Meaning and Adverse Events

The effect of meaning on medical doctors involved in adverse events

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"*The truth about people, about human nature, then, is not something that is awaiting discovery, ready made, like something under a stone on a beach: it can only be made by people in dialogue, as the product of a social act, in continual mutual interrogation and reply*".

J. Shotter[1]

[1] Shotter J., 1975 '*Images of Man in Psychological Research*' Methuen London p. 135.

Preface

Adverse events are injuries to patients caused by medical intervention instead of the condition of the patient. Examples of adverse events are wrong diagnosis, wrong medicine prescription and wrong side surgery. All causing physical and/or mental harm and sometimes death.

A hospital chaplain, spiritual or pastoral counsellor might be involved in the aftermath of an adverse event. To see the patient and his family, is an experience that fills everybody with grieve. On micro-level, the counsellor tries to do his work as good as possible by providing comfort and by organising contact between the patient and the involved medical professional (if desired). Also attention should be paid to the medical doctor as potential "second victim". And while it is known that efforts are made to report adverse events in an data bank and other safety initiatives are organised like "patient safety weeks"[2], it is known as well that medical doctors do report far less[3] than nurses do and that talking about adverse events within the medical profession is still experienced as a "challenge".

Would it be possible that spiritual/pastoral counsellors and chaplains could find ways to contribute to prevention and reduction of adverse events rather than only being confronted by the negative results of adverse events?
These thoughts helped me to get more insight in the phenomena "adverse event" and to think about a literature research on possible effect of attention to meaning on medical doctors involved in adverse events. This resulted in the thesis: "Meaning and Adverse Events".

[2] 'Radbode' jaargang 36 no. 18 – 2010 p. 1 / 3. An information magazine of the UMC ST Radboud.
[3] 'Melden? Een mip melden? Dat is toch iets wat verpleegkundigen te pas en te onpas doen?' in: '*NotaBene Tijdschrift voor Patiëntveiligheid*' 2010 no. 11. p. 10. This magazine is a collective publication of het UMC Utrecht, Ziekenhuis Rivierenland Tiel, AMC, OLVG, St. Antonius Ziekenhuis and the St. Franciscus Gasthuis in Rotterdam.

Summary

Adverse events are injuries to patients caused by medical professionals. They are experienced as highly disturbing for everyone involved (patients, their relatives, health care professionals, hospital management). In this thesis the topic of research is the possible effect of attention to meaning on medical doctors involved in adverse events. Literature research was done. Data from the research *'Zingevingvragen in het contact tussen patiënt en medisch specialist'* [4] of Hijweege en Pieper are analysed and put in perspective of the findings.

After an introduction about adverse events and data in Dutch hospitals, the objectives of the thesis are discussed. In the second chapter the word "meaning" is discussed in the context of this thesis. Taylor's idea of meaning from a hermeneutic perspective is introduced. In this framework, it is proposed that meaning of action is found in a form of an intersubjective shared understanding of the meaning of actions. Hypothesis is that accidents do uniquely comprise an anomaly of meaning. People intend to give meaning when executing a plan. Therefore, if the good plan results in an accident, the action becomes "meaningless" and meaning has to be sought elsewhere. The effect of attention to this hermeneutic approach of meaning affects medical doctors involved in adverse events in a positive way. Positive, when hermeneutical enquiry brings in questions about morality and ethics on an organisational level. Meaning appears to be not just a domain for chaplains and counsellors. In chapter three the medical doctor as the victim and actor of human error is discussed as well as the question why people err. One response to adverse events is "blaming an actor or even the victim or a group" . This "person approach" is deeply rooted in human thinking. When adverse events are only approached as a personal, rational choice to err, they become even more devastating and meaningless for the actors and victims. Medical doctors, as "second victims" in this situation, experience feelings of guilt and fear. Elements like character, education, the hidden curriculum, reputation and the status of medical doctors do influence the doctor's attitude and his/her behaviour after an adverse event as well.

[4] Hijweege – Smeets N.M., Pieper J.Z.T. 2010-2011. 'Zingevingvragen in het contact tussen patiënt en medisch specialist'. University Utrecht Faculty of Humanities, Department Theology and Religious Studies.

In chapter four it is discussed that adverse events do have a deeper causational background and that “blaming the person” is a too simplistic way of looking at causation of adverse events. The Tripod Beta model, a system approach on analysing adverse events, can help to find underlying causes and preconditions that made the adverse event happen. By making clear where adverse events origin from, questions about the meaning of health care and morality can be asked. It shows where actions should be taken on micro- and on meso-level, to prevent adverse events from happening again. A case study is provided to underline the theory.

Chapter five explains that meaning can be created when management shows strong leadership by setting a clear vision on patient safety. Communication and dialogue between medical professionals and managers is essential for making implementation of safety strategies successful. To develop a vision on patient safety (reduction and prevention of adverse events) management could use normative professionalism and attention to morality to structure hermeneutics in health care. The human behaviour model/Tripod beta is expanded with aspects of hermeneutics to make this clear. Chaplains, pastoral/spiritual counsellors do have knowledge and skills to help to bring hermeneutics into practise. The used data from the research *“Zingevingvragen in het contact tussen patiënt en medisch specialist”* show a hopeful starting point for the implementation of a system approach on adverse events.

Conclusion.

In this thesis the outcome of a literature research on the question “What does literature tell about the effect of attention to meaning on medical doctors involved in adverse events?” is presented. The conclusion is that a strong systematic analysis approach, like Tripod beta, on adverse events develops a positive effect to the attention to meaning on medical professionals involved in adverse events. The search for intersubjective shared understanding of actions, attention to morality and support for normative professionalism contributes to this as well. Medical doctors are not blamed as the main cause of “adverse events without meaning”. They are part of the solution to prevent reoccurrence. The adverse event becomes meaningful as it provided information on how future accidents can be prevented. Sharing information about accidents is a first requirement and the management of medical facilities should stimulate such an exchange of information, not only

for the (self evident) benefit of the patients but also for the medical professionals involved to help them cope with the consequences of what was previously perceived as a meaningless event.

Chapter 1. Introduction, Objective and Method

1.1 Introduction

> *"Sometimes you have those moments when everything happens at once. That's what happened that evening. I received a phone call; something had happened in my family that really upset me. At the same time, there was a nurse standing next to me with a problem and the abdominal x-ray I had ordered for a patient with unexplained symptom, was being shown to me. I had a quick look at it, could not detect anything unusual and took no further action. The patient died the next morning, while I was still on duty".*

This is the first part of the story of Peter de Leeuw, internist[5], about an adverse event. The story of de Leeuw is one of eleven stories about adverse events in which different medical doctors were involved. The stories are written down in the book *"Dit nooit meer. Artsen vertellen over hun incident"*[6]. All eleven stories show that the medical doctors were very much affected by "their" incident. It took courage for them to talk and write about it. By doing so they tried to be a role model for medical students and colleagues and they tried to make the adverse event an opportunity to learn from.

