
Safety for the rescuers !
dan halvorsen

Fatal accidents in rescue missions and training

- Climber fell to his death from RAF helicopter after safety rope was cut during rescue attempt. News online 27 Feb 2013
- Member of PGHM / CNISAG in Fatal Crevasse Fall. Chamonet 11 Mars 2013
- Man dies in rescue chopper mishap. ABC NEWS 1 Sept 2013


073
REDNINGSTJENESTE
LUFTFORSVARET

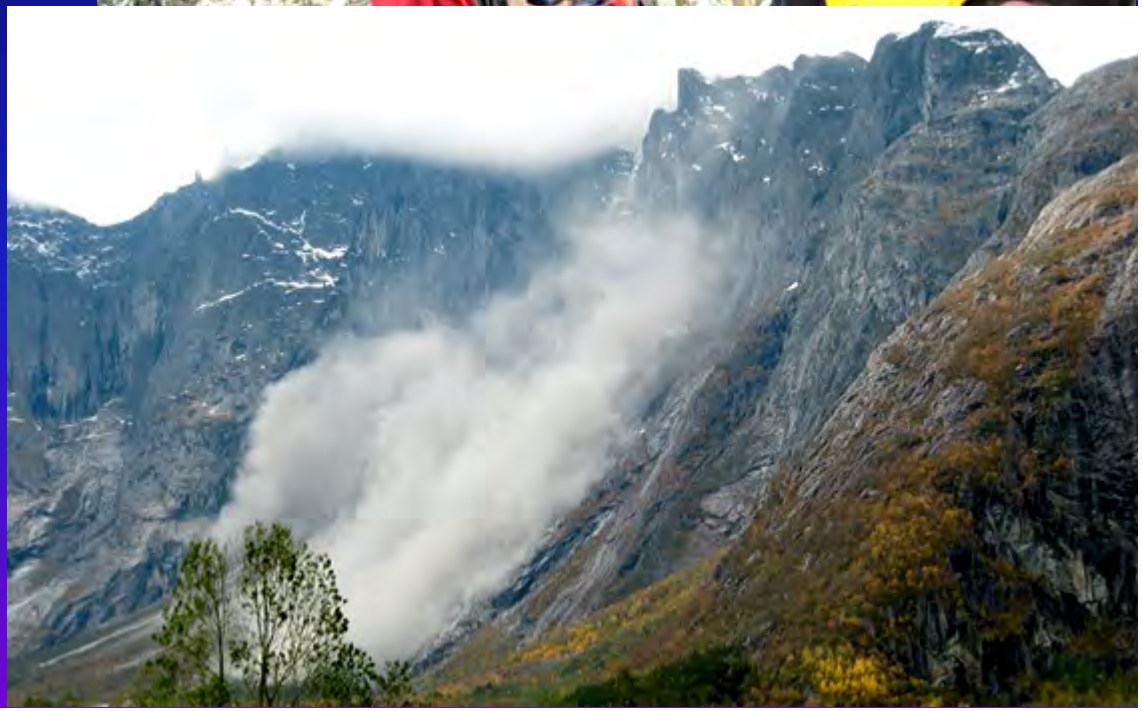

How many patients dies in hospital mistakes ?

Technical rescue

Aviation aspect

Medical aspect

Nature



” The driving force behind a safety program is the cost of not having one”

Safety Management System

- *SMS (ICAO Def.) : An organized approach to managing safety ,including the necessary organizational structures, accountabilities,policies and procedures.*

- *Systematic safety approach using quality principles, scaled to the size of the organization and applied in a safety culture.*

