- Efficiency / Productivity Drain
- Personnel Dilemma – HR / Legal / AD / CP
- Pre-Employment Selection
- SAFETY HAZARD !!!





# Why Are We Talking?

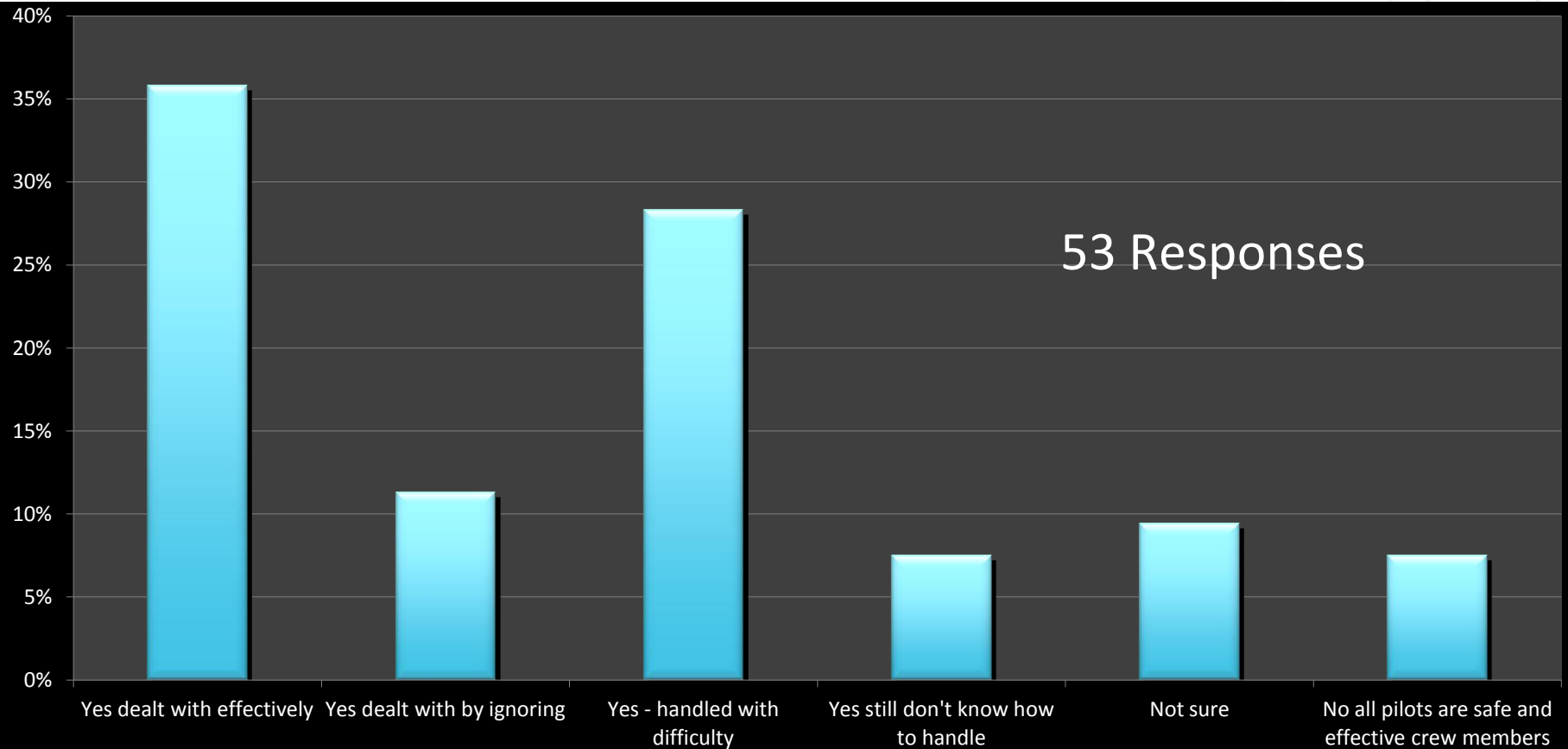
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- Long Standing Universal Dilemma
- Lack of Guidance
- NBAA Safety Committee Priority 2014 - 17
- NTSB Ten Most Wanted – 2015
- Safe Efficient Reliable Operations
- Recent Events





# Concerns about Fellow Pilot







# Absence of Guidance

## No Standardized Evaluation System

- Little FAA Oversight after Initial Certs/Ratings
- PRIA documents non-specific
- ASAP / FOQA data deidentified
- FAA Medical certificate limited value
- Training Vendors Philosophies / Limitations
- Military / Airline models not used





# NTSB MOST WANTED LIST OF TRANSPORTATION SAFETY IMPROVEMENTS 2015

CRITICAL CHANGES NEEDED TO REDUCE TRANSPORTATION ACCIDENTS AND SAVE LIVES

## REQUIRE MEDICAL FITNESS FOR DUTY



[www.ntsb.gov/mostwanted](http://www.ntsb.gov/mostwanted)

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# NTSB Ten Most Wanted - 2015