1.1.1 Data of adverse events frequency in patient safety in health care.

Awareness of the problem of medical injury can be traced back to 1991 when results of the Harvard Medical Practice Study[7] were published. It showed a review of 30.000 medical records of patients hospitalized in New York state. Four per cent had complications in their

[5] He studied medicine in Rotterdam (1967-1973) and was appointed professor for Internal Medicine at the University of Maastricht in 1991. He was chief editor of the '*Netherlands Journal of Medicine'* for ten years and of the '*European Journal of Medicine'* for five years. Since January 2008 he is chief editor of the *'Nederlands Tijdschrift voor Geneeskunde'*.

[6] *'Dit nooit meer. Artsen vertellen over hun incident'* 2009 Utrecht. The book is an initiative of the Kwaliteitsinstituut voor de Gezondheidszorg CBO, Patiëntveiligheid Isala and Kenniscentrum Patiëntveiligheid UMC Utrecht. The book is translated in English in 2011. '*When Health Care Hurts. Doctors Share Their Darkest Hours'* 2011 Buikema M. (ed.) Zin Publishing.

[7] Brennan T. A., Leape L.L., Laird N.M, Hebert L., Localio A.R., Lawthers A.G., Newhouse J.P., Weiler P.C. 'Incidence of adverse events and negligence in hospitalized patients: results of the Harvard Medical Practice Study I*' in: Quality and Safety in Health Care* 2004; 13: 145-152. This is a reprint of a paper that appeared in '*New England Journal of Medicine'*, 1991, Vol. 324, p. 370-376 and Leape L.L., Brennan T.A., Liard N., Lawthers A.G., Localio A.R., Barnes B.A., Hebert L., Newhouse G.P., Weiler P.C., Hiatt H., 'The Nature of Adverse Events in Hospitalized Patients: Results of the Harvard Medical Practrice Study II' in: *New England Journal of Medicine* 324, no 6 (1991): 377-384.

treatment. Two thirds were due to adverse events, and therefore preventable. Health care leaders discovered that other industries had developed significant literature and experience concerning error prevention and looked for tools to work on this problem. In 2000 the American Institute of Medicine (IOM) report *"To Err is Human"* [8] was published. This led to worldwide attention to (the lack of attention to) safety in medicine. The numbers of preventable death were estimated between 44.000 and 98.000 in the USA in 1991. That is the equivalent of a jumbo jet full of people crashing each day[9]. The report "*To Err is Human"* made clear that not careless or incompetent people were the cause of the adverse events but it was the system that made mistakes possible. The advice was to stop blaming persons, and change the system. In the Netherlands a 2010 NIVEL research showed[10] that every year about 1.3 million people are taken into hospital. The number of death due to care related preventable harm seems to have increased the last years. In 2004 about 1735 people deceased (partly) due to care related preventable harm in Dutch hospitals. In 2008 this number was around 1960 [11]. If we compare these figures with the progress in prevention and reduction of casualties in traffic[12], we see a potential decline through the years, despite

[8] Kohn L.T., Corrigan J.M., Donaldson M.S. 2000 *'To Err is Human. Building a Safer Health System'* National Academy Press Washington D.C.

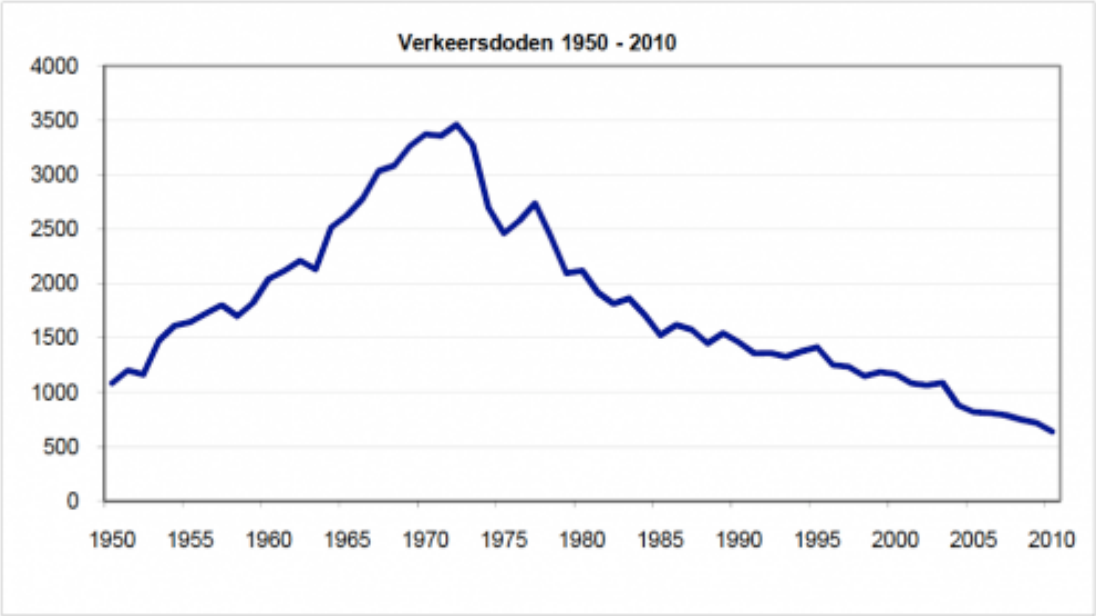
[9]Wachter R.M. 2004 'The End Of The Beginning: Patient Safety Five Years After 'To Err Is Human' in: *Health Affairs* vol. 23 November 2004 p.534- p.545.

[10] 'Langelaan M., Baines R.J., Broekens M.A., Siemerink K.M., Steeg van de L. Asscheman H., Bruijne de M.C., Wagner C. 2010 NIVEL rapport Patientveiligheid in Nederland. *'Monitor Zorggerelateerde Schade 2008. Dossieronderzoek in Nederlandse ziekenhuizen'* Nivel en EMGO+ instituut p. 35-38, p. 43 & 74-75.

[11] The study showed that surgery had the highest score in care related preventable harm, not in preventable death. Ibid. p. 47.

[12] Centraal Bureau voor de Statistiek Verkeersdoden 2008. www.cbs.nl website visited june 2011.

the significant increase of traffic.



Although researchers say that statistically one cannot speak of an increase of death through care related preventable harm in Dutch hospitals over the last four years, the figures make clear that still more effort is needed to reduce and prevent adverse events. Another Dutch study[13] shows that implementation of a checklist that targeted the entire surgical pathway (and not just the operation theatre) decreased the number of complications per 100 patients from 27.3 to 16.7. which is a 10.6 risk reduction. In-hospital mortality decreased from 1.5 per cent to 0.8 per cent. Which is an risk reduction of 0.7 per cent. Outcomes did not change in the control hospitals. Dutch research proves that figures of preventable harm from adverse events are significant and that attention to prevention, through check lists helps reduction of adverse events. Still every effort has to be made to promote prevention of adverse events. On paper the figures about adverse events are disturbing. In practice adverse events do have a high impact on patients, family and medical doctors involved. Medical doctors try to do their work as good as possible and when things go wrong worst case scenarios might become reality. Patients die while death could have been prevented. Harm, preventable harm, is done to patients which causes unnecessary suffering for an already ill person. The harm might disable people for the rest of their life and brings brokenness where they have to live with. Medical doctors find these adverse events painful and very hard to deal with.

