

Mental fitness evaluation of pilots

- and how do we train AMEs for that?

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UNIVERSITETET I OSLO
DET MEDISINSKE FAKULTET



Background for my views

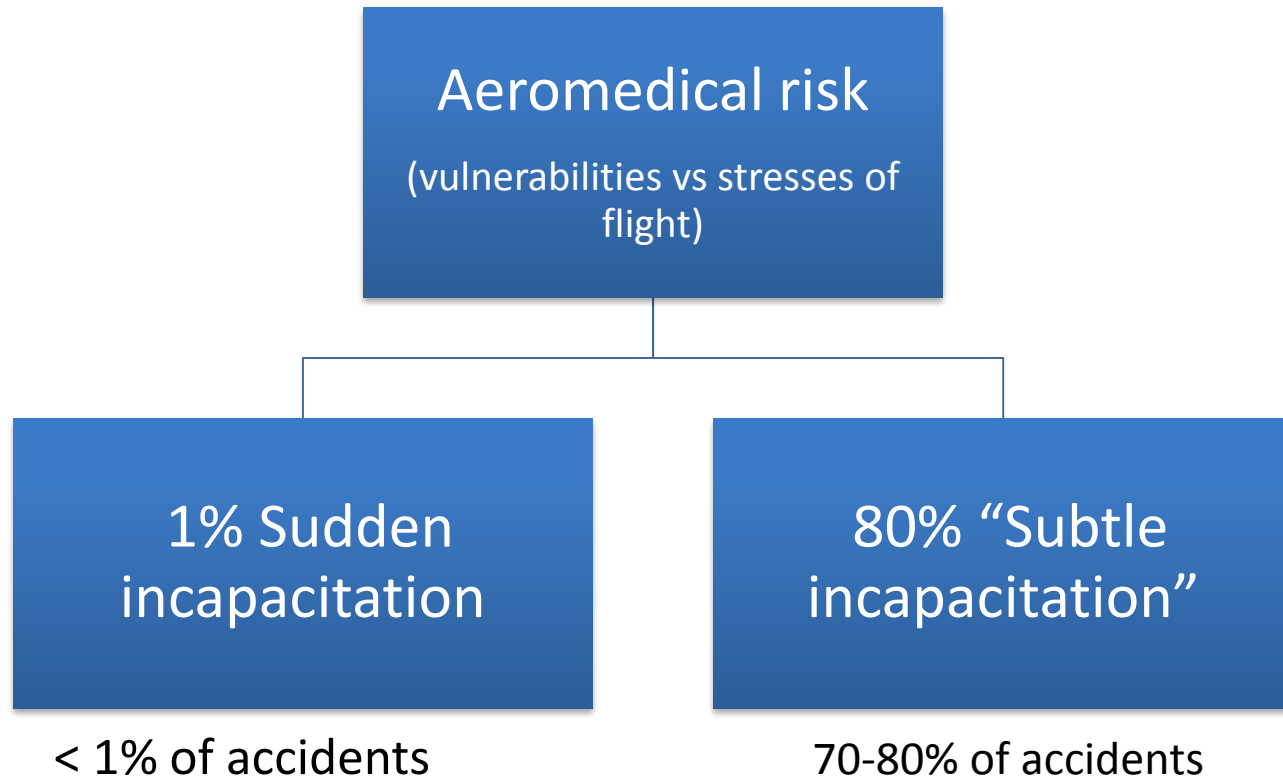
- Institute of Aviation Medicine Oslo 24 years
 - Aviation medicine and occupational health
 - Military and civilian aircrew
 - ESAM
 - ICAO medical provisions study group



Some simple points for discussion

- Current fitness evaluation – mental fitness
- Current problems as I see them
- Possible improvement areas
 - Pilot screening
 - AME training

What can we prevent, and what are our possible tools



The medical examination



- Based on diagnostic tests for disease
- General screening doesn't improve health outcomes, only in specific, high risk populations
- To be effective for our use, screening must address common problems which have flight safety implications.
- An examination without a history is difficult at best; for psychological issues it is useless.