- Fitness For Duty
  - Medical
  - Psychological
  - Cognitive
- End Substance Impairment in Transportation
  - OTC's
  - Prescription
  - Illicit and Alcohol



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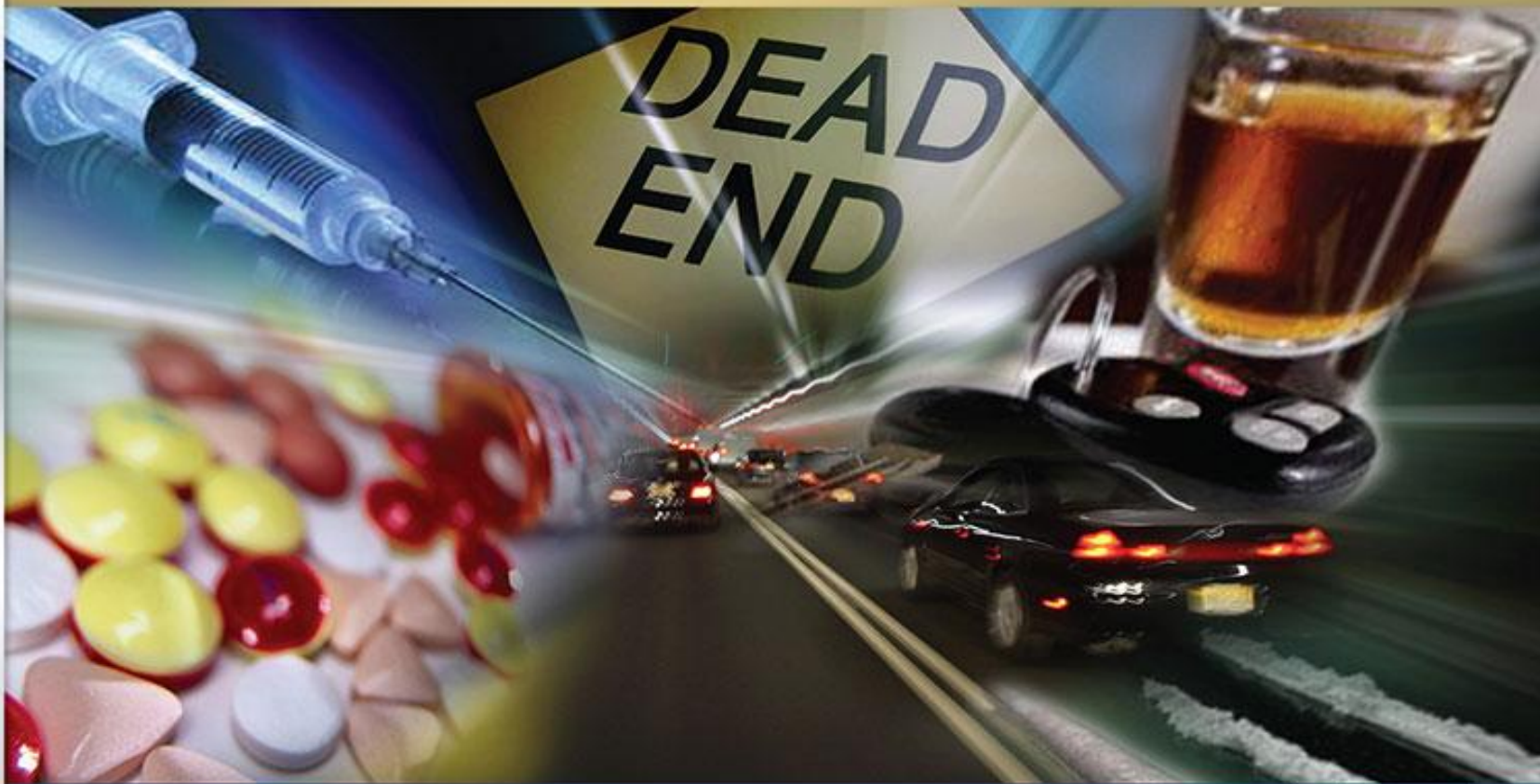




# NTSB MOST WANTED LIST OF TRANSPORTATION SAFETY IMPROVEMENTS 2015

CRITICAL CHANGES NEEDED TO REDUCE TRANSPORTATION ACCIDENTS AND SAVE LIVES

## END SUBSTANCE IMPAIRMENT IN TRANSPORTATION



[www.nts.gov/mostwanted](http://www.nts.gov/mostwanted)

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# NTSB 10 Most Wanted - 2015