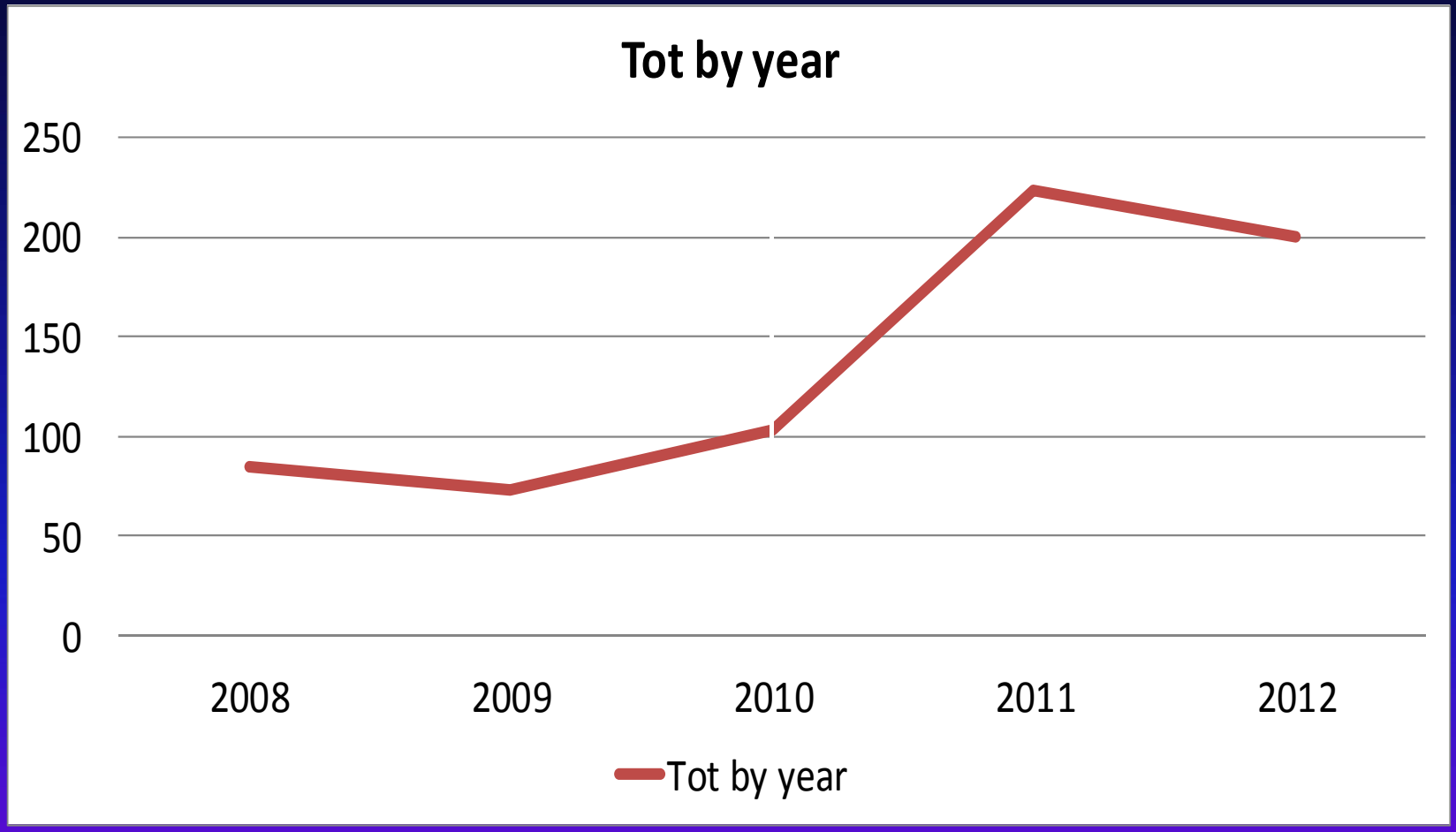
Risk Management

- «Aletheia» Occurence Reporting System
  - Available
  - User friendely
  - Result-oriented

