



VOICES?

WHAT IF?

REAL?

DANGER

KNOW THE TRUTH

WATCHING

WATCHING

REAL?

DANGER

KNOW THE TRUTH

IMBROREO

ME TRUTH WATCHING

VOICES  
YAGOMI



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Bundesamt für Zivilluftfahrt BAZL  
Office fédéral de l'aviation civile OFAC  
Ufficio federale dell'aviazione civile UFAC  
Federal Office of Civil Aviation FOCA



# Mental Health

## «the invisible gap»

**Leon Sze, Chief Medical Officer, SBAMS**

8. Mai 2026 | Bern, Zentrum Paul Klee



# Content



## 1. Introduction

## 2. «There is no V1 – reality is analogue and chaotic»»

- Perception-Clichés
- Epidemiological Facts
- Mental Health & Somatic Disease

## 3. Invisible Gap

- Monitoring the Crew Member
- The Lost Handover - Barriers



# Leon Sze



- 1991 Faculty of Medicine, University of Zürich
- 1992-1999 Doctorate (UZH), Internal Medicine FMH
- 1999-2016 Private Practice «medizin limmatquai», Zürich
- 2015-present Part-time AME, Regensdorf





# Aviation Medicine



- 1992 FAI Dübendorf Swiss Air Force
- 1999 AME Cl.1 FOCA, Senior AME TCCA (Canada)
- 2000 Senior AME FAA (USA)
- 2008 skyguide Company Physician
- 2015 FOCA Chief Medical Officer, Medical Assessor

1972 ZRH-HKG



1993 PAY



2008 skyguide



FOCA





# Aeromedical Section – 2025



	Class 1	Class 2	LAPL	CABIN C	ATCO
No. Exam.	9268	5170	393	1990	691
Unfit %	1.1%	2.1%	2.7%	1.4%	1.4%

<b>On-site and Desktop Oversight</b>	
Examinations	<b>17512</b>
Aero-Medical Examiners	90
Aero-Medical Centers	2

<b>Staff:</b>	
Medical Assessor	0.7 FTE
Ext. Med. Assessor	0.2 FTE
4 Inspectors	3.1 FTE



# MENTAL HEALTH



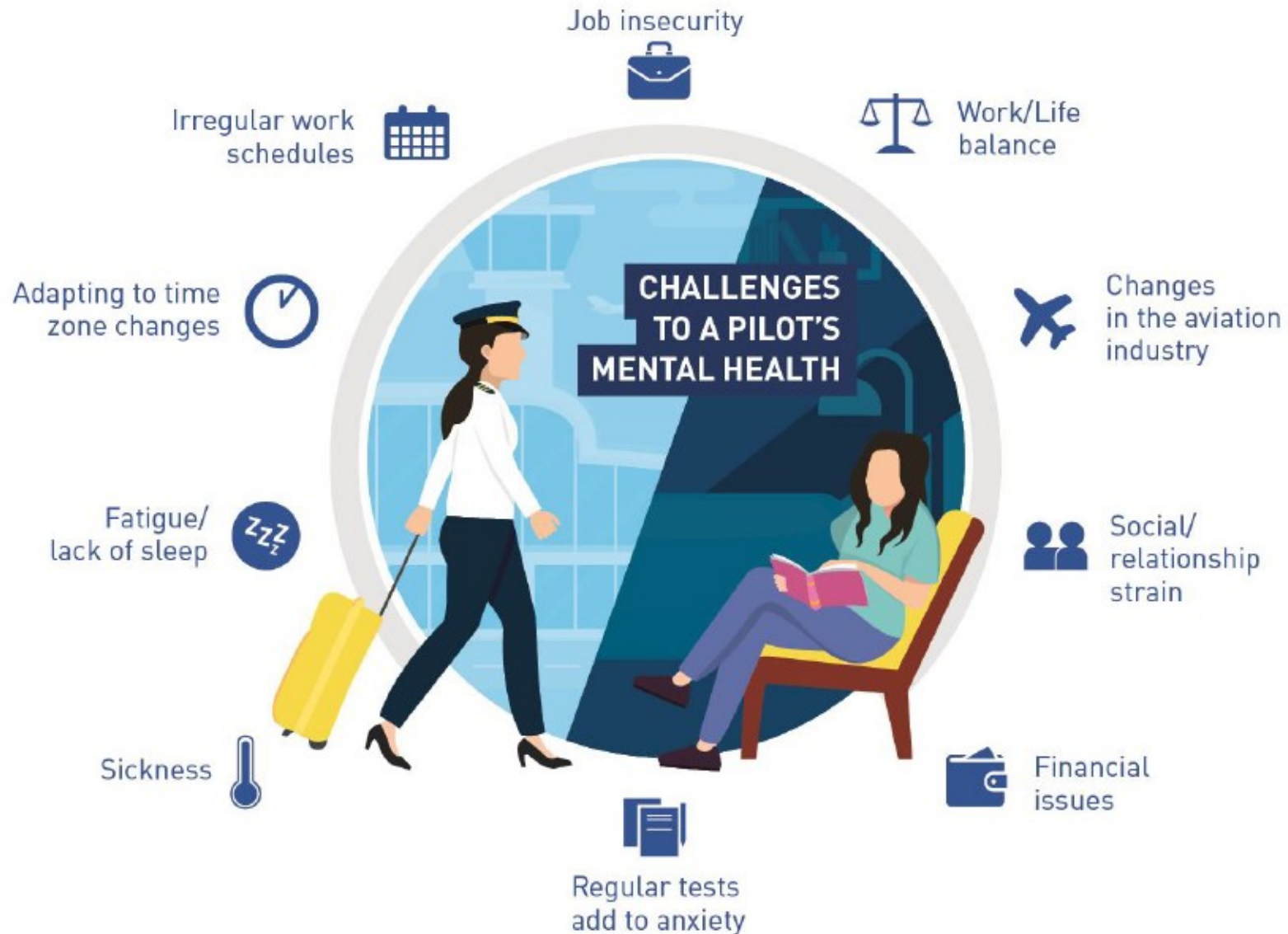
«Grüezi... how are you today?»



