



ASAM SUBMISSION
TO THE
CASA DISCUSSION PAPER
ON
MEDICAL CERTIFICATION STANDARDS

** This version does not include the individual submissions from ASAM members, as permission was not received for their statements to be published.

Table of Contents

Table of Contents	2
Introduction	3
Risk	4
Overview	4
Airspace Users	4
Class 1 Medical Certification.....	6
Overview	6
Recommendations	7
Class 2 Medical Certification.....	8
Overview	8
Recommendations	8
Sport/Recreational Aviation Medical Certification.....	9
Overview	9
Recommendations	9
Operational Restrictions.....	10
Non-DAME Medical Certification	11
Class 3 Medical Certificate.....	13
The CASA Medical Records System (MRS).....	14

Introduction

It has been said that one of the most satisfying aspects of involvement in aviation is that it is a field of endeavour that is constantly changing and progressing. Those of us employed in the medical profession know that the same holds true for the medical industry. Aviation medicine, at its intersection of these two complex and dynamic industries, is therefore destined for continual change and progress. However, this evolution must be balanced out by assessment of risk backed up with sound evidence.

Change is currently being called for by various aspects of the sport and recreational aviation community, spurred on by recent progress in the levels of required aeromedical oversight in a number of administrations overseas. It seems pertinent to examine this issue in the Australian context, given that there has been large growth here in recent years of the sectors of aviation that require no aeromedical oversight. On this issue, the ASAM submission seeks to balance what we feel is the important issue of CASA and DAME oversight, with the independence that currently exists for some pilots to self certify.

Whilst the majority of lobbying and aviation media coverage is focused on the above issue, there are several important issues related specifically to commercial aviation which also warrant discussion. Here ASAM wishes to highlight the ongoing need for training and currency of medical examiners, as well as the importance of the aeromedical system as a whole to include pilots, their employers, CASA AvMed, DAMEs and any other involved healthcare providers.

The two areas of private and commercial aviation intersect on the topic of risk, where change at one end of the aviation medicine spectrum invariably affects the other, as operations of all different types may interact in common airspace. The issue distils down to the assessment of acceptable community risk, and the difficulties involved in quantifying it. ASAM feels that this submission offers a framework that provides progression on the issues discussed, without undue change in the current level of risk.

Finally, ASAM and its board would like to thank CASA for the opportunity to provide input on the issues covered in this discussion paper. Our membership contains a large number of experienced aviation medicine professionals, and we would welcome the opportunity to work further with CASA on the development of any of the topics covered herein.

Risk

Overview

It is recognised that reducing the medical standards required for flight will result in an increased risk across several domains. ASAM feels strongly that any reduction in the level of medical scrutiny should be done on the basis of evidence gathered from experience gained by overseas regulators, or from existing alternative standards, or from other analogous regulated environments, and applied as appropriate to the Australian experience.

The CASA discussion paper specifically asks how an altered risk level will apply to those third parties on the ground, to commercial and general aviation users of airspace and to others not included in the two previous categories. Risk to all parties will increase, but it is the feeling of ASAM that this risk increase would be small. An important consideration is the acceptability of any increased risk to the general public and the aviation community. Specifically, how many additional aviation-related injuries or fatalities would be accepted by the Australian public in general, and users of the aviation system, in return for a reduction in the burden of regulation. This is very difficult to quantify and warrants a detailed analysis if it is to form the basis of a relaxation of regulations.

AOPA have reported a reduction in the number of general aviation pilots in the order of 9,000 over the last 14 years. In this same timeframe RAAus has reported an increase in pilot numbers of around 6,000. The gliding and hang gliding federations have also reported growth in this timeframe. This shows that in the last 15 years we have seen a growth in the number of pilots operating with reduced medical oversight, and a reduction in those operating under the current Class 2 system. This increase in the number of pilots operating with reduced medical oversight has come through regulatory structures approved by CASA.

Adopting the approach to medical assessments proposed by this submission will likely reduce the medical oversight for a segment of the current private pilot population. However, it may increase the level of medical oversight for a population of pilots currently operating under the various self-regulating bodies if they are able to access a CASA supported medical. The net effect of this will most likely still be a reduction in formal aviation medical oversight, but the effect of this on risk to the community and airspace users could well be argued to be no greater than that experienced through the growth of RAAus.

Airspace Users

In considering the risk to commercial users of airspace, the mix of traffic types at various aerodromes must be considered. Capital city RPT operations are confined almost entirely to airports with no private aviation presence at the single piston engine end of the spectrum. Exceptions are Canberra and Darwin.

In the capital cities with no private aviation presence at the major airport, secondary airports provide this facility. These airports are also home to large amounts of commercial freight and charter operations. Examples are Bankstown, Essendon, Parafield etc. In this situation private

aviators from a secondary airport may utilise the same airspace as commercial RPT operators from a primary airport.