Report willingness

Aletheia web

New Occurence Reporting system 2011

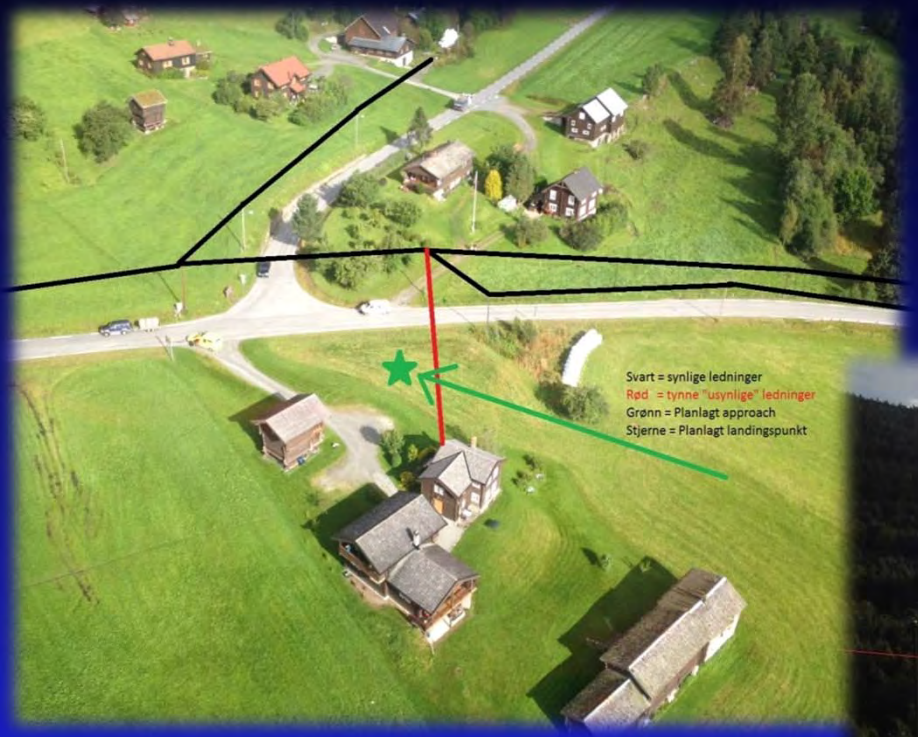


Risk Management

- Acceptable level of safety

1 - 6	Normally acceptable, but review task to see if risk can be reduced further
7 – 14	Task should only proceed with appropriate management authorization. Where possible the task should be redefined to mitigate the assessed risk.
15 - 25	Task must not proceed. The risk must be mitigated by additionally control measures. The measures must be reassessed for estimated new risk level prior to commencement.

Operativ risk



Definition of ACRM

EHAC

European HEMS & Air Ambulance Committee

ACRM is the effective use of all available resources to increase **flight and patient safety** and the efficiency of the entire Aeromedical operation.

resources in the name of that definition are: team members, aircraft systems, medical systems and other technical and human support

Aeromedical Crew Resource Management

Human Factors?