## Eliminate Substance Impairment in Transportation

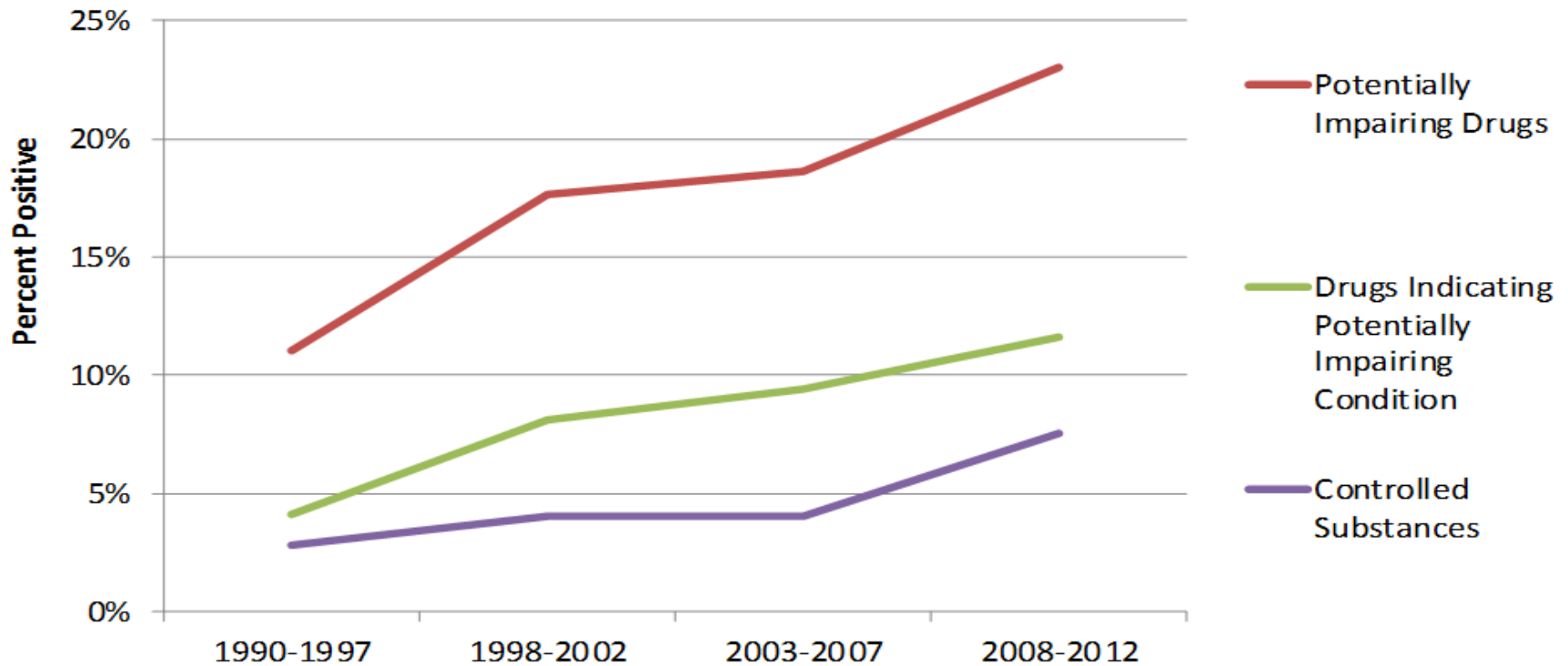
- NTSB SS 14/01 - “Drug Use Trends in Aviation – Assessing the Risk of Pilot Impairment”
  - 1990 - 2012 fatal accidents – toxicology results
  - Did not evaluate Alcohol
  - OTC, Prescription and illicit drugs, overlap
  - Societal trends increasing use





# NTSB SS 14/01 Findings

**Percentage of Study Pilots With Positive Findings for Potentially Impairing Drugs and Conditions, and Controlled Substances, 1990-2012**







# NTSB SS 14/01 Findings

- Impairing meds/conditions – 10% → 40%
- 10% diphenhydramine (Benadryl)
- Marijuana use increasing
- Older pilots have more impairing conditions
- Younger pilots use more illicit drugs
- Pilots w/o medicals had higher rates
- Lack of medication info / education