Generally, private general aviation flights which are operating under the VFR will depart and arrive at a secondary airport directly to or from class G (uncontrolled airspace). The use of controlled airspace departures and arrivals is more frequently used by flights operating under the IFR. As such, there is already a natural separation of the types of private flights being considered here, and RPT operations.

In regional centres private aviation, commercial charter and RPT operations mix regularly. Some locations have non-radar control towers (Albury, Coffs Harbour). Other locations are uncontrolled (Ballina, Mildura). At the uncontrolled airports it is possible to have a Boeing 737 or Airbus A320 in the circuit with an RAAus registered aircraft.

It is evident therefore that pilots with differing levels of qualifications, experience, endorsements and medical assessments already interact regularly in Australian aviation operations. The proposed availability of a less frequent and less stringent aviation medical assessment would inevitably result in a very small number of pilots who would not pass a Class 2 medical assessment being able to operate in this airspace. These pilots may well have an aeromedically significant health issue, which may cause incapacitation, which may then lead to a catastrophic outcome for themselves, their passengers or other users of this airspace.

The challenge for the regulator in considering any new standard is whether these risks, likelihoods and consequences come together to a level that is unacceptable to the Australian community. It is ASAM's position that mitigating this risk with a framework of training, guidelines and oversight is sufficient to reduce any increased risk back to what is currently occurring with the mix of aviation operations described above.

Class 1 Medical Certification

Overview

A Class 1 license confers on its holder the opportunity to provide a highly-specialised service in a challenging working environment. The clients and passengers, and the broader community, trust the holder of the license to be operating safely, working to the best of their ability, and with the required level of training and currency. By extension these populations also trust the regulators and assessors who manage the issuance of that license to do so with rigorous standards, and to have comprehensively checked the pilot's suitability and fitness to hold that license.

The aviation environment presents physiological, operational and behavioural challenges to humans that are not necessarily easily understood or managed by doctors without specific training in the nature of these challenges. In particular, the high-stakes and operationally more challenging working environment for Class 1 pilots, in whatever nature of commercial flying they undertake, requires the examining medical practitioner to have a detailed knowledge of the pilot's working environment, and a high level of understanding of the physiology of altitude and the stresses of flight.

Any relaxation of either the medical standards, the requirement (including content and frequency) for medical assessment or the qualification of medical assessors for Class 1 licenses will bring with it a level of risk that aeromedically significant issues will be missed. The higher level of risk and consequence associated with Class 1 operations requires a higher level of medical examiner knowledge and currency across these areas than for Class 2 aviation, to properly provide an aeromedical assessment. This should be integrated into the regulatory system to ensure those medical examiners who are certifying Class 1 pilots are able to access suitable exposure to the pilot's working and operating environments. There should also be a process whereby those medical examiners providing assessment for higher-risk aviation are confirmed as having appropriate levels of currency and competence in performing those assessments.

It must be acknowledged further that the operating environment of a Class 1 pilot overlaps with that of a Class 2 pilot where they fly in the same airspace. A relaxation of standards, content or frequency of aeromedical examination for Class 2 pilots will therefore expose Class 1 operations – including passengers, clients and the community - to further risk in the event that a Class 2 pilot using shared airspace is incapacitated.

Each participant in the aeromedical system – regulator, DAME, health care providers, employer and pilot – has a key role to play in ensuring the system works safely as a whole. There are significant barriers however that prevent his system from integrating properly. Pilots may feel a risk of stigmatisation or negative occupational outcomes if they disclose impairments or concerns to their employer; they also may fear suspension of their license if they disclose symptoms or impairment to their DAME. To minimise the likelihood of situations such as this occurring, peer support programs and wellness programs should be encouraged and facilitated, not only by employers but also by CASA.

Furthermore, pilots, health care providers and DAMEs may not necessarily have a clear understanding of what is required to be reported, to whom and when. Health care providers (e.g.: the pilots usual GP) may suspect a health issue might impact the pilot's flying, but are unable to report this to the regulator as there is no protection in the Privacy Act or the CASR for them to do so. The data collection and management system used for aeromedical assessment and certification (MRS Online) is not ideal in terms of what information is collected, how, when, and by whom. The data system should enable efficient exploration of aeromedically significant issues for that pilot (based on their own history and relevant population indicators), and for pilots in general (based on evidence for the industry).

More broadly, the aeromedical certification process should be part of an integrated system that acknowledges and defines the role of each stakeholder, supports the identification, reporting, and management of aeromedically significant health issues.