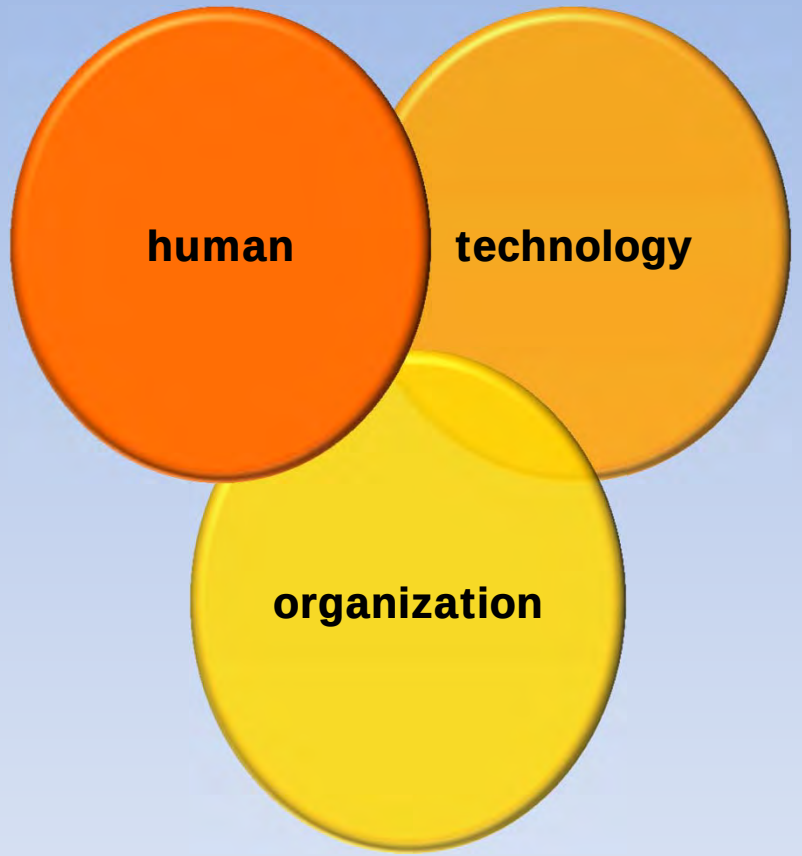
EHAC

European HEMS & Air Ambulance Committee

Aeromedical Crew Resource Management

The human factors are all physical, psychological and social characteristics of man, inasmuch as they influence the action in and with socio-technical systems, or be influenced by them.

(own translation: Badke-Schaub et al. 2008)



Dieckmann, Rall 2008

Accident Statistics in Aviation

EHAC

European HEMS & Air Ambulance Committee

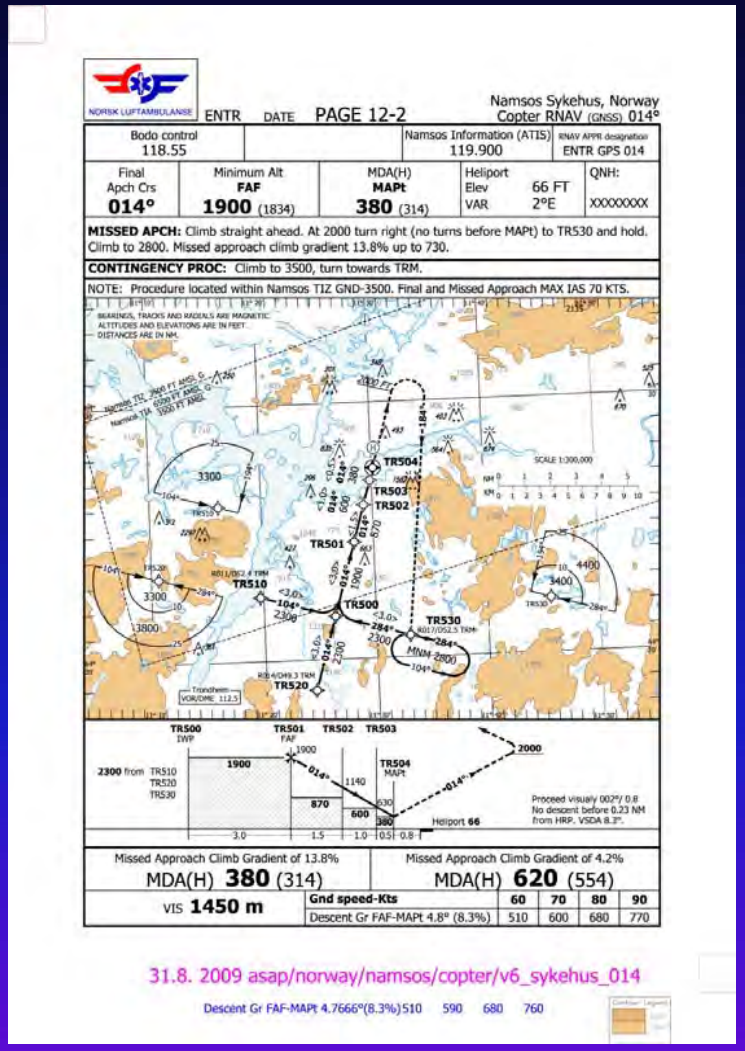
Root Cause of Accident	%
Human Failure	70
Technical Failure	10
Maintenance	6
Weather Conditions	5
Airport	3
Others	6