The most Important Human System in Aviation

However: Psychological and physical symptoms are closely linked

LOGO

CIVIL AVIATION ADMINISTRATION / MEMBER STATE

APPLICATION FORM FOR AN AVIATION MEDICAL CERTIFICATE

Complete this page fully and in block capitals - Refer to instructions pages for details.

MEDICAL IN CONFIDENCE

(1) State of licence issue:		(2) Medical certificate applied for: class 1 <input type="checkbox"/> class 2 <input type="checkbox"/> LAPL <input type="checkbox"/> Others <input type="checkbox"/>	
(3) Surname:		(4) Previous surname(s):	(12) Application Initial <input type="checkbox"/> Revalidation/Renewal <input type="checkbox"/>
(5) Forenames:		(6) Date of birth(dd/mm/yyyy): (7) Sex Male <input type="checkbox"/> Female <input type="checkbox"/>	(13) Reference number:
(8) Place and country of birth:		(9) Nationality:	(14) Type of licence applied for:
(10) Permanent address:		(11) Postal address (if different)	(15) Occupation (principal)
Country : Telephone No. : Mobile No. : e-mail :		Country : Telephone No. :	(16) Employer
(18) Aviation licence(s) held (type): Licence number: State of issue:		(19) Any Limitations on Licence/ Medical Certificate No <input type="checkbox"/> Yes <input type="checkbox"/> Details:	
(20) Have you ever had an aviation medical certificate denied, suspended or revoked by any licensing authority? No <input type="checkbox"/> Yes <input type="checkbox"/> Date: Country: Details:		(21) Flight time hours total:	(22) Flight time hours since last medical:
(24) Any aviation accident or reported incident since last medical examination? No <input type="checkbox"/> Yes <input type="checkbox"/> Date: Place: Details:		(23) Aircraft class /type(s) presently flown:	
		(25) Type of flying intended:	
		(26) Present flying activity: Single pilot <input type="checkbox"/> Multi pilot <input type="checkbox"/>	
		(28) Do you currently use any medication? No <input type="checkbox"/> Yes <input type="checkbox"/> State drug, dose, date started and why:	
(29) Do you smoke tobacco? <input type="checkbox"/> No, never <input type="checkbox"/> No, date stopped: <input type="checkbox"/> Yes, state type and amount:			

General and medical history: Do you have, or have you ever had, any of the following? (Please tick).

Note: if revalidating at the same venue as last examination, tick only boxes relating to any medical/surgical/ophthalmic or other events or changes since last examined. If 'no change, state this in

*Remarks,.

	Yes	No		Yes	No		Yes	No	Family history of:	Yes	No
101 Eye trouble/eye operation			112 Nose, throat or speech disorder			123 Malaria or other tropical disease			170 Heart disease		
102 Spectacles and/or contact lenses ever worn			113 Head injury or concussion			124 A positive HIV test			171 High blood pressure		
103 Spectacle/contact lens prescriptions change since last medical exam.			114 Frequent or severe headaches			125 Sexually transmitted disease			172 High cholesterol level		
104 Hay fever, other allergy			115 Dizziness or fainting spells			126 Admission to hospital			173 Epilepsy		
105 Asthma, lung disease			116 Unconsciousness for any reason			127 Any other illness or injury			174 Mental illness		
106 Heart or vascular trouble			117 Neurological disorders; stroke, epilepsy, seizure, paralysis, etc			128 Visit to medical practitioner since last medical examination			175 Diabetes		
107 High or low blood pressure			118 Psychological/psychiatric trouble of any sort			129 Refusal of life insurance			176 Tuberculosis		
108 Kidney stone or blood in urine			119 Alcohol/drug/substance abuse			130 Refusal of flying licence			177 Allergy/asthma/eczema		
109 Diabetes, hormone disorder			120 Attempted suicide						178 Inherited disorders		
110 Stomach, liver or intestinal trouble			121 Motion sickness requiring medication			132 Medical rejection from or for military service			179 Glaucoma		
111 Deafness, ear disorder			122 Anaemia / Sickle cell trait/other blood disorders			133 Award of pension or compensation for injury or illness			Females only:		
									150 Gynaecological, menstrual problems		
									151 Are you pregnant?		

