

ICAO Medical Briefing 2014

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Transport
Canada

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Canada



Disclosure Information

85th AsMA Annual Scientific

Dr. David Salisbury

I have the following financial relationships to disclose:

Employee of: Transport Canada

I will not discuss off-label use and/or investigational use in my presentation

Facts are facts. Opinions are mine and not the official position of TC or the Government of Canada







Further Disclosures

I'm a Canadian

Board certified in Aerospace Medicine by Am. Brd. Of Preventive Medicine

FRCPC in Public Health and Preventive Medicine

28 years in the CF as a flight surgeon, 5 years in Public Health as a Medical Officer of Health, 6 years at TC as Director

Non-smoker, normotensive, minimal drinker who exercises hard 3 times a week and always wears his seatbelt. Immunized against most vaccine preventable diseases and all my first degree relatives have lived to 80+





Aerospace Medicine

Branch of Preventive Medicine that deals with the clinical and preventive medical requirements of man in atmospheric flight and space





Approach to Aerospace Medicine



AEROSPACE

Normal Physiology
Abnormal environment

CLASSICAL

Abnormal Physiology
Normal environment

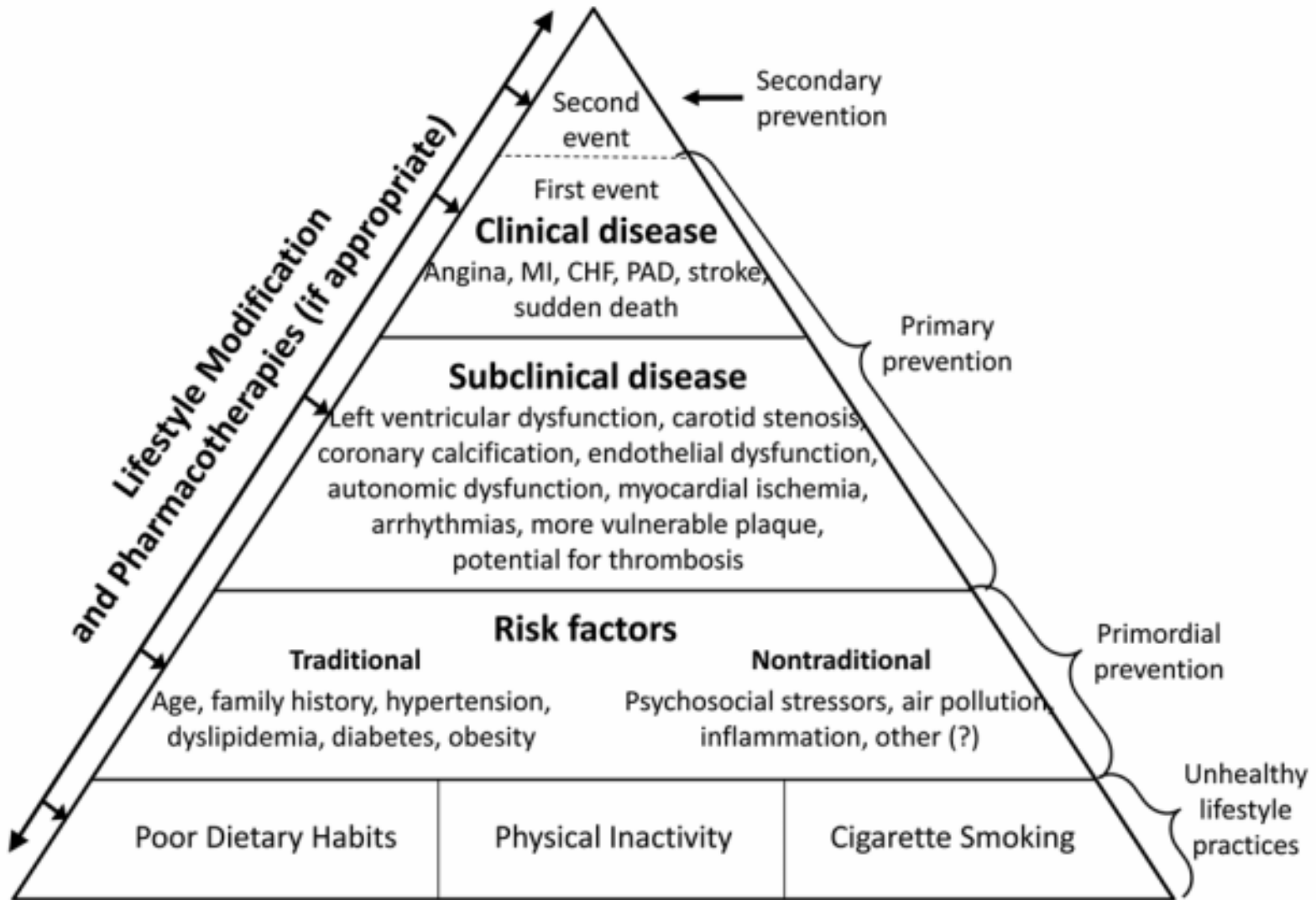




Aerospace and Regulatory Medicine

Abnormal Physiology
Abnormal environment



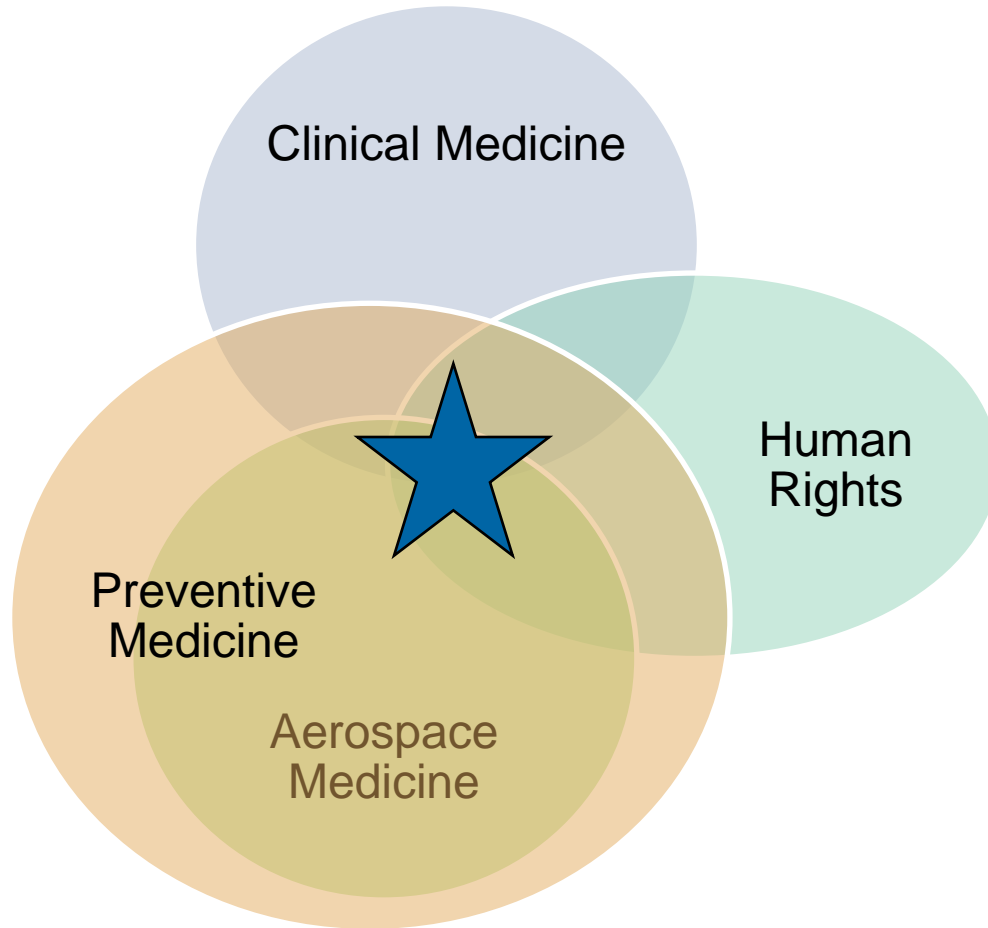


Source: http://my.americanheart.org/professional/ScienceNews/Foundational-Factors-for-Cardiovascular-Disease-Behavior-Change-as-a-First-Line_UCM_457215_Article.jsp