National Transportation Safety Board, Annual Review of Aircraft Accident Data

Aeromedical Crew Resource Management

AVIATION


27.01.2009 15:38


NORSK LUFTAMBULANSE
ENTR DATE PAGE 12-2
Namsos Sykehus, Norway
Copter RNAV (GNSS) 014°
Bodo control 118.55
Namsos Information (ATIS) 119.900
RNAV APPR designation ENTR GPS 014
Final Apch Crs 014°
Minimum Alt FAF 1900 (1834)
MDA(H) MAPt 380 (314)
Heliport Elev 66 FT VAR 2°E
QNH: XXXXXXXX
MISSED APCH: Climb straight ahead. At 2000 turn right (no turns before MAPt) to TR530 and hold. Climb to 2800. Missed approach climb gradient 13.8% up to 730.
CONTINGENCY PROC: Climb to 3500, turn towards TRM.
NOTE: Procedure located within Namsos TIZ GND-3500. Final and Missed Approach MAX IAS 70 KTS.
TR500
TR501
TR502
TR503
TR504
TR510
TR520
TR530
2300 from TR510 TR520 TR530
1900
870
600
380
Heliport 66
2000
Proceed visually 002°/ 0.8
No descent before 0.23 NM from HRP. VSDA 8.3°.
Missed Approach Climb Gradient of 13.8%
MDA(H) 380 (314)
Missed Approach Climb Gradient of 4.2%
MDA(H) 620 (554)
VIS 1450 m
Gnd speed-Kts 60 70 80 90
Descent Gr FAF-MAPt 4.8° (8.3%) 510 600 680 770
31.8. 2009 asap/norway/namsos/copter/v6_sykehus_014
Descent Gr FAF-MAPt 4.7666°(8.3%)510 590 680 760


Checklist !

6	PRIME PUMPS	ON
7	Anti Coll light	ON
8	CPDS	Units, fuel, FLI ■▽▼, 24V
9	Collective	Locked
10	Rotor Brake	Check OFF
11	Rotor Area	Clear
12	MAIN sw 1st eng	IDLE & check
13	MAIN sw 2nd eng	IDLE& check
14	Overhead sw's	As required
15	HYD	Check
16	AFCS & SAS	Test & ON

BEFORE TAKE-OFF

1	**ENGINE MAIN switches**	**Flight/guarded/ "xx"%/High Nr on**
2	**STBY Horizon**	**Free**
3	**Instruments**	**Checked**
4	**Warnings & Cautions**	**Normal**
5	**Avionics**	**Set**
6	**Autopilot**	**ON**
7	**Rad Alt DH**	**"xx" feet**
8	**Klar bak?**	**Klar bak!**
9	**Take-off brief**	**Performed**
10	**Checklist completed**	

AFTER TAKE-OFF

1	T/ O time	Note
2	Navigation	Set up
3	Flight Following	Establish
4	**Checklist completed**	

* FINAL

1	**Rad alt DH**	**180 feet**
2	**Missed approach altitude**	**"xx" feet**
3	**Checklist completed**	

BEFORE LANDING

1	Warnings & Cautions	Normal
2	Instruments	Normal
3	**Rad Alt DH**	**"xx" feet**
4	**Radar**	**Off/Stdby**
5	**Landing Brief**	**Performed**
6	**Checklist completed**	

ENGINE SHUT DOWN

1	ENGINE MAIN sw	IDLE
2	Collective	Lock
3	STBY/ HOR	Cage
4	All consumers	Off (not AC)
5	ENGINE MAIN sw	OFF
	When rotor stopped	
6	VEMD	Check report
7	FADEC sw	OFF
8	BAT MSTR sw	OFF

* BEFORE IMC

1	Take-off weather
2	Take-off performance/terrain clearance
3	Destination weather
4	Fuel requirements
5	Enroute performance/ terrain clearance
6	Icing – contingency plan


Can you do something more
in your organitation ?
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