Bildquelle: Nanobanana.ai



# Mental Health Challenges





# Mental Health Questionnaire



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Département fédéral des transports, de l'énergie  
et de la communication DETEC

Office fédéral de l'aviation civile OFAC  
Section de médecine aéronautique

Questionnaire sur la « santé mentale » / *Mini Questionnaire*

Formulaire d'auto-évaluation dans le cadre de l'examen aéromédical  
*Self-Description Form in the Course of the Aeromedical Examination*

Nom / Name: ..... Date de naissance / Date of birth: .....

Date de l'examen / Examination date: .....

		Cocher ce qui convient Mark the applicable box				
		Pas d'accord du tout I disagree fully	Plutôt pas d'accord I tend to disagree	Ni d'accord ni pas d'accord Neither agree nor disagree	Plutôt d'accord I tend to agree	Tout à fait d'accord I agree fully
1	Mes habitudes de sommeil n'ont pas changé <i>My sleeping habits have not changed.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Ces derniers temps, j'ai vécu de fréquentes situations de stress. <i>Recently, I have often experienced high levels of stress.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Dans mon travail, je me sens sous-employé/e <i>In my job, I am hardly challenged.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	J'ai du mal à répondre aux attentes et aux besoins de ma famille. <i>It is difficult for me to meet the expectations and needs of my family.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	J'éprouve un sentiment de culpabilité après avoir bu de l'alcool. <i>I feel guilty after drinking alcohol.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Je suis souvent irritable ces derniers temps. <i>I often feel irritable recently.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Ma situation financière est tendue. <i>My financial situation is tight.</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Near Vision  
MED.B.070(b)(3)

Distant Vision  
MED.B.070(b)(1)

Daytime sleepiness or Cognitive...?



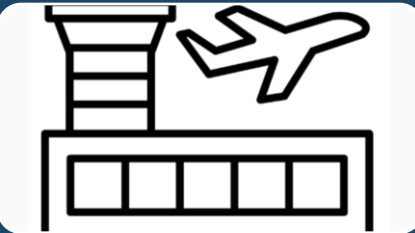


# The Clichés (!) ...



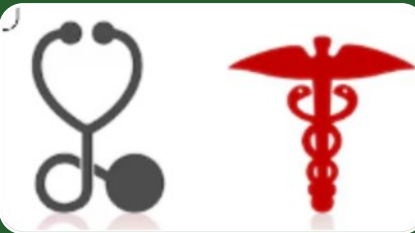
Lawyers,

- BINARY, Normative
- legal/illegal, guilty/not guilty



Pilots, Engineers

- DETERMINISTIC, digital-normative
- Risk mitigation (redundancy, checklists)

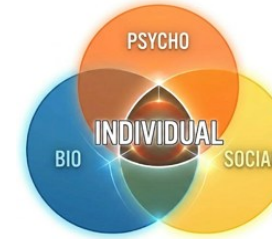


Physicians

- Analogue: «the System» is too complex and only partially known
- «conspicuous versus inconspicuous»