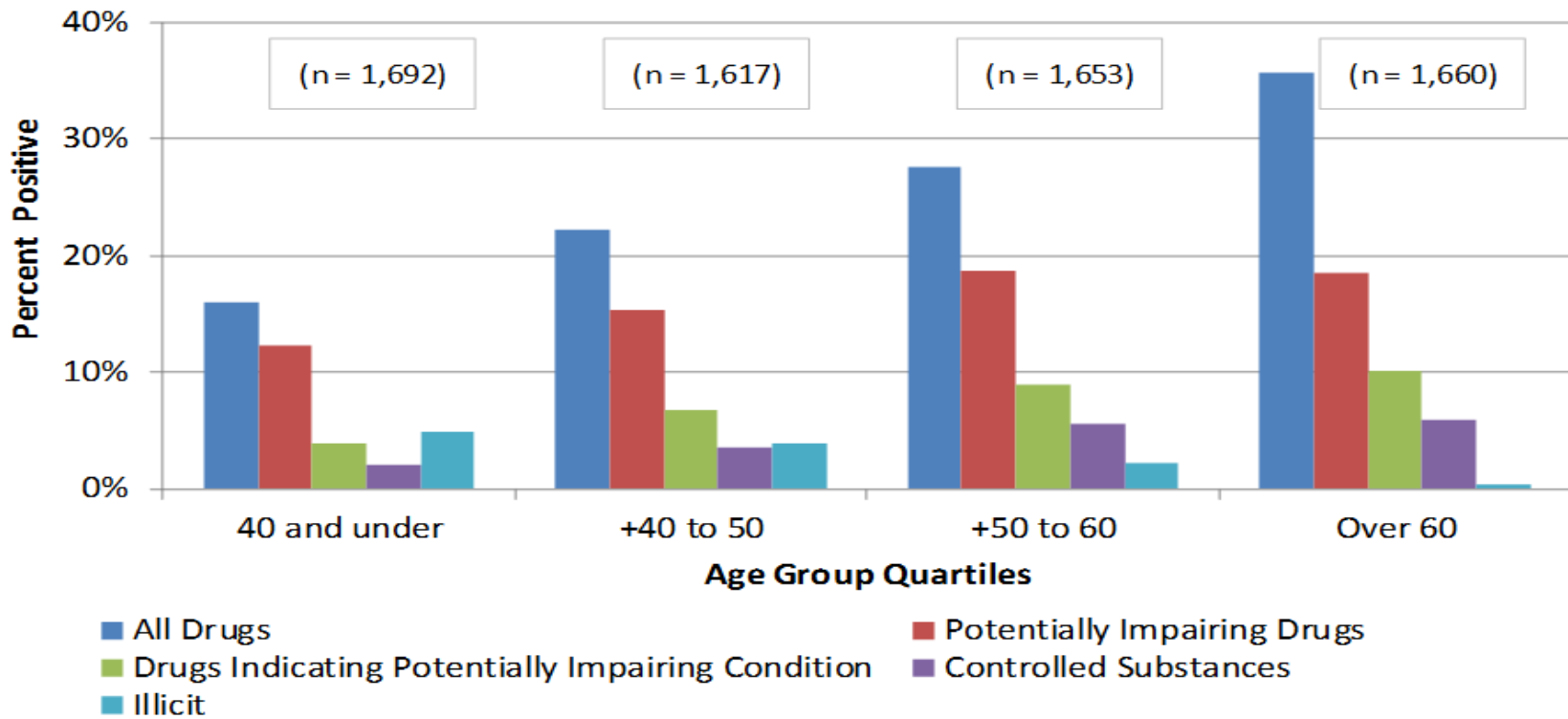






# NTSB SS 14/01 Findings

**Percentage of Study Pilots With Positive Toxicology Findings by Age Group, 1990-2012**





# Recent History

- Airline Pilot Contracts
- FAA Policies – SSRI's, OSA, Substance Abuse
- NBAA Safety Committee
  - Fatigue Working Group
  - Fitness For Duty WG
- NTSB Ten Most Wanted
- Germanwings Event





# Identifying the Problem

## In the Aircraft

- FMS Programming Errors
- Checklist Omissions
- Altitude Deviations
- SOP Non-Compliance
- Missed Radio Calls / Clearances
- Requests for Physical Assistance