(30) **Remarks:** If previously reported and no change since, so state.

(31) **Declaration:** I hereby declare that I have carefully considered the statements made above and to the best of my belief they are complete and correct and that I have not withheld any relevant information or made any misleading statements. I understand that if I have made any false or misleading statements in connection with this application, or fail to release the supporting medical information, the Licensing Authority may refuse to grant me a medical certificate or may withdraw any medical certificate granted.

CONSENT TO RELEASE OF MEDICAL INFORMATION: I hereby authorise the release of all information contained in this report and any or all attachments to the Medical Assessor of the Licensing Authority and where necessary to the Medical Assessor of another EASA Member State, recognising that these documents or electronically stored data are to be used for completion of a medical assessment and will become and remain the property of the Licensing Authority, providing that I or my physician may have access to them



Somatic, occupational, psychological risks are diverse



SMS in the medical assessment may be employed if we see the examination as part of the system

CAA/AMS

Individual Pilot: AME

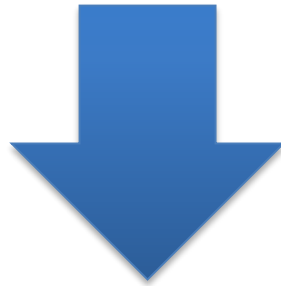
Pilot population: Company

1. Medical risk assessment
2. Prioritisation of risk
3. Risk reduction measures



Risk assessment / Psychological

- Vulnerabilities of the pilot
- Occupational stressors
 - Fatigue, operational risks, organisational pressures etc.
- Social and family stressors



Risk reduction:

- Personal preventive advice
- Advice on occupational/social factors
- Aviation psychologist support
- Off flying for limited time?
- Permanent unfit?



RNoAF “pilot study” on psychological content in medical exam (Fonne/Ranfelt 2014)

- Check list questionnaire for Aircrew and AME (Flight Surgeon) to discuss – 3 months trial period (n=93):
 - Work issues
 - Specific operational experiences of concern
 - Fatigue
 - Everyday challenges
 - Private issues
 - Depression/mood issues



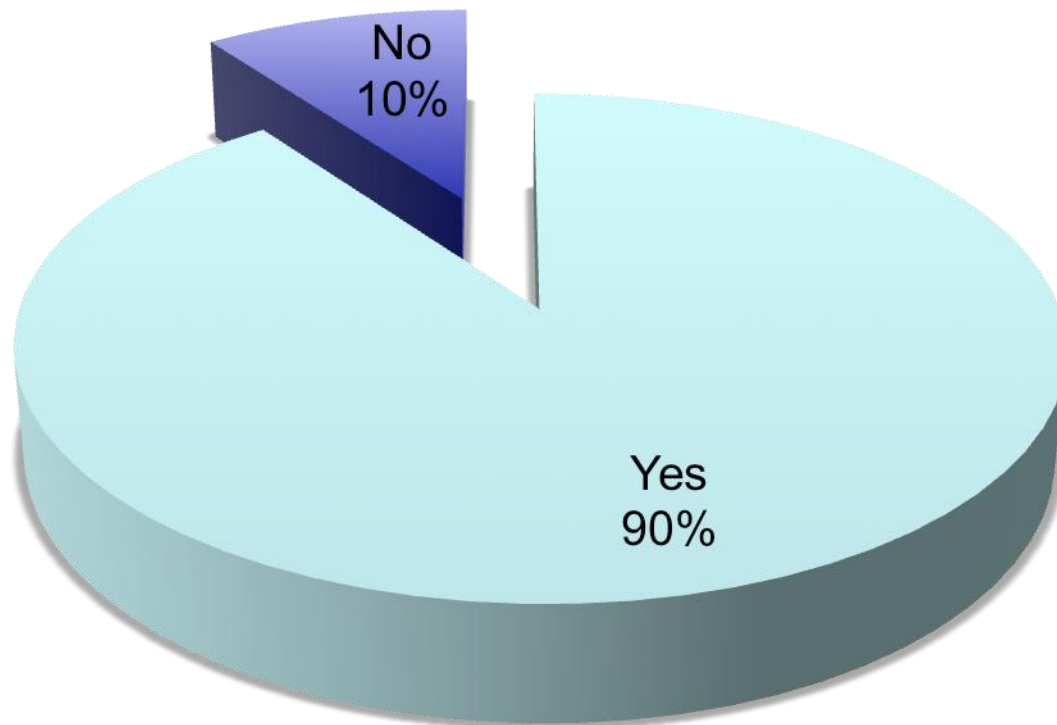
Care of the Flyer - Additional questions for the annual medical examination form for flight crew