[13] Vries de E.N., Prins H.A., Crolla R.M.P.H., Outer A.J. den, Andel G. van, Helden S.H. van, Schlack W.S., Putten A. van, Gouma D.J., Dijkgraaf M.G.W., Smorenburg S.M., Boermeester M.A. 2010 'Effect of a Comprehensive Surgical Safety System on Patiënt Outcomes' in: *The New England Journal of Medicine* 363;20 p. 1928 – 1937.

Not only as a professional but as an individual as well. Adverse events are "*the darkest hours"* for medical doctors.

In this thesis I will examine, through literature research, what literature can tell about the effect of attention to meaning on medical doctors involved in adverse events. Via a human behaviour model connected to the Tripod Beta Incident Analysis model[14] I will try to show how organisations on all levels, including pastoral/counsellors and chaplains, can contribute to reduction and prevention of adverse events via attention to meaning from the perspective of hermeneutics. Data from the quantitative research *"Zingevingvragen in het contact tussen patiënt en medisch specialist"*[15] are analysed and put in perspective of this.

[14] www.tripodsolutions.com

[15] Hijweege – Smeets N.M., Pieper J.Z.T. 2010 – 2011. *'Zingevingvragen in het contact tussen patiënt en medisch specialist'*. University Utrecht Faculty of Humanities, Department Theology and Religious Studies.

1.2 Main Question

The main question and sub questions of this thesis, based on literature research, are:

"What does literature tell about the effect of attention to meaning on medical doctors involved in adverse events?"

- What do we mean by "meaning" in the light of this thesis?
- Can ethics effect attention to meaning when adverse events occur?
- Why do people err and what are possible reactions on errors?
- What scientific visions and systems are there to help to prevent or reduce adverse events?
- What are possible actions for managers and professionals when adverse events are analysed?

1.2.1 General Objective

With the main question as a guideline the objective of this thesis is:
To generate a positive effect on "attention to meaning for medical doctors involved in adverse events" by offering a systematic model for adverse events analysis. By doing so improvement of the quality of health care and patient safety could be made and more meaningful health care could be created.

1.2.2 Scientific and Social objective

The scientific objective of this thesis is to establish a positive contribution to the theoretical mindset of the role and effect of meaning in the course of adverse events in health care. Hopefully this will help scientists, managers, medical doctors and chaplains, spiritual and pastoral counsellors in hospitals to focus on "meaning" as an important, shared goal on different levels in the organisation.

The social objective of this thesis is to contribute to reduction and prevention of adverse events and to encourage openness and shared responsibility in health care when adverse events happen. Hopefully the systematic approach on adverse events will contribute to safer and more patient-centred hospitals.

1.3 Method

This thesis is linked to the research *"Zingevingvragen in het contact tussen patiënt en medisch specialist"*[16] of Hijweege and Pieper from the department Theology and Religious Studies of the University of Utrecht. The goal of this research is to examine possible integration of physical, psychosocial aspects and aspects of "meaning" in health care that might contribute to improvement of the quality of care.

Via a quantitative survey in 2011, medical doctors of four University Hospitals in the Netherlands were reviewed; the AMC in Amsterdam, the UMC in Utrecht, the AZM in Maastricht and the UMC St. Radboud in Nijmegen. The specific goal of the survey was to examine the role of questions about "meaning" in the contact between the patient and the medical doctor. Data from this survey are interesting for this thesis because, besides the literature study that is done for this thesis, empirical information about motivation, resources for support and stressful aspects of the medical doctor's work can be taken into account. The most important data are mentioned below and in chapter 7 they will be put in perspective of the findings of this thesis.

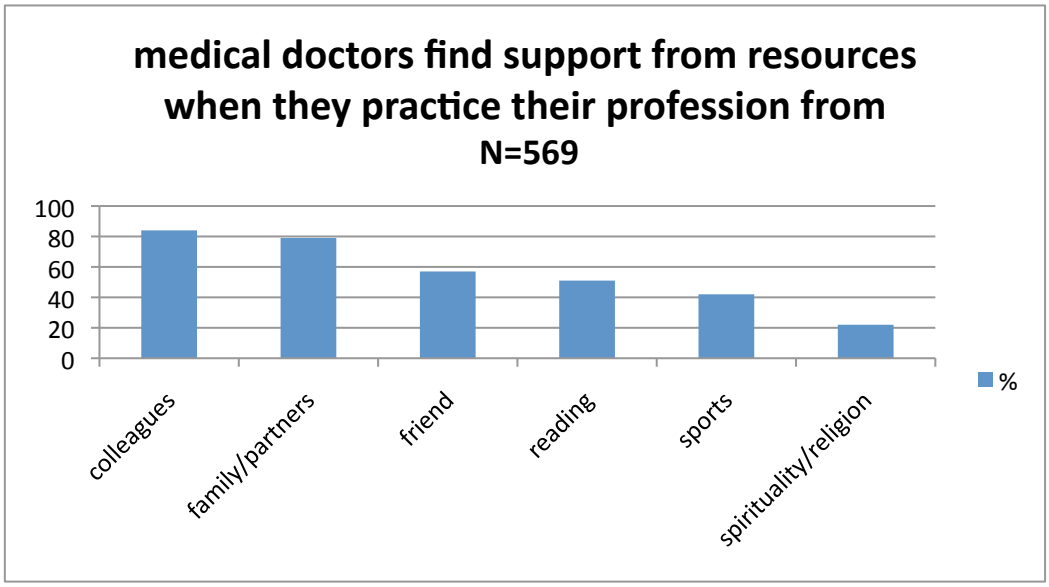
1.4 Data of the research: "Zingevingvragen in het contact tussen patiënt en medisch specialist"

1.4.1 Motives

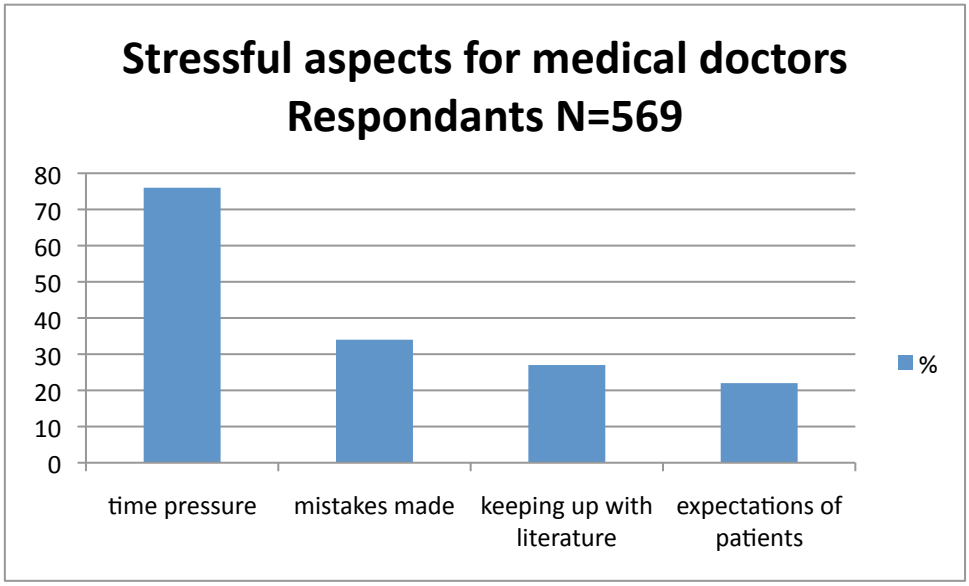
In the research (N = 569) the data about professionals motives show that nearly 100 percent of the medical doctors is motivated to do their work with commitment as a professional who cares about his patients. A full 100 percent of the respondents (M=30/ 569 – 30) say they want to do a good job. To contribute to the quality of care wants 98 percent (M= 31 / 569 – 31). The other two percent mentions that contributing to the quality of care is not always applicable, due to the type of work they do.