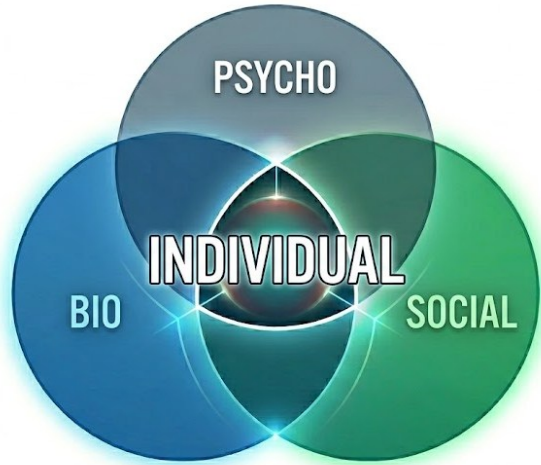
# «Reality is Analogue and Chaotic»



Aircraft Troubleshooting (Digital/Logical)	Mental State Assessment (“Analogue&Chaotic”)
<b>Master Caution / ECAM:</b> Clear warning message when a threshold is exceeded.	<b>Behavioural Drift:</b> Subtle changes in facial expressions, tone of voice or reliability (noise, weak signals).
<b>QRH / FCOM:</b> Clear pathways lead to the cause (e.g. sensor fault vs. hardware defect).	<b>Pattern recognition:</b> No clear cause-and-effect relationship. Personal stress > fatigue > probability of errors.
<b>Redline:</b> 101% is a limit. Black-and-white decision (Go/No-Go).	<b>Continuum:</b> Where does ‘bad mood’ end and ‘depression’ begin? There is no ‘red line’.
<b>Reset / Replacement:</b> Replace the component or restart the system.	<b>Resilience management:</b> Support, therapy, relief. The «human system» is not simply replaceable or repairable.



# «Reality is Analogue and Chaotic»



Steps / Aspect	Mental State Assessment (Analogue/Chaotic)
Sensors	<b>Noise, Weak Wignals</b> <b>Behavioural Drift:</b> Subtle changes in facial expressions, tone of voice or <b>reliability</b> ().
Diagnosis	<b>Pattern recognition:</b> No clear cause-and-effect relationship. Personal stress > fatigue > probability of errors.
Thresholds	There often is <b>No Red Line</b> . <b>Continuum:</b> Where does 'bad mood' end and 'depression' begin?
Solution	<b>Resilience management:</b> Support, therapy, relief. The «human system» is not simply replaceable or repairable.



# Reality - epidemiological facts



# Reality - epidemiological facts

2026

## Lifetime risk of experiencing at least one seizure?

- 8-10%
- 2-3% 2 or more seizures (epilepsy)
- Pilots: no published studies, but medical selection and oversight lead to a lower incidence

## Most common triggers in pilots:

- Sleep deprivation, fatigue, and circadian rhythm disruption
- In-flight hypoxemia
- Stress
- Withdrawal from alcohol or drugs
- Visual stimuli (stroboscopic/flickering lights)



Stippler M, Mohsenipour I | Journal für Neurologie, Neurochirurgie und Psychiatrie 2002; 3 (1): 22-25 ©



# Reality - epidemiological facts

## Lifetime risk of experiencing a Psychotic Episode (PE)?

A PE is a temporary **period** where a person **loses touch with reality**, characterized by symptoms like **hallucinations** (seeing/hearing things not there) and **delusions** (false, firm beliefs). It is a symptom of an underlying condition, not a diagnosis itself, often involving severely **disrupted thinking, emotions, and behavior**

**Lifetime Risk: 5.8 – 7.8%**

**Of those:**

32%

1 PE;

32%

2-5 PEs;

7%/0.5-1%

per Year develop psychotic disorder

# Reality - epidemiological facts



## **Lifetime risk of experiencing a Psychotic Disorder ?**

- Chronical clinical diagnosis, recurrent, persistent psychotic state.
- long-term/lifelong management and therapy.
- Genetic, «brain chemistry»
- i.e. Schizophrenia, schizoaffective disorders, delusional disorders