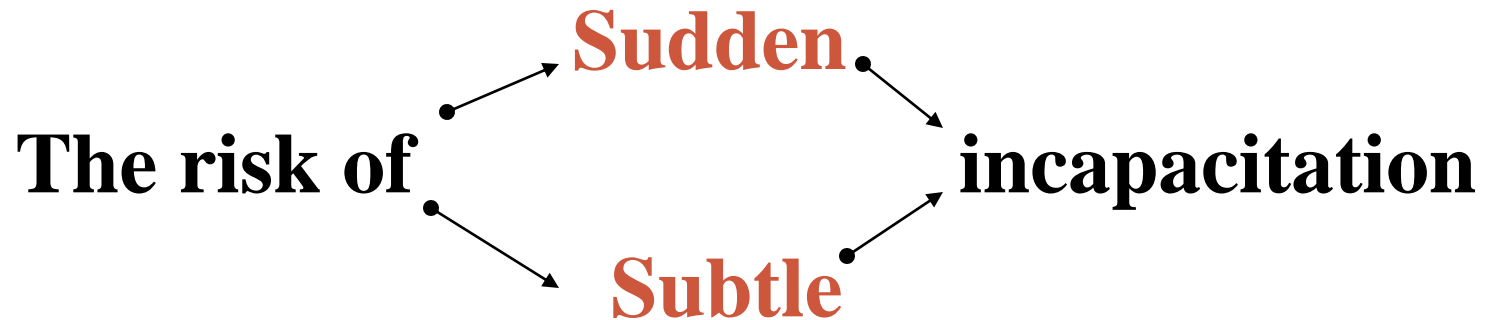
Aviation Regulatory Medicine





Fitness Criteria

Concern :



During the validity period of the Medical Certificate





'Flexibility'

CAR 424.05

ICAO Annex 1 1.2.4.8

“ Accredited medical conclusion ”

Used for medical certification cases which are ‘technically’ outside the standards but are not deemed to be a threat to aviation safety





1% Rule

Evans ADB, Rainford DJ. Medical Standards for Aircrew in Aviation Medicine III Edition. 1999

Goal is 1 in 10^7 for all cause fatal accidents

Crew failure should contribute no more than 10% of risk

Medical Incapacitation should contribute no more than 10% of crew failure risk

Therefore Pilot Incapacitation should cause an accident no more often than one in 1000 million flying hours





Human Rights Issues

CHRC is a quasi-judicial body empowered under the *Canadian Human Right Act*

CHRC investigates and tries to settle complaints of discrimination in employment and in the provision of services within federal jurisdiction

CHRC is also empowered under the *Employment Equity Act* to ensure that federally regulated employers provide equal opportunities for four designated groups: women, Aboriginal people, the disabled and visible minorities

CHRC acts as an advocate for human rights and issues, reports on various aspects of discrimination as well as educational materials designed to promote human rights and inform employers and the general public about human rights regulations





Human Rights II

Prohibited Grounds of Discrimination

- Race
- Colour
- National or ethnic origin
- Sex (includes pregnancy)
- Marital status
- Family status
- Age
- Religion
- Sexual Orientation
- Pardoned Conviction
- **Disability (physical or mental, including drug or alcohol dependence)**





Human Rights III

There is a Duty to Accommodate : it is the LAW

- The right to accommodation of needs is statutory
- Supreme Court of Canada: accommodation of needs is necessary to ensure equality under the Charter and statutory human rights legislation (*Meiorin + Grismer*)

Accommodation can be denied if

- The rule, standard or practice is based on a bona fide occupational requirement (BFOR) or bona fide justification (BFJ),
- It is made in good faith (*bona fide*), and
- Putting aside the BFOR to accommodate would cause undue hardship to the provider, considering health, safety and cost
- To establish BFOR: *Meiorin*- 3 stage test





Latest Framingham CVD Prediction Tool Performance

The top sex-specific quintiles of predicted CVD risk identified \approx 48% of men and 58% of women who experienced a first CVD event on follow-up (sensitivity). Proportions of men and women without events who were not in the top quintile of risk were 85% and 83%, respectively (specificity).