2

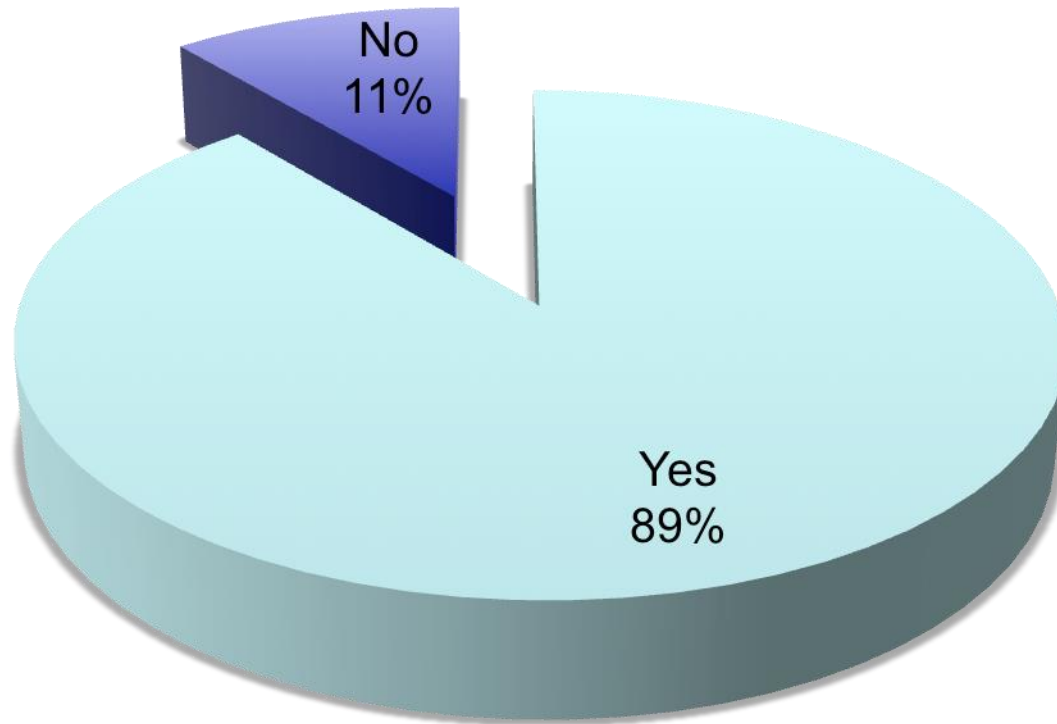
<p>1) In general: How do you feel you are coping with the challenges of daily life?</p> <p>Well <input type="checkbox"/></p> <p>ok <input type="checkbox"/></p> <p>Badly <input type="checkbox"/></p>	<p>2) Are there any conditions at work which affect your performance (positively or negatively)?</p> <p>Positive: <input type="checkbox"/> Negative: <input type="checkbox"/></p> <p>No <input type="checkbox"/> <input type="checkbox"/></p> <p>Inter- <input type="checkbox"/> <input type="checkbox"/></p> <p>personal <input type="checkbox"/> <input type="checkbox"/></p> <p>Organisational <input type="checkbox"/> <input type="checkbox"/></p> <p>Leadership <input type="checkbox"/> <input type="checkbox"/></p> <p>Other <input type="checkbox"/> <input type="checkbox"/></p>	<p>3) Are there any conditions in your private life which affect your performance at work? (positively or negatively)?</p> <p>Positive: <input type="checkbox"/> Negative: <input type="checkbox"/></p> <p>No <input type="checkbox"/> <input type="checkbox"/></p> <p>Economy <input type="checkbox"/> <input type="checkbox"/></p> <p>Relationship <input type="checkbox"/> <input type="checkbox"/></p> <p>Disease <input type="checkbox"/> <input type="checkbox"/></p> <p>Other <input type="checkbox"/> <input type="checkbox"/></p> <p>stress <input type="checkbox"/> <input type="checkbox"/></p> <p>Other <input type="checkbox"/> <input type="checkbox"/></p>
<p>4) Have you had any reactions after any aviation incidents in the last year?</p> <p>e.g.: near miss, spatial disorientation, etc. <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>	<p>6) Have you, in the last period, felt increased:</p> <p>a) Feeling of fatigue?</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>b) Feeling down/anxious?</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>	<p>5) Can the flight surgeon assist in any of the above points?</p> <p>Increased presence, consultation, contact with IAM, briefings at Squadron etc.</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p>