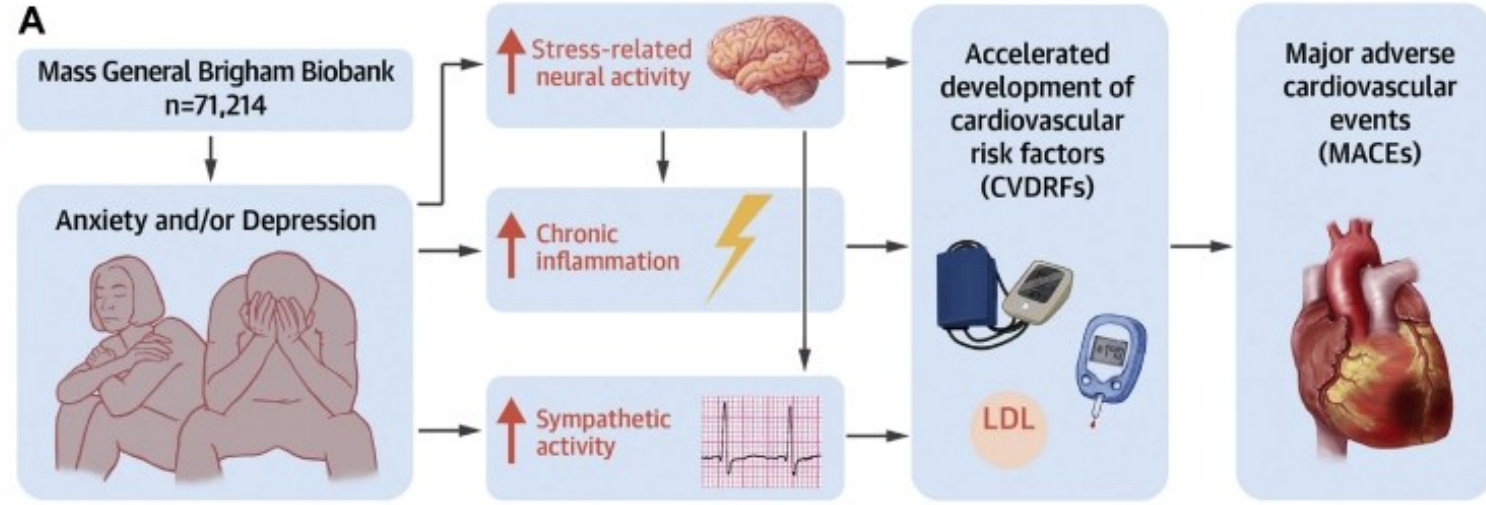
**Lifetime risk for PD is overall 2.5 to 3.5%**

**Lifetime prevalence for schizophrenia is 1%**

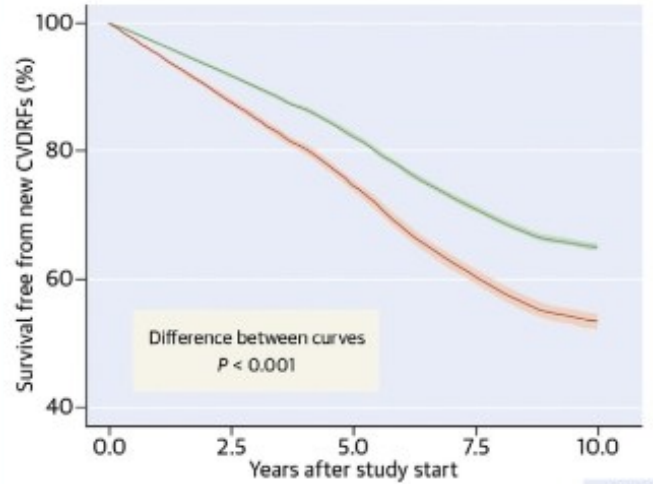


# Reality – Mental Health & Somatic Disease

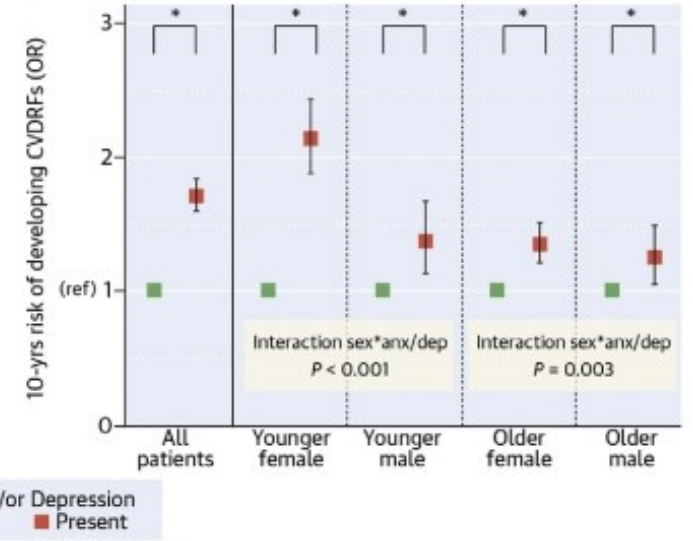
## CENTRAL ILLUSTRATION: Anxiety and Depression are Associated With Accelerated Development of Cardiovascular Disease Risk Factors