Recommendations

- Medical practitioners performing aeromedical assessments for all aviation roles must have a basic level of training, and maintain a level of currency, in aviation medicine, including at least altitude physiology, aviation operational environments, human factors and the regulatory framework.
- Medical practitioners performing aeromedical assessments for high-stakes and high-risk aviation roles (Class 1, high-performance Class 2, Class 3) must have a higher level of knowledge and experience in aviation medicine, currency in the practice of aeromedical assessments, and currency in familiarity with the operational aviation environments.
- Risks that relaxation of standards, content or frequency of Class 2 medical assessments will adversely impact safe Class 1 operations must be mitigated by limiting the opportunity for these aviation operations to overlap.
- Comprehensive revision of the aeromedical assessment and management system to ensure the most appropriate data is collected and health management is implemented with all stakeholders involved and engaged, leading to the most appropriate aeromedical disposition.

Class 2 Medical Certification

Overview

The current medical certification requirements in place for the Class 2 medical are appropriate for the more complex end of the private aviation spectrum. Private flights are currently possible in complex, high performance multi-engine aircraft under instrument flying conditions. Flights such as this interact frequently with commercial traffic and operate in airspace overlying densely populated areas.

In this flight environment of high workload, high altitude, high speed and potentially high G, the current medical certification system and its medical restrictions are justified. Similarly, it is entirely appropriate that a medical practitioner trained in the specifics of aviation medicine be the one conducting the examination.

Recommendations

- ASAM propose no changes to the current structure of the Class 2 medical.
- The recommendations made above for the Class 1 medical pertaining to the level of training and recent experience of medical examiners apply equally to the Class 2 medical.

Sport/Recreational Aviation Medical Certification

Overview

ASAM agrees with the intent of the current Recreational Aviation Medical Practitioner's Certificate (RAMPC), but disagrees with its execution. As discussed above, private aviation can and does occur in complex and challenging environments. However, private aviation also occurs in simple, small, light-weight aircraft for which the current Class 2 certification requirements are too stringent. Despite this, it must be acknowledged that the flying environment is very different to the operation of a private motor vehicle, and that aviation medical assessment is different to primary health care provision. As such, the use of the Austroads Assessing Fitness to Drive (AFTD) guidelines by doctors working in primary health care is not adequate. Furthermore, it is felt that the RAAus system of medical certification, which relies entirely on pilot self-declaration, is not robust enough.

Given the spread of private sport and recreational aviation that occurs between the simplest forms under RAAus to their most complex at the higher end of Class 2 private flying, it seems logical that a separate tier of medical certification should exist to cover the activities that take place in between these two extremes. It is the view of ASAM that the extensive aeromedical knowledge of DAMEs should be used in the implementation this medical standard, and that a balance be found comprising components of pilot education, pilot self-declaration, and DAME assessment.

Recommendations

ASAM proposes the abolition of the RAMPC, and its replacement with a new class of medical certification known as the Class 4 medical. This title is recommended as it makes it immediately clear that it is a CASA medical, and removes all possible confusion with Recreational Aviation Australia (RAAus).

A list of medically disqualifying conditions should be listed, in a similar manner as for the RAMPC. However, the medically disqualifying conditions listed for the RAMPC should be reviewed to ensure their applicability. The current situation whereby the RAMPC provides little benefit over a Class 2 medical due to the list of disqualifying conditions should be avoided. As mentioned previously, and it is worth repeating, the new system must acknowledge that the flying environment is very different to the operation of a private motor vehicle, and that aviation medical assessment is different to primary health care provision. It is acknowledged that finding the balance between these two constraints will be difficult, and likely require significant research. Given the workload this research may generate, it may be advantageous to establish a working party of interested and suitably qualified DAMEs to undertake the required work.

The medical examination should be required once every four years up until age 45, then once every two years until age 70, then annually thereafter. These ages and examination intervals

overlap broadly with the RACGP guidelines for screening of preventable chronic diseases, which themselves are based on population health data.

Prior to attending the medical examination, the applicant should be required to complete an online form in MRS answering questions each pertaining to the presence or absence of the list of disqualifying conditions. In addition, the applicant should be required to answer the following broader questions:

- “Do you have any restrictions placed upon your private drivers licence?”
- “Do you require a regular medical examination to maintain your private drivers licence?”
- “If yes, please elaborate.”

The intent of these questions is to detect those individuals who may not meet the standard, or who may have a condition requiring further examination, but who are not aware of its significance towards their drivers licence or the aviation environment.

It is recommended that on completion of the questionnaire the applicant be required to complete a brief educational component. This should at the very least include their reporting requirements for medical conditions and self assessment on fitness to fly, and the aeromedical consequences of common medical conditions.

In addition to direct education on aviation medicine, this process may serve to demystify some aspects of the aeromedical decision making process. Hopefully this will create more transparency in the process, and in doing so, reduce the negative perception held by some aspects of the aviation community towards aeromedical decision making.