[16] Translated: 'Questions about meaning in patient and medical doctor contact'. See footnote 5.

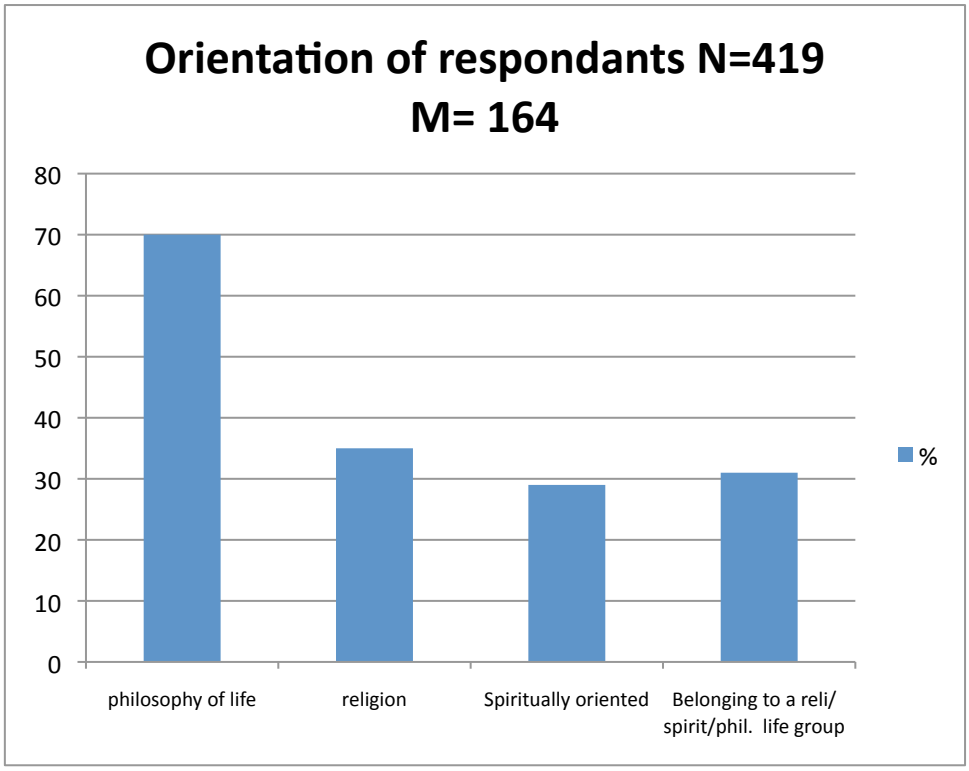
1.4.2 Resources



1.4.3 Stressful aspects



1.4.4 Medical doctor and religion/spirituality/philosophy



In summary, the data show that medical doctors take pride in doing a good job. They are aware of the importance of the quality of care and want to contribute to it. The experienced stressful time pressure scores very high with 76 percent. A 34 percent responded “mistakes made” as a burden for themselves. “Mistakes” are mentioned as the second highest stress factor for medical doctors. A percentage of 70 percent has a “philosophy of life” and 31 per cent of the respondents has involvement in a religious, spiritual of “philosophy of life” group.

So far the structure and context of this thesis is described as well as the relevant data from the research “*Zingevingvragen in het contact tussen patiënt en medisch specialist*”. The main question is: “What does literature tell about the effect of attention to meaning on medical doctors involved in adverse events?”

Adverse events are highly disturbing for everyone involved and still too many happen every day. They seem to be without any meaning. “Meaning” can be understood in many different ways. In the next chapter the concept of the word “meaning” in the light of this thesis will be explained.

Chapter 2. Meaning, hermeneutics and ethics

As said adverse events seem to be meaningless for all people involved. With the question "What does literature tell about the effect of attention to meaning on medical doctors involved in adverse events?" in mind, we first look at the word "meaning".

2.1 Meaning

The word "meaning" can be used in a lot of different ways. For example the "meaning of a word" or "the meaning of life". "Meaning" in the domain of spiritual care is a term that refers to existential questions or moral questions about life. Professor Kunneman[17] once named these questions "slow questions". "Slow questions" are questions about life and death, questions about what really is important in life and what makes it worth living. "Slow questions" often come with moral dilemmas and are about values that give direction in life. This is a formal description of the term "meaning" in spiritual care. With respect to the content of the term, "meaning" is also connected with "systems of meaning": religious traditions and philosophies of life, theories and normative basics. So "meaning" refers on the one hand to existential meaning of individuals and is connected with psychological processes like coping. On the other it refers to philosophical reflections on "the meaning of life" and can be seen as part of a perspective in life. Zock[18] gives the definition: "Meaning as term encloses religious and non-religious, more or less defined forms of philosophy, which can be approached in function and content, practical and theoretical".

2.2 Hermeneutics

The word meaning is used in the sense of "meaning of life"; does life make sense. Aristotle said: "All men by nature desire to know"[19]. Knowledge gives people the opportunity to cope with the world. People structure their world by putting information in to order and by building cognitive structures. In fact people do construct meaning; it is a condition for life, a "natural" thing and it is not something we are conscious of doing every day. We try, consciously or unconsciously, to put our life in a meaningful order. Especially when we are in

[17] Kunneman H. 2009 '*Voorbij het dikke-ik; bouwstenen voor een kritisch humanisme'* derde druk Uitgeverij SWP Amsterdam.
[18] Zock H. 2007 *'Geestelijke verzorging en zingeving vanuit godsdienstpsychologisch perspectief'* KSGV Tilburg P 9.
[3] Koenig H.G. M.D. 2007 *'Spirituality in Patient Care. Why, How, When and What'*. Templeton Foundation Press West Conshohocken, PA USA. Second edition P 80.
[19] Spilka B. ,Hood R.W. ,Hunsberger B. ,Gorsuch R. *'The psychology of Religion'* Guilford Press New York 2003 p. 15-16.

good health and our live is running smoothly there is no urgent need to think so much about the meaning of life. But as we are confronted with events that challenge our life balance, we try to understand them and try to fit these events or experiences in our life by giving meaning to them. This is a subjective process. Through orientation and evaluation we keep meaning as a matter of course and as existential meaning with us. That helps with the need to keep our world orderly, explicable and identifiable and it helps us with the need to experience our lives as valuable and manageable[20]. Only when orientation and evaluation bring a satisfactory outcome, situations are experienced as meaningful. This results in a positive attitude and willingness to act; to commitment and psychological well being.