**B** Anxiety and/or Depression vs Development of New CVDRFs

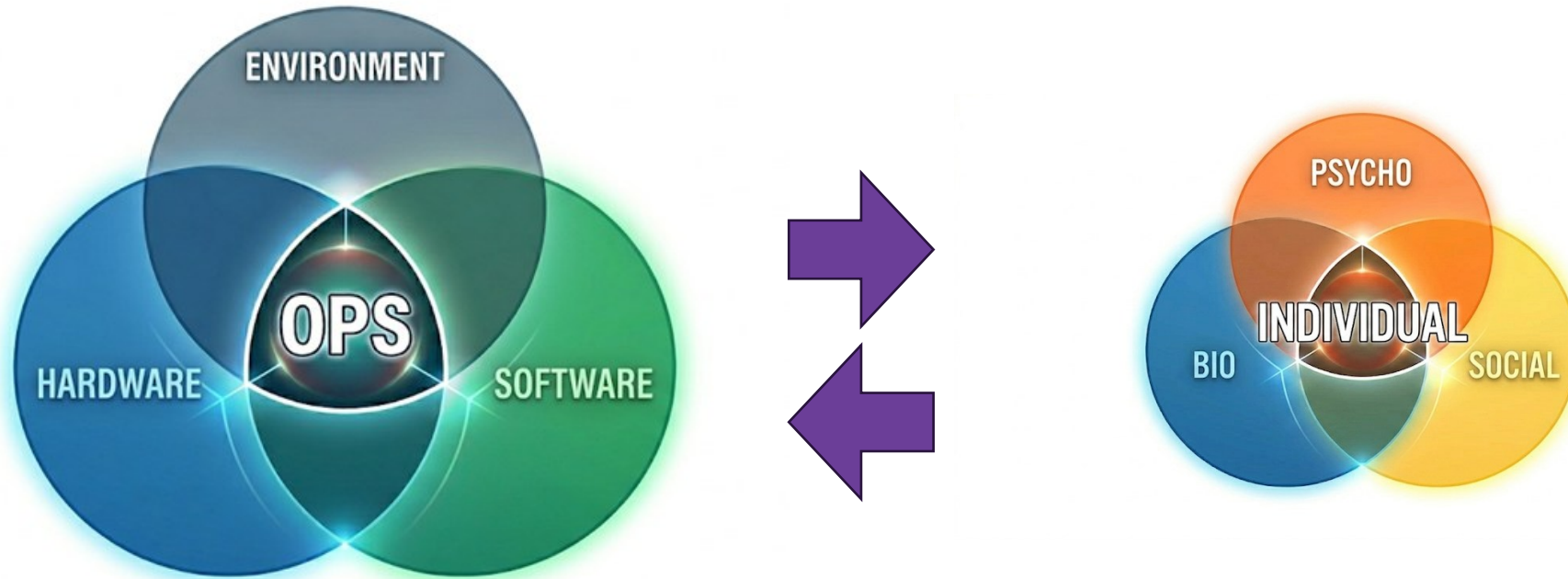


**C** Anxiety and/or Depression vs Relative Risk of New CVDRFs





# The Invisible Gap





# Regulations Air OPS – Part-MED



Air Ops (EU) 965/2012

CAT.GEN.MPA 175(b)

«Endangering Safety»

The **operator** shall ensure that a flight crew member has undergone **a psychological assessment** before commencing line flying in order to:

- (1) identify psychological attributes and suitability of the flight crew in respect of the work environment; and
- (2) (2) reduce the likelihood of negative interference with the safe operation of the aircraft.

ACW Licensing (EU) 1178/2011

Annex IV Part-MED

«Medical Certification Criteria»

Mental Health assessment by **AME**

MED.B.055 (a) – (g)

AMC1

AMC2

MED.B.095 (LAPL)

Subpart C (Cabin Crew)