The medical examination itself is to be conducted by a DAME, with data submitted via MRS. This will allow capture by CASA of ongoing health data and will remove the ability for applicants to doctor shop. In seeing a DAME, not only is the applicant reviewed by a doctor with aeromedical training, but it will allow the delivery of preventative health advice relevant to aviation medicine as has been recently mandated by ICAO.

To address concerns regarding cost and complexity, the medical examination should be designed to fit into a standard GP-style consultation of 20 minutes. Chronic disease risk factors such as height, weight, neck circumference and blood pressure should be recorded as clinically indicated, and visual acuity checked. Discussion must occur around any declared medical condition(s) and the aeromedical consequences of common medical conditions, and reporting requirements must be reiterated.

If the applicant meets the required medical standard, DAMEs should have the ability to issue a certificate on the spot. If this is the case, no CASA fee should apply. If the DAME has any concerns, he or she should have the option to refer the application to CASA for final assessment. In this instance a CASA fee may be justified.

Operational Restrictions

It is proposed that the Class 4 medical allow private operations restricted as follows:

- A single engine piston powered aircraft with a maximum take-off weight (MTOW) not greater than 2500kg
- A maximum of six persons on board (POB) (ie: five passengers)
- Flight under the visual flight rules (VFR) by day only
- Flight not above 10,000'
- Aerobatic flight not permitted

These operation restrictions are of course an attempt at risk mitigation following a medical incapacitation.

The weight restriction generally, but not entirely, limits the complexity of an aircraft. Of the current approximately 11,500 piston powered aircraft on the CASA civil aircraft register, in the order of 9,900 are single engine aircraft with a MTOW not greater than 2,500kg. Roughly 8,500 of these are simple, low performance aircraft, and very few are larger than six-seat aircraft.

At this weight cut-off of 2,500kg the proposed Class 4 medical has the potential to cover the operation of all low performance single engine aircraft that would commonly be flown in flight conditions contained within the proposed operational restrictions. Additionally, it will cover a number of higher performance aircraft, mostly in the 1,500 - 2,500kg MTOW range, that are capable of flight outside the proposed operational restrictions. However, it must be acknowledged that these aircraft are also commonly used for day VFR flight below 10,000', and exclusion based on their maximum capability would not represent the intent of this class of medical.

Flight under the IFR requires significantly more training than is included in a standard PPL. As is evident, this flight environment introduces more potential sources of medical incapacitation and/or disorientation which may not affect a VFR pilot. In Australia, with our sparsely populated regional and remote areas offering little if any visual cues, flight under the NVFR is subject to the same set of risk factors. Flight above 10,000', which requires either a pressurised aircraft (and the subsequent risk of depressurisation) or supplemental oxygen, introduces further physiological factors. Limiting the available flight conditions to day VFR below 10,000' limits the operational environment to one that minimises the exacerbation of existing medical conditions, and reduces the negative consequences of an unforeseen medical incapacitation.

Aerobatic flight and its consequent high physiological demand should continue to require the medical scrutiny of a Class 2 medical at minimum.

Non-DAME Medical Certification

As previously stated, it is ASAM's position that DAMEs continue to be used for all aviation medical examinations. However, if consideration is to be given to allow medical practitioners with no formal aeromedical qualifications to undertake aviation medical examinations, the following are ASAMs recommendations:

- That a set of guidelines be developed (similar to Austroads' Assessing Fitness to Drive) pertaining to aeromedical consequences.

- That an aviation medicine training course (less comprehensive than the current Monash University ACCAM or RAAF Aviation Medical Officers Course) be required as a minimum qualification.
- That these medical practitioners not be able to issue a Class 4 medical, but that this function be provided by CASA AvMed.

A framework for governance and oversight by CASA of non-DAMEs performing aeromedical assessments is a particularly important feature of this model. It has been demonstrated that the use of the Austroad AFTD guidelines by medical practitioners without training and experience in their use, and without regulatory oversight of their application to drivers, has resulted in an environment where standards are not applied, incorrectly applied and/or inconsistently applied by both applicants and medical practitioners. It is not considered appropriate for such a situation to also be allowed to develop in the aviation environment, as described in the comments above regarding individual and community tolerance of aeromedical risk.

Class 3 Medical Certificate

ASAM recommends no changes to the current medical certification standards or processes as they pertain to Air Traffic Controllers.

The CASA Medical Records System (MRS)

Much has previously been written about the process of obtaining a medicals of all classes. We feel that the issues surrounding the functionality and use of MRS are well known and voiced regularly by our membership.

We acknowledge that CASA are continuing to make improvements to all aspects of MRS. We would encourage CASA to continue this process, to continue to listen to the ongoing feedback being provided, and to continue to fine-tune each medical questionnaire to make it as relevant as possible to the task it is attempting to achieve.