The term "meaning" can be approached from hermeneutics. Taylor[21] an ergonomist, tried to find a way to approaches "meaning" from this point of view in the light of accidents and safety. Hermeneutics, originally a discipline of textual interpretation, was introduced into psychology. Here it focuses on explanation of the meaning of human action. Actions, their antecedents and consequences are not looked at from the doctrine of mechanism that emphasizes "machine-like qualities of man". Instead they are looked at from the perspective of *reasons* for people's actions. *"Hermeneutical explanation of human action is sought in the form of intersubjective shared understanding of the meanings of actions: attempting systematically to characterize and share with others the sense which we have of ourselves as we act, which seems in some way to guide what we try to do. This is not interspection or "inner sense" ….. Intersubjectivity involves considerations of morals and values, which are concepts inaccessible to conventional science, but essential to consideration of risk and safety"*[22]. Taylor states that incident prevention only can be successful when "meaning" from this hermeneutical point of view, is taken in to account. Here an active process of interpretation, interaction and communication influences events.

In this thesis we will try to look at "meaning" from a hermeneutic perspective. From this perspective the interpretation of meaning in the discourse of accidents and safety is

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[20] Alma, H.A. (2005). 'Humanisme en christendom als bronnen van zin' in: J. Duyndam, M. Poorthuis & T. de Wit (Red.), '*Humanisme en religie: Controverses, bruggen, perspectieven'* Delft: Eburon p. 339-354.

[21] Taylor D. 1981 'The hermeneutics of accidents and safety' in: '*Ergonomics*' 24 (6) p. 487-495.
[22] Taylor D. 1981 p. 488.

intersubjective. *"The meanings of actions have to be interpreted in the light of the agent's motives, purposes, principles and beliefs, indeed from the whole social context in which the actions take place"*[23]. The search for experience of meaning on existential level can be found here as well, connected with psychological processes like coping that take place when the meaning of life is challenged or the meaning of work is questioned. Meaning from hermeneutic perspective is not really measurable and is influenced by many circumstances available in the context of an event. Hermeneutics (interpretation of meaning) emphasizes that action is about interpretation of the individual of what happens. Hermeneutics is an active process that can be influenced. Instead of using the word "meaning" the word hermeneutics can be used in this thesis, emphasizing the interpretation and search for the meaning of actions.

Medical doctors are trying[24], together with other health professionals, to help patients with all kind of diseases to recover or to live with the medical or surgical illness as comfortable as possible. All this is done to help the patient to live a life that is worth living. And when "keep on living" is not an option anymore because the disease finally appears to be stronger than the body, care is provided to live life to the end in dignity, with little or no pain, in a way that suits the patient best. Adverse events do not fit in here, preventable harm and preventable death seem to make health care meaningless.

Taylor notes on accidents as meaningless events, that accidents always *result* from actions. But the *meaning* of an action cannot include any reference to the accident, because then to intend the action would be to intend the accident and that is a contradiction in terms. This would make the action a criminal act and that is rare in the researched domain. Some exception left, which are taken to court.

When adverse events have happened, people are looking for meaningful antecedents (finding a root cause in a technical failure, blaming a person or blaming economy). Since these cannot be found, the consequences are not related in any sensible way to the antecedent[25]. And this "no-relation", Taylor notes, might be a property of the

[23] Taylor d. 1981 p. 492.

[24] See also research data 'motivation' p. 11.

[25] Taylor D. 1981 p. 491. Taylor gives the example of a man dropping a bloc of concrete from height. The antecedent might have different consequences. If he drops it in deserted area, what no one sees, no one cares about. If he drops it near someone, people shout at him, finding his action careless. If he drops it *on* someone, the consequences are quite different: the event is an accident.

meaninglessness of the event itself. It makes an accident "the black hole' in the universe of meaning"[26].

The hermeneutical paradigm is concerned with how to interpret, experience and evaluate situations, and how certain actions are regarded by people in their culture[27]. Morality and values of the "public" and the actor are part of this. Negative consequences of actions bring in fears of non-conformity to respected opinion and social deviance. With hermeneutics as interpretation and search for meaning of actions in mind, we might say that hermeneutics makes the outcomes of adverse events in health care a moral issue.

Can discussion on these moral outcomes of adverse events influence the medical doctor involved in adverse events?

2.3 Ethics

2.3.1 Introduction

Hermeneutic make the outcomes of adverse events a moral issue. The sense of moral obligation, or of "oughtness" is the basic fact of ethics. Ethics can be described as practical philosophy and helped mankind since long, to think about "good" and "bad" and to distinguish "right" from "wrong".

Medical ethics helped medical doctors to develop rules or standards of conduct that governed and still govern their profession. The medical oath is formed around moral standards of medicine. Hermeneutics is influenced by morality. Morality as part of meaning, helps us to interpret and evaluate situations in health care. Morality is based in ethics. So in this thesis ethics, as a basic of morality, is looked at as a possible tool that effects the attention to meaning on medical doctors involved in adverse events. The sub-question: "Can ethics affect attention to meaning when adverse events occur?" will be researched.

[26] Taylor D. 1981 p. 490.

[27] An example connected with the hermeneutics discussed here is the idea of guilt and sin. The Greek and Hebrew words of 'sin' means 'missing the mark', 'missing the opportunity'. The Greek word 'ἁμαρτάνω': to miss the destination, to digress. In Hebrew it has the same connotation. The meaning of the term 'sin' has changed in time and 'missing the mark' was linked with guilt and punishment. See also: Berlinger N. 2005 *'After Harm. Medical Error and the Ethics of Forgiveness'*. The Johns Hopkins University Press Baltimore and London p. 83.

2.4 Ethics in perspective

In the book *"Medische ethiek"*[28] it is stated that medical ethics have one basic principle: Someone contacts a medical doctor with a symptom and from the medical doctor help is expected. The requesting patient is the start and finish of the medical thinking and the medical treatment. This statement is very important and should be remembered in the light of patient centred health care, but today's health care is far more complex and involves a lot of different parties, especially in university hospitals in the Netherlands. It is too restrictive to talk about medical ethics, when only the medical doctor and the patient are involved. Health care ethics have a broader scope with basics about the vision on men, the vision on society and on norms and values shared: what is good health care, what is good attitude, skills and knowledge. As a general guideline the ethics of principles[29] are very important. They are upholding the principles of

- beneficence
- non-maleficence
- autonomy
- justice

2.4.1 Beneficence and non-malificence

These principles[30], based in morality that is rooted in a common philosophy of life, became very influential in the teaching and practice of medical ethics. Beneficence and non-malificence are principles from the oath of Hippocrates. In the light of adverse events these principals make clear that everything has to be done to prevent adverse events.