# Air OPS – Part-MED



## OPS

Has the pilot on their radar

### **continuously**

- Performance
- Punctuality
- Mood
- Behavior
- Appearance

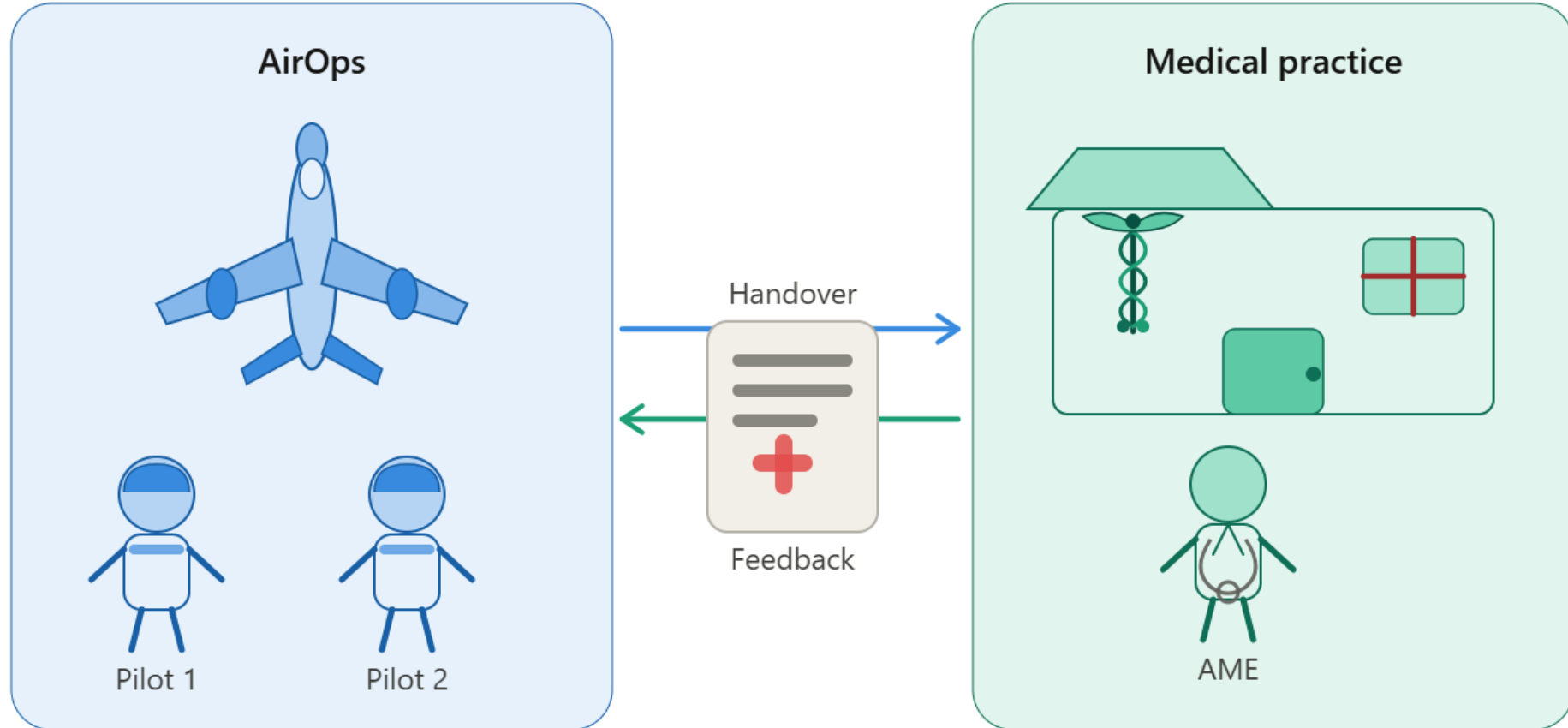