# Identifying the Problem

## In the Flight Department

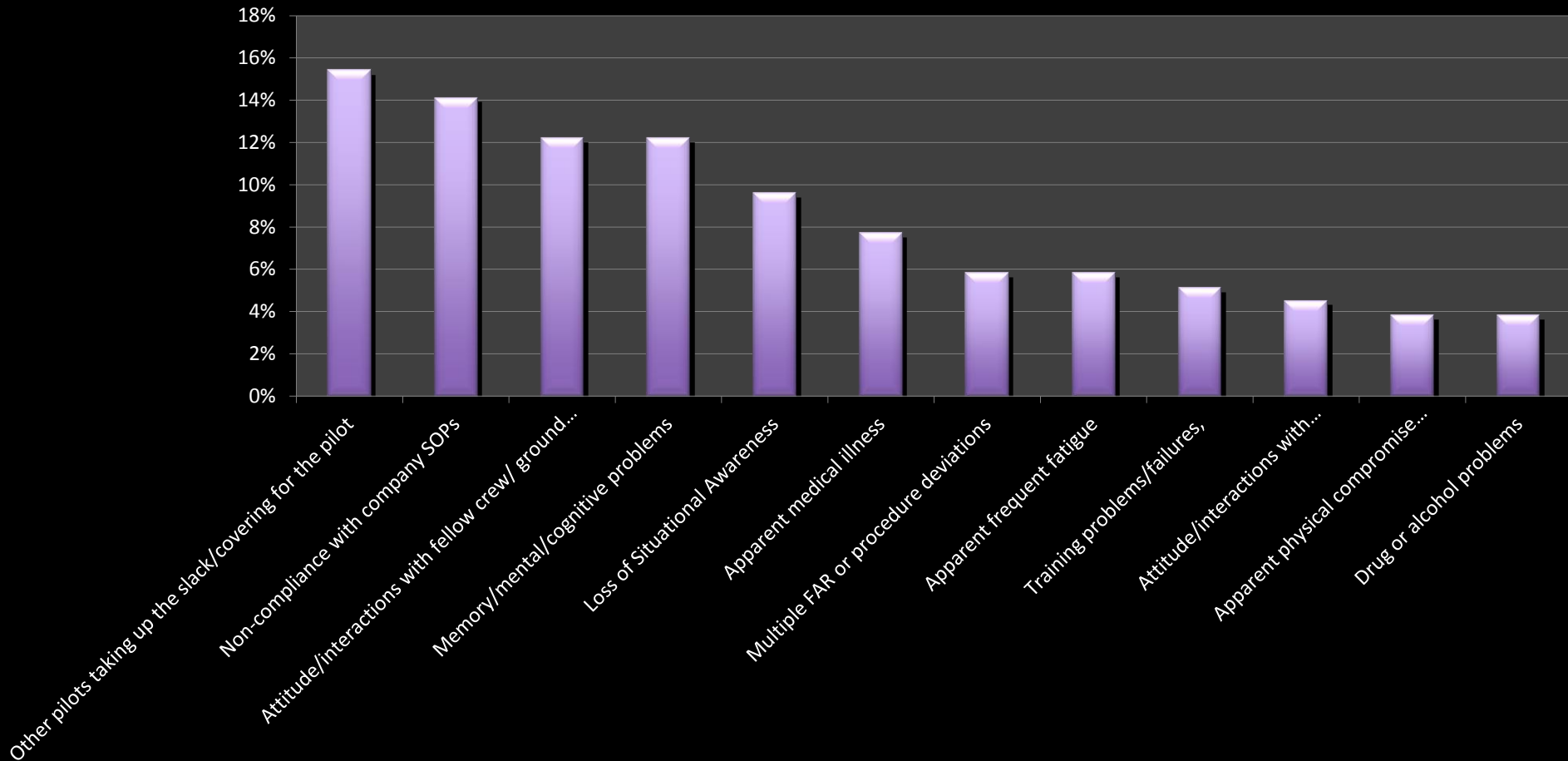
- Training Problems
- Do Not Pair Requests
- Frequent Sick Leave Use
- Repeated Fatigue Calls
- Emphasizing Outside Troubles
- Suspected Impairment







# How Did FFD Problems Show?





# Opening Pandora's Box

## Assessing the Failing Aviator

- What Triggers Initiating Action?
- How Should the Evaluation Progress?
- What Expertise Is Required?
- Will It Be Fair? Comprehensive?
- What Are Potential Outcomes?
- Company / Individual Liabilities?





# Barriers to Evaluation - Cockpit

- Protection of Fellow Pilots / Friends
- Potential Loss of Career / Income
- “Not That Serious – I Can Cover”
- Meeting Operational Demands





# Barriers to Evaluation - Cockpit

- Denial – Personal or Other Pilots
- FAA Medical Certification Fears
- Fear to get Involved
- Rationalization “Just having a Rough Spell”







# Evaluation Barriers - Management

- Aviation Department Leadership
  - Operational Demands
  - Not in SMS
- No FAA Guidance
- Internal Medical Staff / AME Not Trained
- Absence of 3rd Party Evaluator
  - Independent & Knowledgeable