2.4.2 Justice

The principle of justice focuses on social norms. Widdershoven[31] makes clear that this principle of justice is comparatively new in health care. The responsibility to apply this principle is seen as important for the medical doctor. But we can say that this principle of justice reaches further than the medical doctor only. Because for good, patient centred health care, responsibilities for the principle of justice have to be taken on micro-, meso- and

[28] Have H.A.M.J. ten, Meulen R.H.J. ter & Leeuwen E. van 2003 *'Medische ethiek'* Houten p. 38 - 39.
[29] Berlinger N. 2005 p. 4.
[30] Beauchamp T., Childress J. 2001 *'Principles of Biomedical Ethics'* 5th edition New York Oxford University Press.
[31] Widdershoven G.A.M., 2000 'Ethiek in de Kliniek. Hedendaagse benaderingen in de gezondheidszorg' Boom Maastricht p. 22 – 23.

macro-level. The micro-level is the relationship between medical doctor and his patient. The meso-level is the interaction in the health care organisation. The macro-level is the health care system as a whole, where politics, laws, economics and insurance companies are involved[32]. In the case of adverse events and patient safety, the principle of justice has a special value; just treatment realised by everybody involved in health care.

2.4.3 Autonomy

The principle of autonomy comes from the Age of Enlightenment. Emanuel Kant stated that men should not be looked at as objects, but subjects. Autonomy means paying respect to an individual in his life. This calls for strong attention to prevention of adverse events as well.

The ethics of principles, stimulating moral behaviour, can effect attention to meaning on medical doctors involved in adverse events. They help man to structure just antecedents before action. But these antecedents can, in time, mainly be inspired by rules or duties and not by intrinsic motivation. For example a surgical informed consent can be used just as a legal instrument against liability. The value of attention to the basic intentions of the treatment is not stipulated[33]. Therapeutic and communicative advantages are not taken into account. This is a pitfall of the ethics of principles; it conceptualizes ethical problems and covers them mainly in rights, duties and contracts. They make health care ethics rational and (too) principle guided, and do guide people to act strategically, in a legitimate system. The ethics of principles don't stimulate so much room for feelings of mutual involvement and shared responsibility. While the context people work in and live in, is formed by communication and acting. Articles like 'Het pre-operatief informed consent" do make medical doctors more aware of this[34].

[32] The macro level will not be discussed in this thesis.

[33] Legemate D.A., Legemaate J., 'Het preoperatief informed consent' in: *'Nederlands tijdschrift voor geneeskunde'* 2010;154: A2492. In this article the importance of ' surgical informed consent' not only as a legal instrument is underlined but the therapeutic and communicative advantages are mentioned as being important as well. Informing the patient well involves him/her in the process of decision making. And gives the patient trust in the medical treatment and promotes loyalty to therapy. Medical doctors should be trained better to work with the informed consent procedure and the procedures should be more standardized. This article shows that not only the ethics of principles are guidelines in health care anymore.

[34] Ibid.

2.4.4 Ethics of care

From Berlinger[35] we learn that feelings of mutual involvement and responsibility should find a place in the principle of autonomy. Because in this principle the respect for integrity and dignity of persons, the moral agents, (patients, health care professionals, managers should be present. I think the ethics of principles need further completion. Joan Tronto offers in her "ethics of care" a valuable completion that fits in the today's world view, which emphasizes inter-subjectivity, deliberation and practical rationality. "Care" in health care ethics, is a fundamental ethical concept. For health care professionals "taking care of" is an important aspect of their work. The *experience* of "being taken care of" and "taking care of" has to be involved in ethics. Tronto states that good health care comes from people as human beings, who want to live just and good. Her health care ethics is inter-subjective; and approaches it as being about answering questions of others. She distinguishes four stages in creating good, just health care.

1. Caring about. Health care professionals start to be "concerned about". They recognize the need for care. The virtue here is **attentiveness**.
2. Taking care of. They take initiative to help. The virtue here is **responsibility**.
3. Care - giving. They provide health care. The virtue here is **competence.**
4. Care - receiving. The care received by the patient is valued. The virtue is **responsiveness**.

Tronto sees health care as an activity that includes all acts we do to our world to maintain, continue and repair it, so we can live the best possible life. This view on health care is fundamental reciprocal and intersubjective. It is based on relations and dialogue and is important for finding meaning in the work health care professionals do.

2.5 Chapter conclusion

To look at "meaning" from a hermeneutic perspective proposes that meaning of actions is about interpretation of the actions. An active process of interpretation, interaction and communication influences events. This process can be influenced. Hypothesis is that accidents uniquely show an anomaly or irregularity of meaning. People intend to give

[35] Berlinger N. 2005 p. 4 - 6.

meaning when executing a plan. Therefore when the good plan results in an accident, the action becomes “meaningless” and meaning has to be sought elsewhere; in the intersubjective process of shared understanding of the circumstances. The meaningless outcome of an accident and the shared understanding of this is a moral issue. Ethics can help to find a way to learn from the outcomes of actions. It can nourish the interpretation and experience of actions. The hermeneutical enquiry brings in questions about morality and ethics, which are in the light of adverse events, important on organisational level. Hermeneutics, morality and ethics help the search for shared understanding of actions and this approach makes “meaning” not just a concept for chaplains and counsellors**.**

Chapter 3. Human error; blaming or thorough analysis?

3.1 Why do people err?

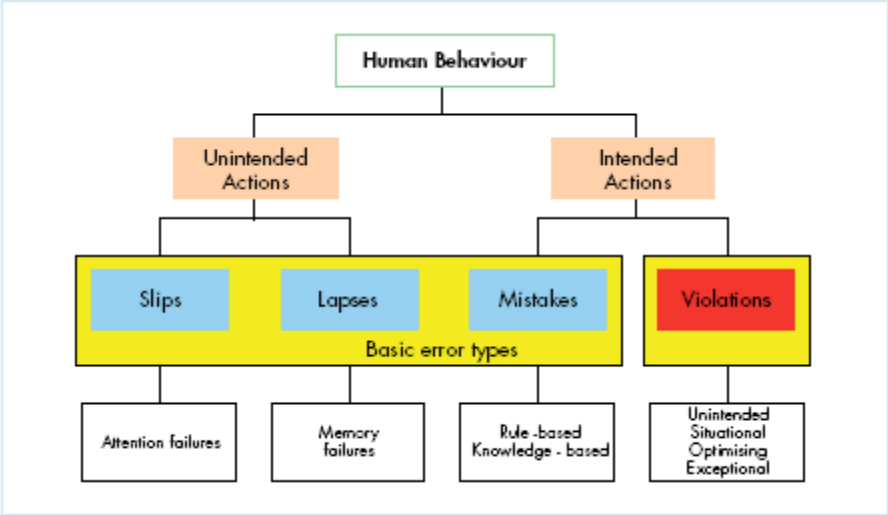
Moral behaviour tells something about ethics behind the behaviour. In case of adverse events the behaviour had just and good intentions, only it did not bring the expected outcome. A mistake in the intended action can cause an adverse event. If only the mistake of *one* person can cause an adverse event, the question is if safety management is well organised. An organisation has to built in barriers to prevent this. Adverse events might tell us something about ethics on the level of the organisation.

