



Dealing with sensitive data in healthcare

Human-Factor-based Risk Management to improve Patient Safety

DI Dr. Barbara Streimelweger, MBA

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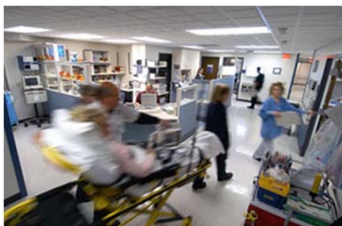


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***„We must avoid the uncontrollable
and control the unavoidable.“***

*Hans Joachim SchellInhuber (1950, Bayern/Germany),
climate scientist*



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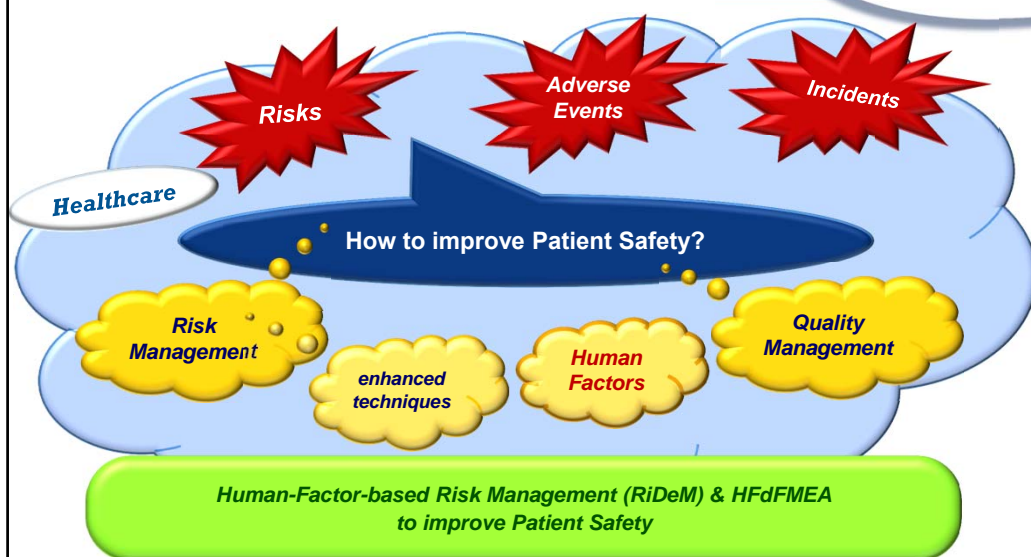
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OUTLINE



- ☐ Background and Motivation
- ☐ Human-Factor-based Risk Management – the proposed Model
- ☐ Evaluation Setting and Results
- ☐ Restrictions – Limitation – Implications
- ☐ Conclusion

Background and Motivation



***„You must learn from the mistakes of others.
You can't possibly live long enough
to make them all yourself.“***

Sam Levenson (1911-1980), American Author



Background and Motivation

PROBLEM in the calculation of risks and their extent of damage
the impact of human factors is not taken into account

TARGET Improving Patient Safety

HOW through Human Factor based Risk Management (RiDeM-H)
based on an enhanced FMEA that takes the impact and
consequent dependence of human factors into account (HFdFMEA)

WHY to control and manage risks actively and
subsequently to improve patient safety

Customer Usability higher/improved safety (= patient safety)
through proactive (risk) management

Background and Motivation



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Human-Factor-based Risk Management



□ What are the **challenges**?

- calculation of risks
- impact of human factors
- practice of RiDeM
- controlling & monitoring
- supervision of the system



□ What is the **target** and how can it be achieved?

- increasing patient safety
- active Risk Management
- classification of human factors (RiDeM-H)
- controlling & monitoring results
- supervising the system

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Human-Factor-based Risk Management



How is it possible

- to **increase patient safety** through active Risk Management
- by **classifying Human Factors** and
- by taking into consideration those Human Factors for risk assessments using FMEA?

How to

- **control**
- **monitor** and
- **supervise**

RiDeM method as such?

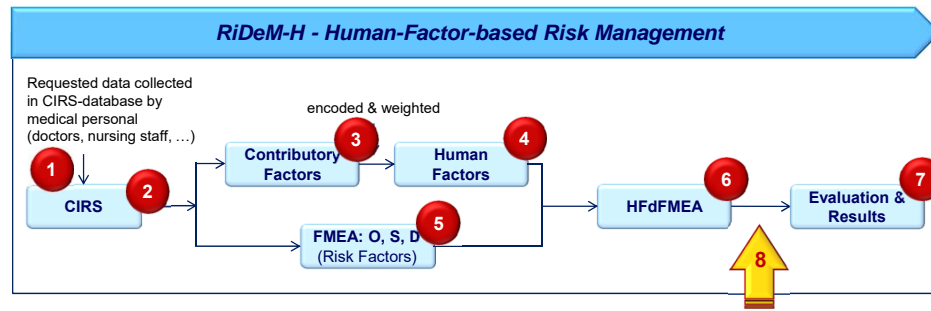


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Human-Factor-based Risk Management