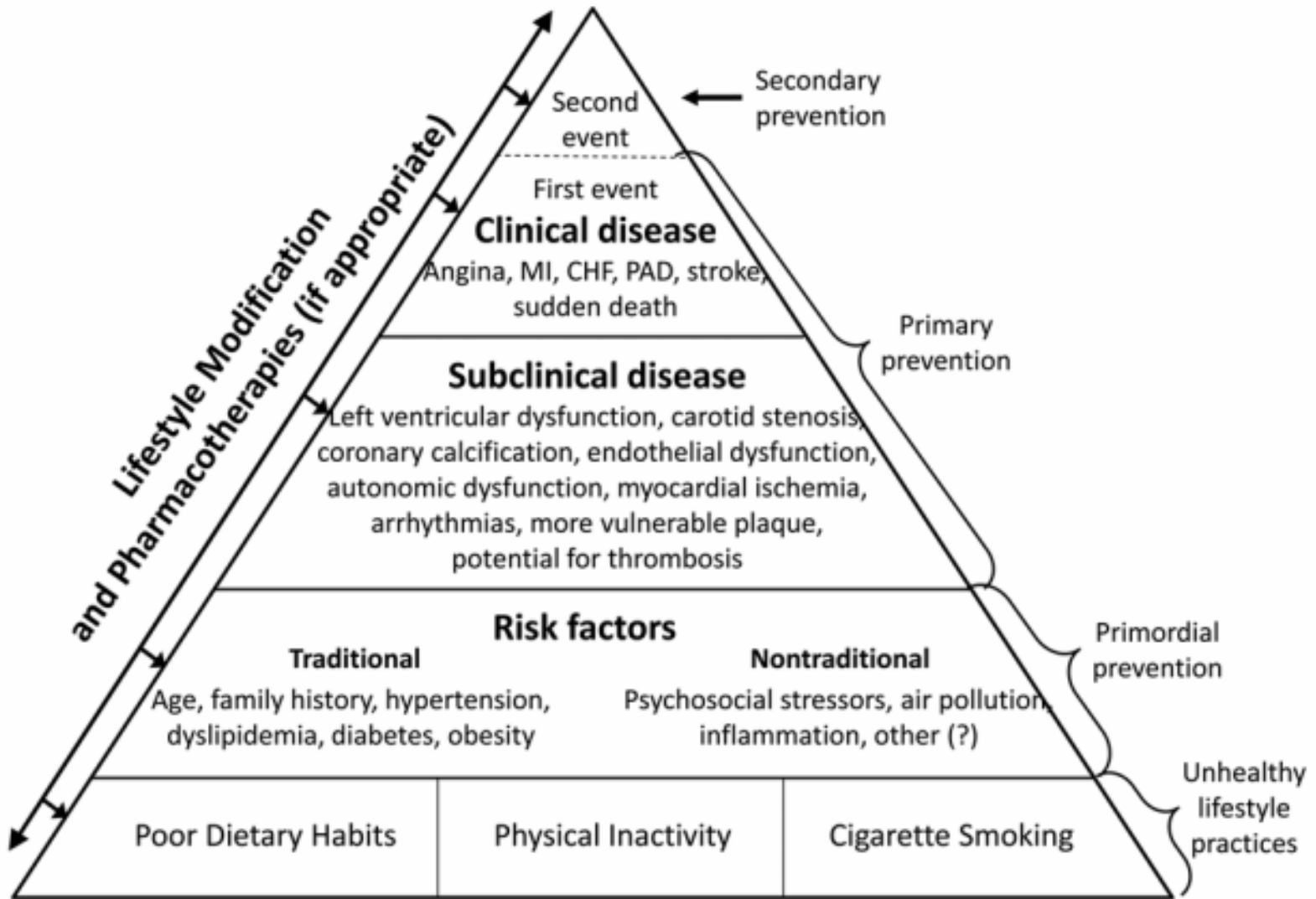
Source: <http://circ.ahajournals.org/content/117/6/743.full>





Prev. 10%	An Event			
		+	-	
FRS	+	48	135	
	-	52	765	
		100	900	1000
	Sensitivity	.48		
	Specificity	.85		
	+PV	.26		
	-PV	.94		





Source: http://my.americanheart.org/professional/ScienceNews/Foundational-Factors-for-Cardiovascular-Disease-Behavior-Change-as-a-First-Line_UCM_457215_Article.jsp





Counseling Individuals To Adopt Healthier Behaviors





Conclusions

Aerospace Medicine is Preventive Medicine

Prevention is effective

Regulatory Medicine will need more than a paradigm shift to effectively practice primordial prevention

There are legal, human rights and logistical barriers to practicing prevention in a regulatory framework







Aviation Document

Canada 

Document d'aviation