We look at the situation of adverse events and to the medical doctor who can be involved in this. Two questions come up. Why do people err? And why are people accused as a person or a group of immoral behaviour when adverse events happen? As Taylor mentioned[36] adverse events are a consequence of actions with just, moral antecedents. The intention of the action was morally right, only the consequence was not as expected and not desired.

3.1.1 Mistakes and Violations

Human behaviour is divided into different kind of errors. There are intended action and unintended action. Unintended actions are slips and lapses. Intended actions do directly influence the plan that was made and can result in mistakes or violations. Here we focus on intended actions, because intended actions can be influenced.

[36] Taylor D. 1981.



Human errors are categorized in slips, lapses, mistakes or violations. Slips are errors that happen because we are not concentrated, absent-minded, we are distracted, preoccupied with other task or mistiming (on the highway taking an exit to early). Lapses are errors that happen because we forgot something because our mind is overloaded (on the highway taking an exit to late).

Mistakes are human errors in which we mistake the world. (When there is a diversion and we choose a route that brings us in a mess.) We were able to solve a problem but due to time stress or insufficient knowledge this goes wrong. Violations can be unintentional when for example people do not know how to apply a procedure or do not know about the procedure. Violations are intended when we do them out of routine or because we are in a situation not able to act according the rule, we violate because we want to optimize; to do things faster to please the boss or ourselves or we violate because of an exceptional situation where only guidelines are available and no rules.

In an organisation one can find people who are “sheep”; they are the guardians of the high standards. The others are “the wolfs”; they are opportunistic and go getters. They are the violators. In an organisation you need both types of people. The important thing is that about 34 per cent of people in an organisation are wolfs in sheep clothing. That is an important reason why it is so difficult to recognize them and hard to prevent human errors and violations.

To distinguish different types of error is important because recognizing that not all behaviour is intentional and trying to identify the causes of the behaviour may shed some light on the question ‘why the accident occurred’.

As said before, it appears that not careless or incompetent people are the primary cause of mistakes. Human failure happens in a context, that delivers risk-prone situations.
History shows that the easiest way to explain mistakes or adverse events is to blame one person (or a group). James Reason [37] made clear that blaming a person for an adverse event is often wrong. We saw in the chapter about hermeneutics that people do not intend to make a mistake. Mistakes are dormant in a system already for a long time. The opportunity for an action to become a mistake, an adverse event, is only a matter of circumstances falling together. But people are inclined to blame persons when adverse events happen. Reason distinguishes two approaches on errors; the person and system approach.

3.2 Person approach

When, in clinical practice people experience an inexplicable disaster as a result of error and violation, they (patients and health professionals alike) most likely try to find out *who* made the mistake and *which person* could be hold accountable for the unfortunate situation. In the human error problem this approach is called the "person approach" and it has a longstanding and widespread tradition. It focuses on individuals, blaming them for forgetfulness, inattention, or moral weakness[38]. People are viewed as free agents capable of choosing between safe and unsafe modes or behaviour. Reason[39] explains that this way of looking at unsafe acts explains them as arising primarily from aberrant, deviating mental processes such as forgetfulness, inattention, poor motivation, carelessness, negligence, and recklessness. Countermeasures taken are in the field of poster campaigns, written procedures, disciplinary measures, retraining, naming, blaming and shaming. This "person approach" is based on the idea that bad things happen to bad people and that there is no organisational context in which these actions can be explained. In this perspective mistakes or accidents are moral issues. In the chapter about hermeneutics we saw that in non-criminal situations, *not* the antecedent; the intention is a moral issue but the outcome is.

3.2.1 Eve and the serpent

[37] Reason J. 'Human error: models and management' 2000 in: *British Medical Journal* 320 March 18 p. 768- 770.
[38] Groeneweg J. *'Controlling The Controllable. Preventing Business Upsets'* 2002 Koninklijke De Swart Den Haag p. 158 – 159. Groeneweg suggests that '*the increased sophistication and reliability of machinery means that the proportion of causes of accidents attributed to human error increases as the absolute number of accidents decreases'*. So this makes the 'person approach' in human error attractive and important too.
[39] Ibid.

Finding a "culprit" to punish, gives people, directly or indirectly involved in a disaster, a "good" narrative. Having a good narrative seems to be so important that assigning guilt to one person seems to be logic. *"This tendency, to construct a narrative of disaster in which somebody made a rational choice to err, has grown to be fundamental to the Western regulative ideal of moral thinking.*[40]*"* Dekker traces this tendency back to Judeo-Christian religious-historical roots by analyzing the story of Adam, Eve, the serpent and the apple[41]. In the narrative Eve was not irrational and she violated the regulations in full knowledge of the potential consequences. This narrative and many others from different cultures give us insight in the history of the idea that erring is a rational thing.

We make the meaningless and random meaningful and bring things into order. Nietzsche pointed out that not having a cause for things that go wrong, makes us anxious[42]. We construct narratives so we can put an event in place and give meaning to the event. We keep our life in right order and that helps us for the future. The narratives give the opportunity to think that we, as actors, are able to keep the evil away. That this behaviour puts people with no real guilt behind bars, seems to be acceptable to us. This approach has severe consequences and does not tackle the real generators causing an adverse event.

In health care research on supply of non-prescription medicine shows that the tendency to label a "mistake" as a "violation" is common[43]. And practised more than, for example, in aviation[44]. This might indicate that in health care the "person approach" is more common than in aviation.

3.2.2 Criminalizing human error

Dekker [45] mentions that, in dealing with inexplicable disaster, we increasingly turn to the justice system for accountability and retribution. Narratives about blaming a person for a

[40] Dekker S.W.A., 2007 "Eve and the Serpent: A Rational Choice to Err' in: *Journal of Religion and Health* volume 46, issue 4 p. 572.

[41] Ibid. P. 571- 579. The narrative of Eve and the serpent can be found in the Bible e.g. NBG 2004 Jongbloed Heereveen . Genesis 3: 1-24. A different explanation of the tendency to find one 'culprit' for a disaster or mistake is given by Denham. Denham C.R. 'Trust: The 5 Rights of the Second Victim' 2007 in: *'Patient Safety'* volume 3, Number 2, june 2007 p. 115. Denham explains the tendency of finding a culprit as 'Social Darwinism'.

[42] Brink van den G. *'Oriëntatie in de filosofie'* 2002 Boekencentrum Zoetermeer p. 262 – 265.

[43] Watson M.C., Bond C.M., Johnston M., Mearns K., 2006 'Using human error theory to explore the supply of non-prescription medicines from community pharmacies' in: *Quality and Safety in Health Care* Aug 15 (4):244-50. A percentage of 51,9 per cent of the errors was selected as 'violation' p. 246.

[44] Wiegman D.A. , Shappels A. 1997 'Human factors analysis of past accident data: applying theoretical taxonomies of human error' in: *The International Journal of Aviation Psychology* Vol. 1 p. 67 – 81. Of the unsafe acts a percentage of 17.42 per cent was selected as 'violation' p. 77 -78.