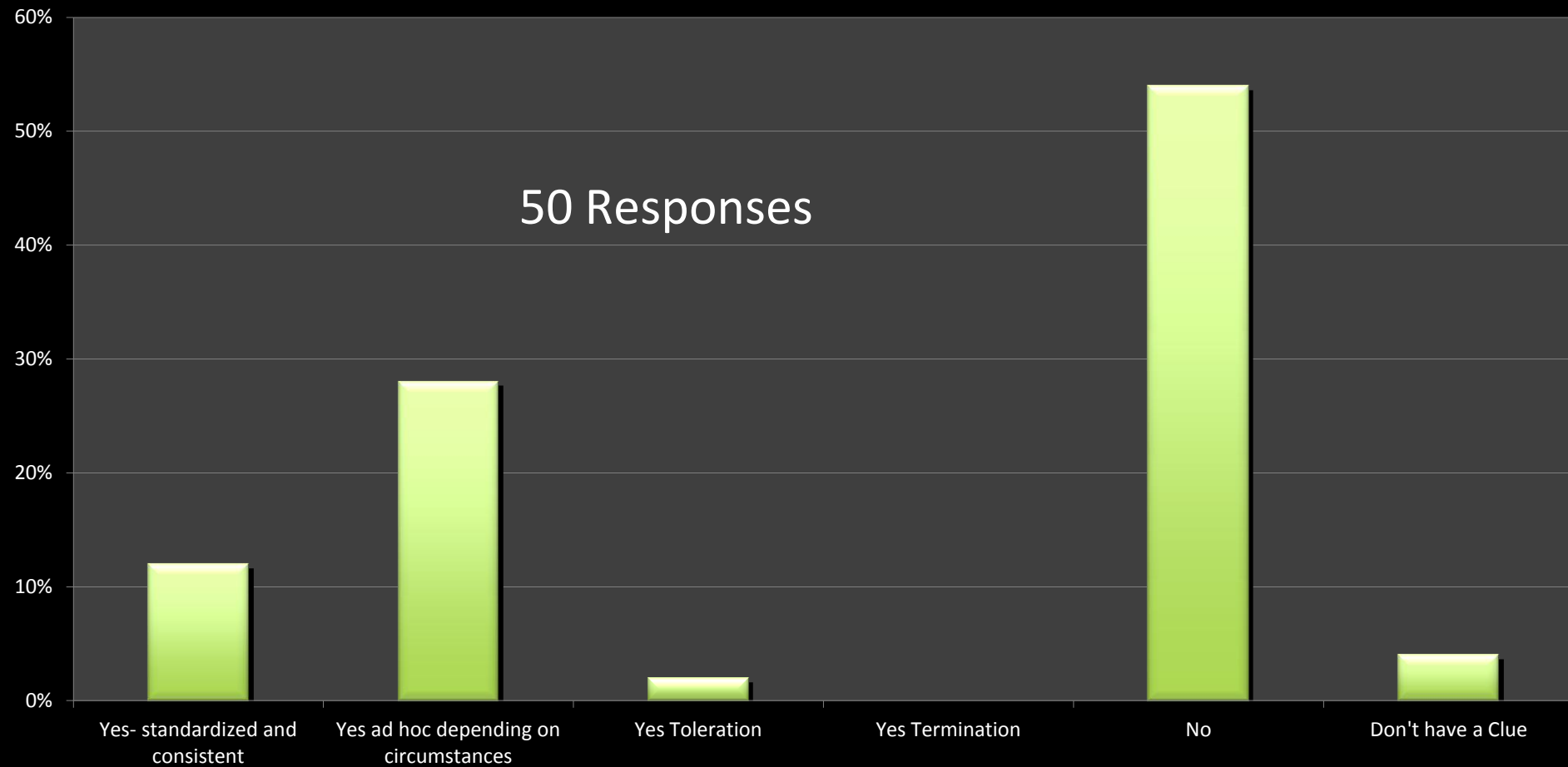
# Evaluation Barriers - Management

- Legal
  - Age Discrimination Suit
  - Privacy Concerns
  - Not in Pilot Contract
- Human Resources
  - No Written Policy / Procedure
  - Lack of Insurance Coverage for Evals
  - Lack of Disability / LOL Insurance





# Aviation Department FFD Policy?





# Why Evaluate?

## Critical Threat & Safety Risk!

### Aviation Department

- National Airspace System
- Cockpit Workload
- Puts Principals at Risk
- Reputation

### Pilot – Personal Health

- Physical / Psychological / Cognitive Well Being
- Treatable Medical Condition







# Why Evaluate?

**SAFETY!!! SAFETY!!! SAFETY!!!**

- Staffing Decisions
- Training Effectiveness / CRM
- Improved Health / Longevity
- Career Protection
- Financial Protection
  - Pilot – Insurance Disability
  - Company – Maximize Resources – Minimize Liability



# Fitness For Duty Evaluations

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## Fundamental Assumptions

- Experienced & Previously Well- Performing Professional Aviators Do Not Have a Decline in Skills and Function Without an Explainable, and Potentially Treatable Reason.
- Assessments Can Identify Pilots Who Can be Safely Returned to the Cockpit with Treatment and Identify Those Who Cannot Safely Fly.