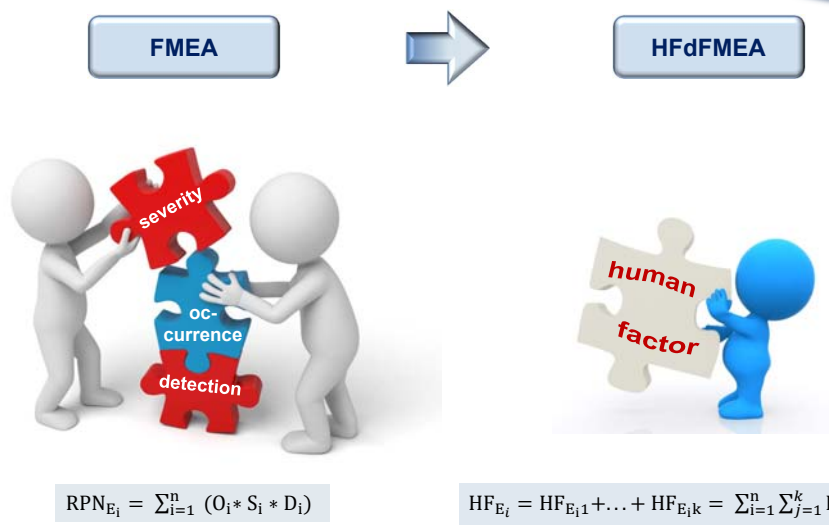


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Human-Factor-based Risk Management



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Evaluation Setting and Results



- ☐ **Data Source**
 - Critical-Incident-Reporting-System (**CIRS**)
 - The **GOAL** ... data about incidents/events
 - The **USE** ... voluntary national CIRS (e.g. DE, CH, GB, NL, ...) vs compulsory use (e.g. USA, SE)
 - The **PROBLEMS** ... access to sensitive data
... accuracy and trustworthiness
... human factors
- ☐ **Defined data in CIRS**

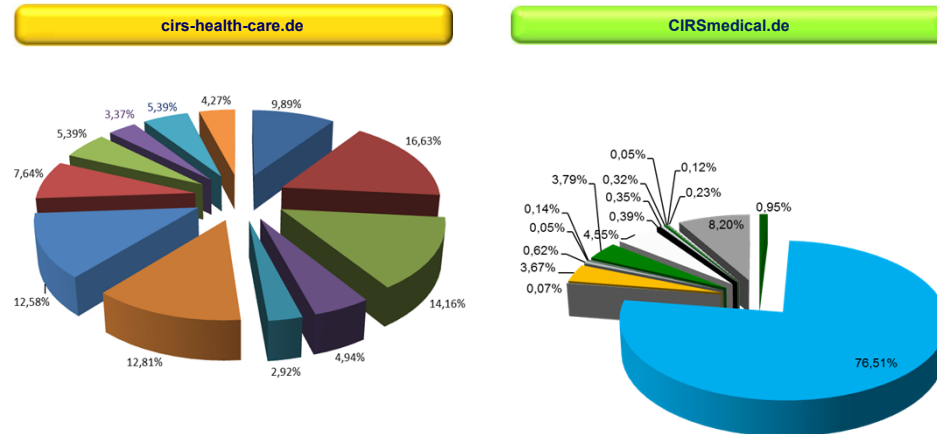
Each listed event is assigned to ...

 - an expertise area
 - a place
 - others
 - a professional category
 - **contributory factors**

Evaluation Setting and Results



Events according to affected area of expertise



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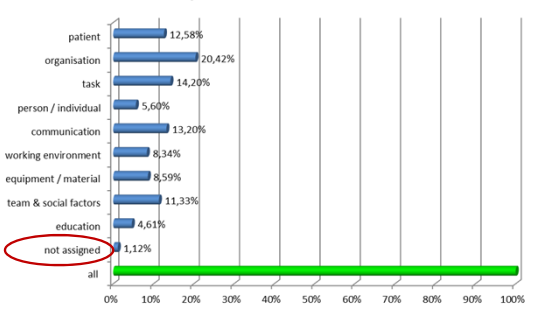
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cirs-health-care.de

cirs-health-care.de		
contributory factors	assigned to events	[%]
patient	101	12,58%
organisation	164	20,42%
task	114	14,20%
person / individual	45	5,60%
communication	106	13,20%
working environment	67	8,34%
equipment / material	69	8,59%
team & social factors	91	11,33%
education	37	4,61%
not assigned	9	1,12%
all	803	100,00%

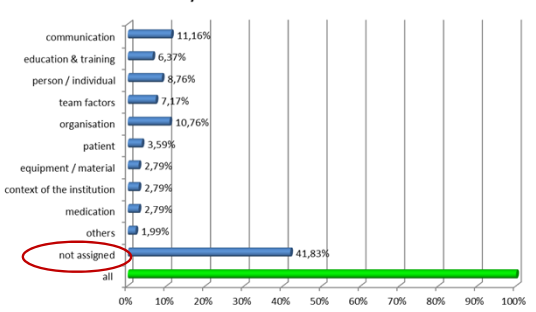
Contributory Factors - the base for Human Factors



CIRSmmedical.de

CIRSmmedical.de		
contributory factors	assigned to events	[%]
communication	28	11,16%
education & training	16	6,37%
person / individual	22	8,76%
team factors	18	7,17%
organisation	27	10,76%
patient	9	3,59%
equipment / material	7	2,79%
context of the institut	7	2,79%
medication	7	2,79%
others	5	1,99%
not assigned	105	41,83%
all	251	100,00%

Contributory Factors - the base for Human Factors



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Restrictions - Limitation - Implications



Restrictions - Limitation - Implications



- ☐ To which **restrictions** and **limitation** lead the **CIRS** databases?
- ☐ How **generalised** are the results?
- ☐ Who are the **stakeholders** of the proposed HFdFMEA technique and RiDeM-H model?
- ☐ What are **implications** for the health system, practitioners and patients?
- ☐ What are implications for the HFdFMEA and RiDeM-H?
- ☐ ...

*What has all this to do with
data protection & data security?*



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Conclusion



There is still room for improving patient safety



minimizing risks

*taking the given potential **chances***

We just need to take the opportunities to act!

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***Thank you
for your attention!***



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