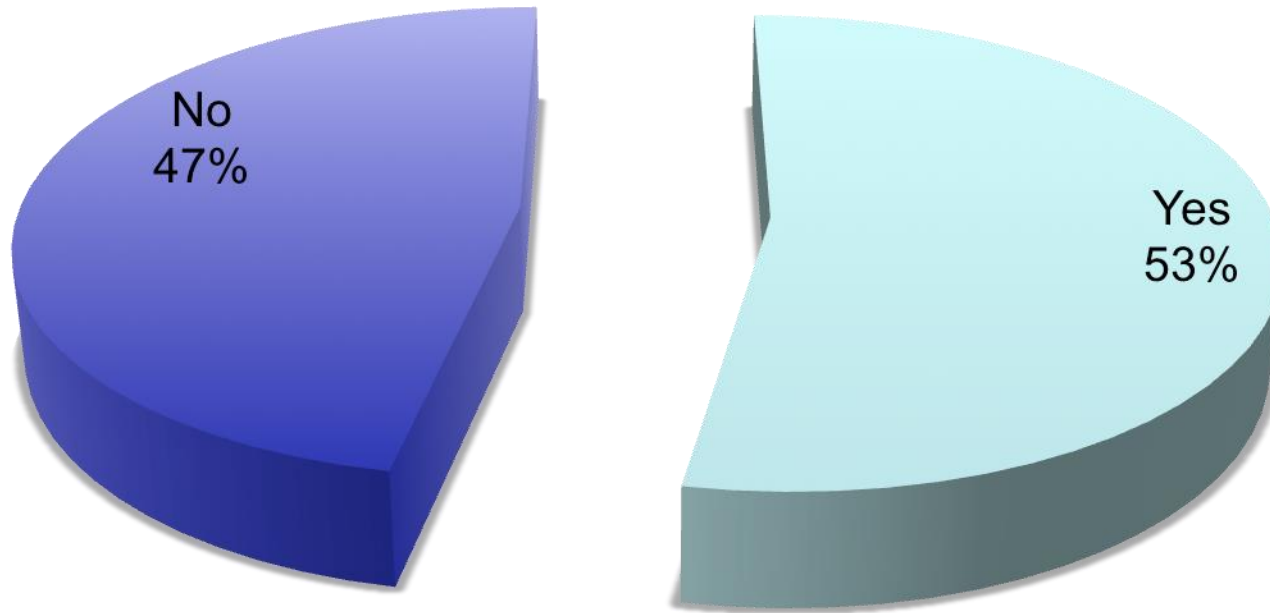
Relevant study?