# Fitness For Duty Evaluations

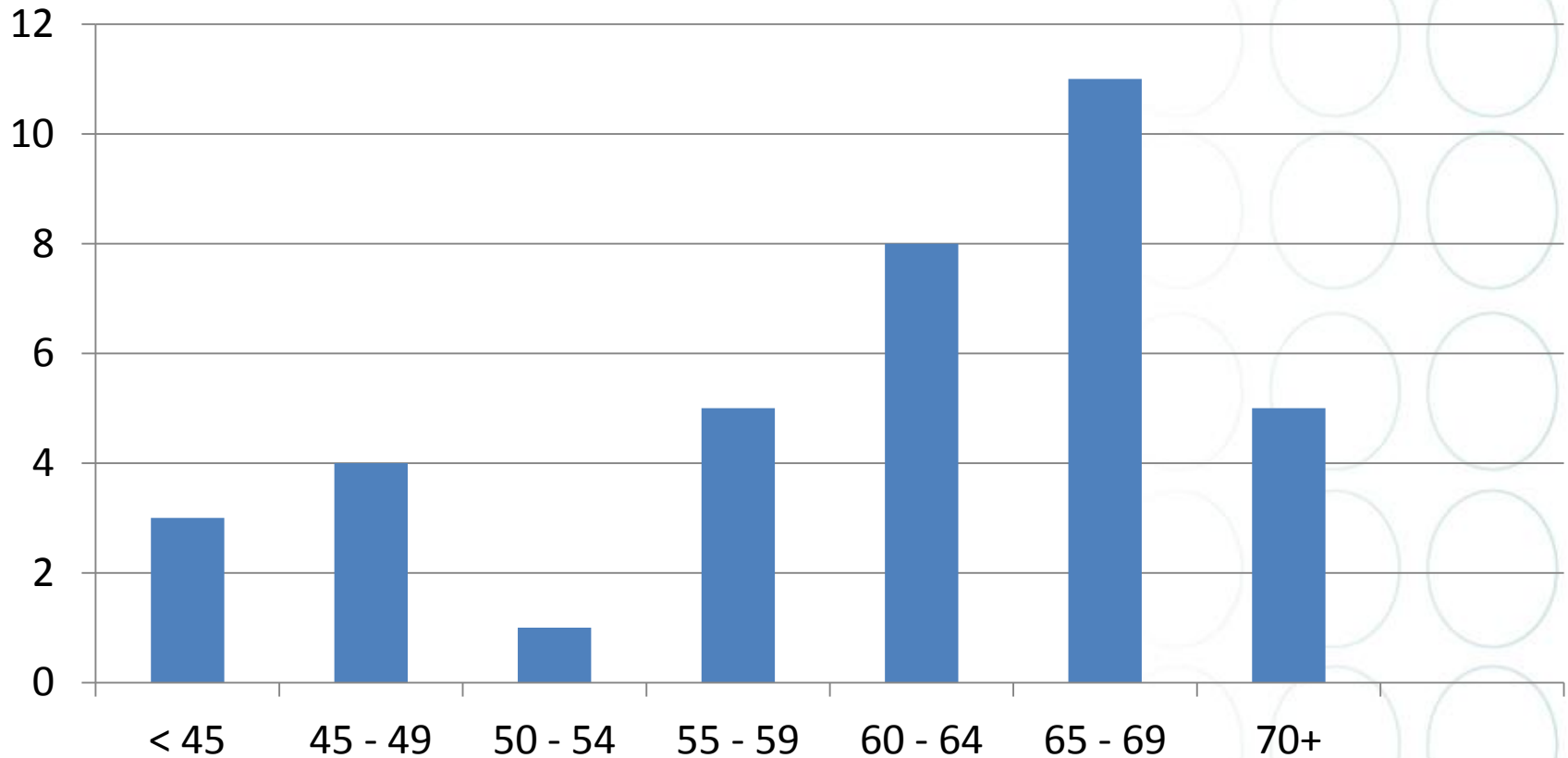
- Professional Pilots
- 40+ pilots evaluated to date
- Age a risk, but not exclusively
- Common theme – Cognitive impairment
- 1/3 each – Medical / Psychological / Cognitive
- ~ 70% treated → returned to flying safely
- Some voluntarily retire





# Fitness For Duty Evaluations

Age Cohort









# Potential Causes – Medical

- Sleep Apnea / Sleep Disorders / Fatigue
- Medication Side Effects
- Heart / Lung Disease
- Endocrine – Diabetes, Thyroid
- Hearing / Vision Deterioration
- Acute Medical Conditions
- Neurological Disease
- Anemia / Heavy Metal Poisoning







# Potential Causes – Psychological

- Life Events (Family, Legal, \$\$\$, Work)
- Post-Traumatic Stress Disorder – PTSD
- Depression
- Substance Abuse
- Anxiety Disorders
- Personality Traits
- Loss of Desire to Fly / Work







# FAA Mental Health Policy

- Counseling Encouraged
  - EAP, Clergy, CIRP – Not Reportable
  - Family / Marital counseling Not Reportable\*
- Depression / Anxiety Reportable
  - No medications / Off meds 2 mo.
  - Pilot / Counselor Agree OK
- April 2010 – 4 SSRI's Allowed
  - Testing and Monitoring
  - Single Dose/Single medication – 6 months





# Evaluation Limitations

- Absence of Medical Records
- Heavily Reliant on Individual Responses
- Validation Questions
- Identifies Traits
- Generally Not Predictive
- Historical / Future Factors
- Depression / Substance Abuse Questionnaires





# Germanwings Event

- History of Depression 2009 and subsequent
- Treated w/ Meds & Psychotherapy
- FAA Required Info 2010
- Minimized On-going Rx
- EASA DQ's Medications
- FAA / TC Allow Meds / Talk
- Counselors – Report vs. Privacy/Effectiveness
- Social Stigma / Financial Impact → Conceal





# Potential Causes - Cognitive

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- Mild Cognitive Impairment – Reversible
- Alzheimer's / Dementia
- Surgery
- Substance Dependence
- Brain Injury / Bleed / Tumor
- Impairing Medications
- **Most Treatable / Cognitive Rehab**