## MED

Only picks up the pilot on its “radar” once or twice a year for a

### **brief moment**

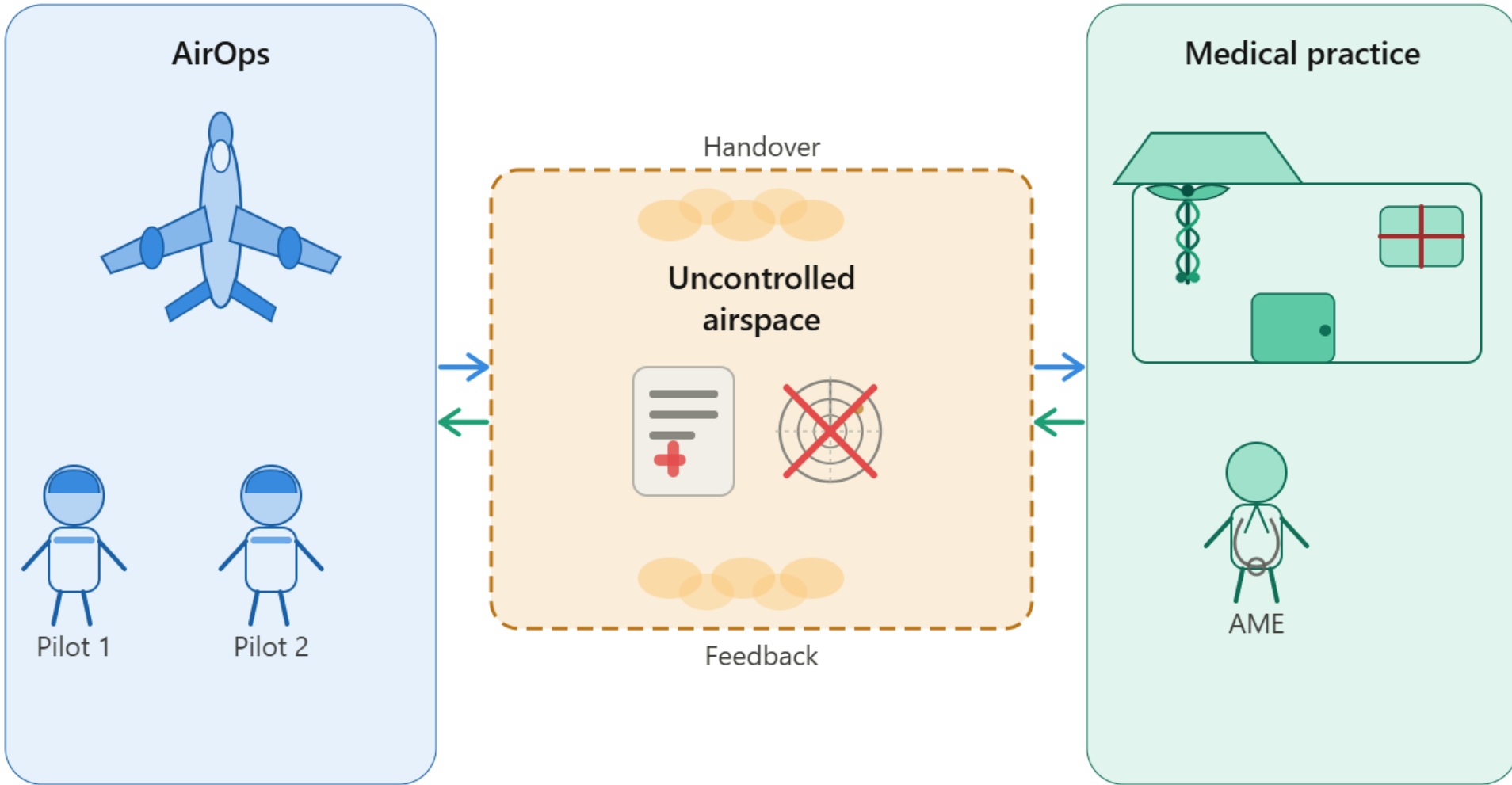
- History
- Physical and clinical parameters
- Punctuality, appearance
- Mood
- Behavior