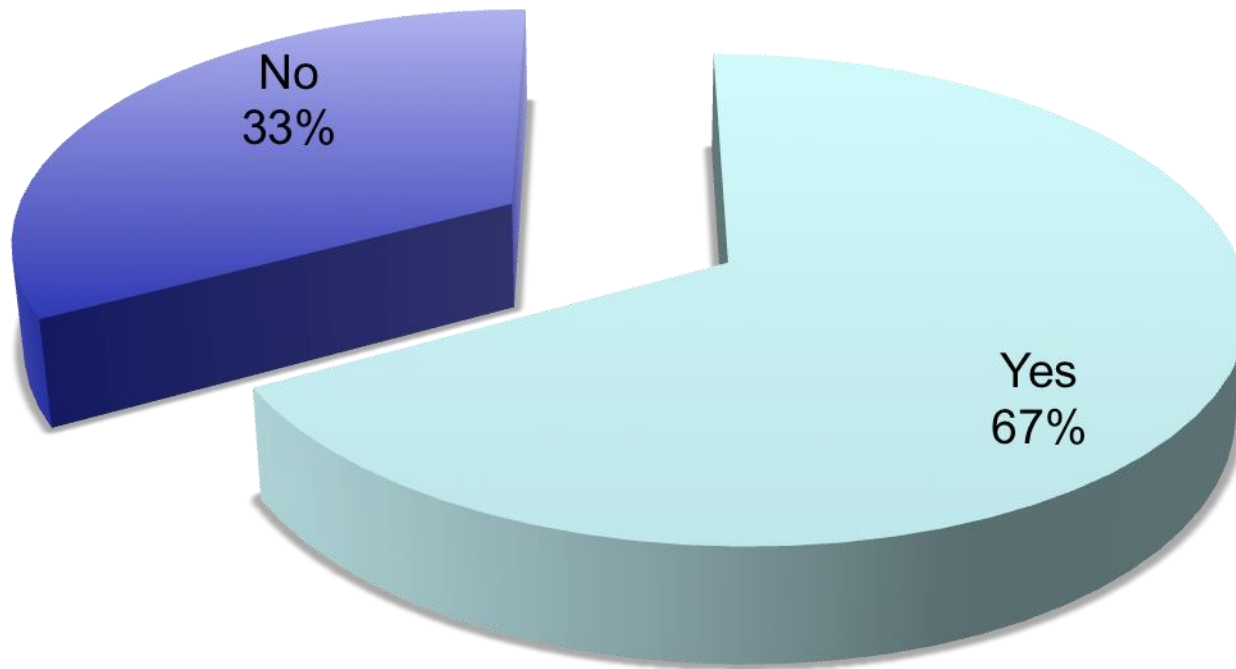
Right focus?



Were the questions of help?



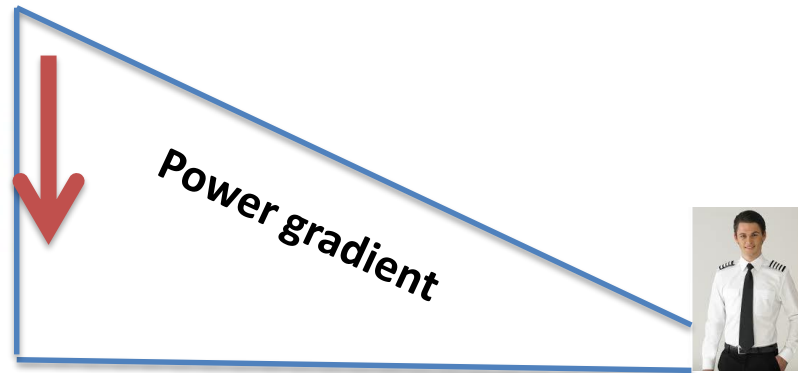
Can Flight Surgeons be of assistance?



Medical history is critical – a concern

- Is it realistic that the pilot will share his real worries and concerns about his/her life and work-related psychological issues with the AME?
- Is there something in the way? Even if the AME builds trust?

Underestimated problem



AME knowledge power

Pilot disempowerment

& decision power

What to do?

Put the pilot back in the driving seat!



- Pilot involvement in process.
- Collaborative process between pilot and AME with the aim of keeping the pilot in the air safely. Preventive advice – long term.
- Clearly defined processes if possible loss of licence may be an issue
- Reduces “unknowns” – improve trust
- Will not take away power gradient but reduce