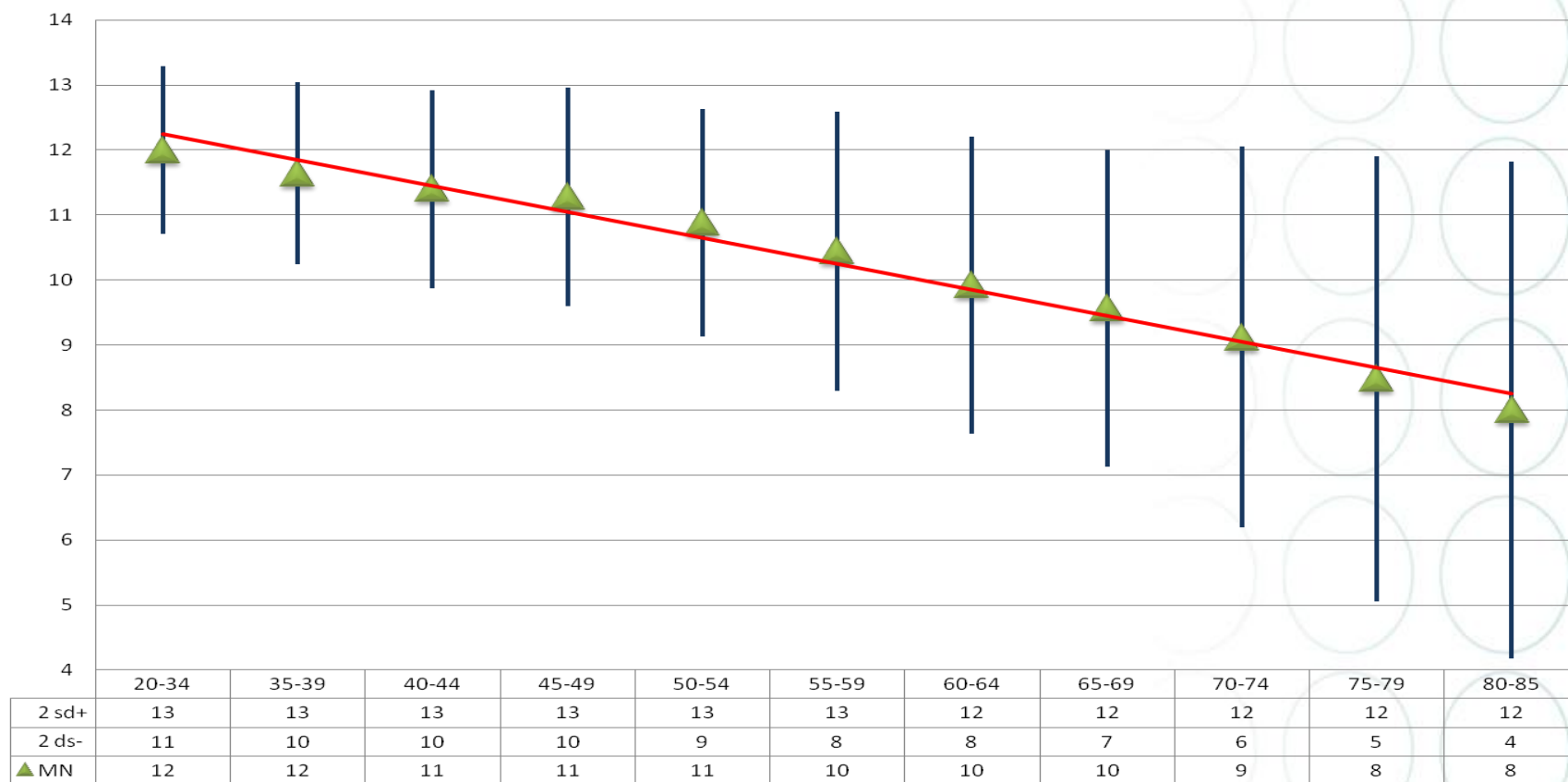






# Aging Pilots Fitness For Duty

**Mean Score +/- 2 Standard Deviations of 24 Neurocognitive Abilities as a Function of Age**





# Fitness For Duty Solutions

- Ethical – Fair to All
  - Optimizes Health
  - Reduces Liability
  - Reduces Costs
  - Integral to SMS
- 
- **ENHANCES SAFETY!**





# Key Elements - Company

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- Leadership – Understanding and Support
- Process – Clearly Defined with Timeline
- Legal – Negligible Liability Profile – 3<sup>rd</sup> party
- HR – Regular Comm, Adequate Pilot Benefits
- Aviation Director – Pilot Availability Estimate
  - Honest, accurate, timely info
- SAFETY PROGRAM – Principals, Pilots, Public



# Key Elements - Pilots

- Confidentiality / Dignity / Respect
- Benefits Protection – Disability, Loss of License
- Evaluation
  - Comprehensive for Health
  - Aeromedical Context & Expertise
  - Update on Progress Routinely
- FAA Medical Certification Advocacy
- Safety → Health → Career





# Closing Pandora's Box

- Ethical Program – Unlike Status Quo
- Policy Emphasis, Not Regulatory
- Financial Protections for All
- Return to Optimum Health
- Graceful Exit, if Necessary
- Safety Priority – Balances Many Factors







# Fly Safely! Stay Healthy!

- Fitness For Duty Plan
  - Enhances Safety
  - Optimizes Health
  - Preserves Careers
  - Reduces Risks



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