# The Potentially Lost Handover





# The Potentially Lost Handover





# The Barriers



## Medical Illusion

- Medical is a seal of guarantee for one year
- Medical exam is a just a snapshot

## Data Protection Wall

- Doctors: confidentiality.
- OPS: compliance
- No Observations are exchanged

## «Not my Job»-Paradox

- AME: FE, OPS see him/her all the time
- OPS: The AME checked and issued a Medical



# Air OPS – Part-MED



## OPS

Has the pilot on their radar  
**continuously**

Daily Business

Operative Psychology

Stress Management

Peer Support

## MED

Only picks up the pilot on its “radar”  
once or twice a year for a  
**brief moment**

Clinical Examination 1-2x/year

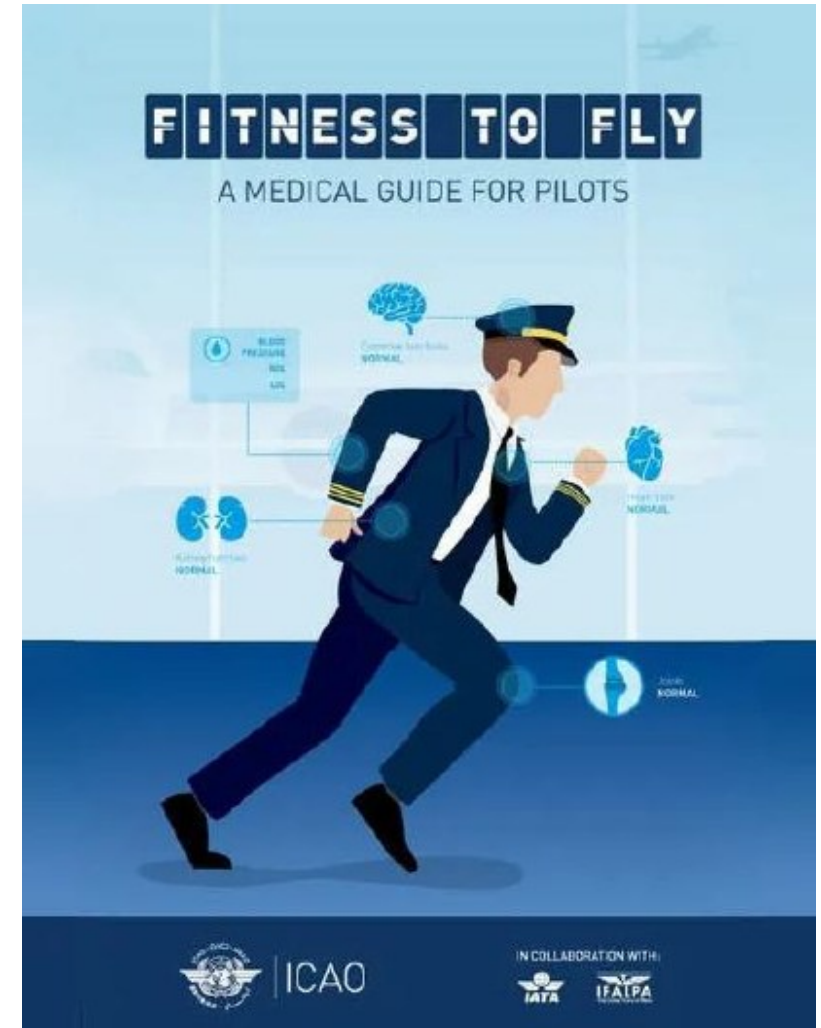
Physical and Mental Health

**Exclusion of Pathologies**

**Prediction until the next Medical**

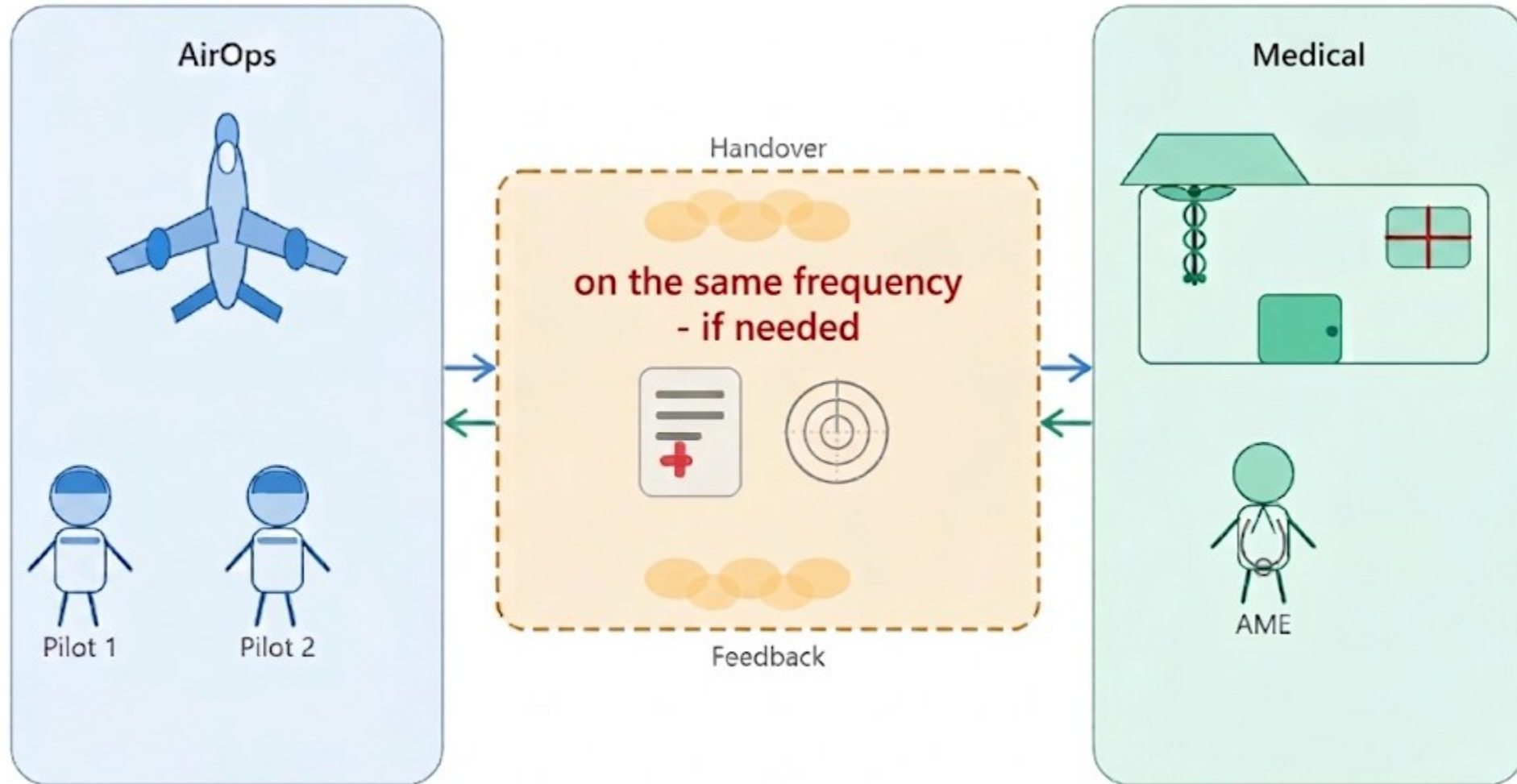


# Taking and giving care





# Hear the **Noise**, Read the **Weak Signals** ...





# Let's Bridge the Gap!