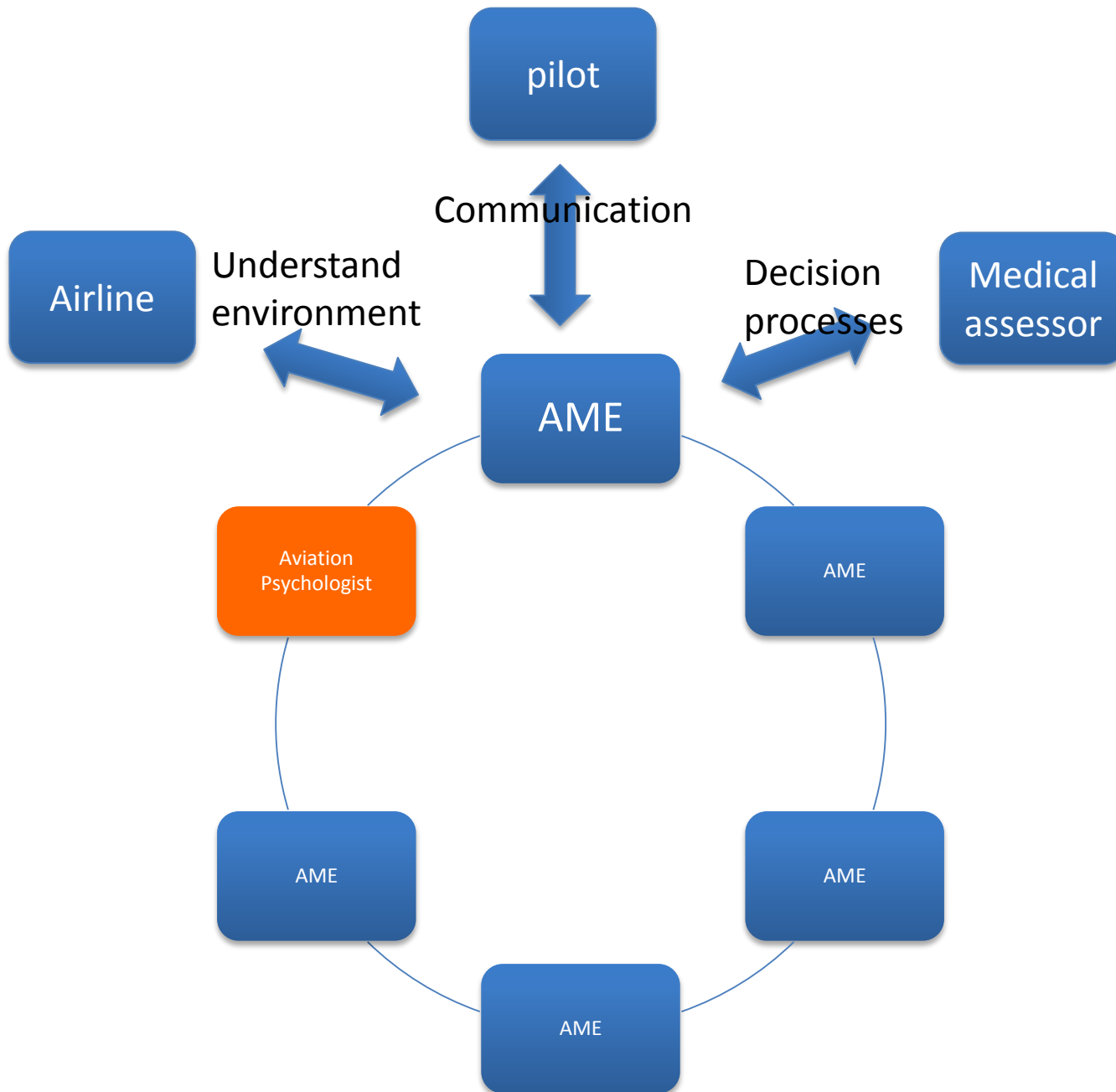
Practical possibilities:

- Proper description of decision processes in authority
- Decisions of medical certificate in medical board where pilot in question is heard. AME brings his/her pilot to the meeting.
- Using the pilot as a resource of knowledge on his/her operational challenges in relation to psychological status

3 features for training:

1. AME must understand and have contact with the aviation environment
1. AME needs peer support system for continuous development of skills and advice
2. Access to aviation psychologist/psychiatrist





Conclusions

- We should think long-term and employ SMS thinking – risk varies between pilots and aviation settings
- Underreporting is our biggest challenge
- More transparent decision-making processes, involving pilots themselves.
- Training must involve connecting up the AME with aviation environment, peer support and mental health professionals