[45] Dekker S.W.A. , 2007 p. 571 – 579.

bad event influenced us deeply. After all, he states *"without a cause there is nothing to fix"*. And that is what we want: fixing things to keep order. Dekker warns that pointing one person guilty seems sensible, but it criminalizes human errors. Criminalizing human error has a range of negative consequences.

- It is often far from just to blame one person only in case of errors[46].
- We take advantage of the legal system in our need for a "good" story.
- It is considered bad for safety and quality efforts.
- Criminalizing error erodes independent safety investigations and it promotes fear rather than mindfulness in people safety-critical work.
- It helps creating a paper trail but not more careful workers.
- It discourages people from shouldering safety-critical, caring jobs
- It cultivates professional secrecy, evasion and self-protection.

Directing errors to the justice system makes that system the purveyor of accountability, free telling about accounts (and what to do about it) will become impossible. The legal system is made dispenser of accountability and will finally strangle it. "Solving" adverse events through the legal system confirms the idea that it is a rational choice to err. We give ourselves an imagination of control. As said; by doing so we keep the fantasy alive that we can keep evil away from us. Blaming individuals is emotionally more satisfying and is in the interest of managers, because it releases them from taking real action and the justice system can be helpful in this. This makes the blaming a "legal" action. But legal actions still can be ethical wrong.

3.2.3 Infallibility and hidden curriculum

In this thesis in the light of adverse events and meaning; the effect of attention to meaning on medical doctors is discussed, through literature research. We saw that blaming a person in case of an adverse event, is usually not the right thing to do. But still adverse events happen to people and are experienced as meaningless. What happens to medical doctors when blamed and are there specific issues in this context?
The fact is that *all* doctors will be involved in an adverse event at some point in their career. Medical professionalism is often confused with infallibility[47]. Why does this illusion exists?

[46] Examples of nurses who are wrongly sentenced to years of imprisonment do underpin this.
[47] Buikema M., 2011 Back cover text.

Lucian Leape, Adjunct Professor of Health Policy at the Harvard school of public health, Professor of Surgery and one of the advocates of patient safety and quality of care in the USA, gives an outline of characteristics of medical doctors[48]. He tells in an interview that medical doctors are chosen to come to a medical school and often are well performing students and high achievers. They do have a fair amount of ego strength and a high self image (He says: surgeons more than average). Medical Doctors are intelligent, hard working and conscientious. They try to do the right thing. For everybody, but for medical doctors in particular, it is hard to admit an error. And because they have so much invested to do a perfect job, they suddenly feel they failed towards the patient and they failed towards themselves when an adverse event occurs. It is a blow to the ego, to the self image, a blow to the belief who you are. This generates defensive behaviour and denial to protect the self. This leads to broken communication with the patient and with other health care workers. This makes it difficult to do the primary job; stay with the patients need. *"At the time the patient needs us to be the most understanding, and the most open, and listening and supportive, is right when we psychologically are the least able to do it. Because we are consumed with own self doubt and self worry*[49]*".*

The difficulty to accept fallibility, generates defensive behaviour and denial to protect the self. And so infallibility seems to be part of medical professionalism, which is an illusion. The official curriculum with regard to patient safety can try to change this. But ter Braak[50] states that the so called "hidden curriculum" has far more effect on the behaviour of a new generation medical doctors. The "hidden curriculum" learns social norms, those unwritten rules that determine what you do and do not do. This behaviour is part of an organisational culture; of the norms and values of an organisation.

The psychological effect adverse events have on medical doctors, is too much to discuss in this thesis. In short we can state that literature shows that impact in this field is considerable. Research[51] shows that "second victims" experience post traumatic stress

[48] Institute for Health care Improvement www.IHI.org/OpenSchool www.youtube.com Lucian Leape IHI: 'Apologizing effectively to patients and families', visited june 2011.

[49] Ibid.

[50] Braak ter E. 'In all those years, I have seen thousands of patients, but I will never forget this one' in: Buikema M., 2011 p. 22 - 25.

[51] Scott, S.D., Hirschinger L.E., Cox K.R., McCoig M., Brandt J., Hall L.W. 2009 'The natural history of recovery for the health care provider "second victim" after adverse patient events' in: *British Medical Journal Quality and Safety Health care* 2009:18 325-330. The term *second victim* was initially coined by Wu A.W. 'Medical error: the second victim. The doctor who makes mistakes needs help too' in: *British Medical Journal* 2000: 320 ; 726-7. Also: Buijssen H., Buis S., 2003 'Uit de praktijk.

disorders and responses in terms of emotional, social, cultural, spiritual and physical characteristics. One in seven staff members (175/1160) had experienced an adverse event within the past year that caused personal problems and 68 % of this group reported that they did not receive institutional support to assist with this stress. In the early stage after an adverse event, the article states, that peers should be trained to give support and for the later stage chaplains and social workers should be available. Emotional distress is prevalent and support is needed but is largely unaddressed[52]. The data from the research in this thesis show that 34 per cent of the respondents feels "mistakes made" as a stressful aspect of work. The stress around this topic needs openness and should be promoted because it can help the professional to cope with the consequences of a meaningless event.

3.2.4 Openness and the truth.

Openness and sharing information about adverse events is needed to stop the practise of the person approach and to start discussion and analysis of adverse events. This needs truth telling. In the Medical enterprise medical doctors have to take responsibility for adverse events when they are the head clinician. They have to give full disclosure of what happened to the patient or to the family of the patient, apologize for the harm and take accountability for preventing further harm and (later) talk about compensation and how it will be secured. And even when the adverse event is reported as a system error (which is very likely) the medical doctor is still accountable for telling the truth, for making apology and for listening to the story of the patient or the family. This feels counterintuitive but telling the truth is so important because it is the hinge on which all else hangs[53]. If you don't tell the truth you harm the injured patient or his family even more. When you don't tell the truth you can't make fair apology, you can't give right compensation and, very important as well, it is hard to gain some psychological distance from a traumatic episode in one's life, and go forward when no full disclosure is given. Truth telling is about moral responsibility and being present with the person who suffers. People are moral agents and individual responsibility exists next to collective responsibility. So telling the truth, which can be very hard, is required from an ethical point of view of doing no further harm and is inherent to the relationship patient –

Indringende ervaringsverhalen van artsen en een gids voor zelfhulp en nazorg na incidenten' TRED-Uitgeverij Tilburg en Uitgeverij De Stiel Nijmegen.

[52] Gallagher T.H., Waterman A.D., Ebers A.G., Fraser V.J., Levinson W. 2003 'Patients' and Physicians' Attitudes Regarding the Disclosure of Medical Errors' in: '*Journal of the American Medical Association'* vol. 289 Issue 8, p. 1001 – 1007.

[53] Berlinger p. 93.

medical doctor. Trust is related to truth, so to keep up the image of a health care system that can be trusted, the truth has to be told. Telling the truth gives openness, this is essential for the goal to improve patient safety. So when medical doctors and their institutions say that patient safety is one of their key issues, truth telling after adverse events, apology, repentance and compensation should be best practice in a just and open culture.
Telling the truth gives the opportunity to the harmed patient or the family, to make a narrative. Berlinger[54] states that *"…it is intellectually dishonest for physicians, or anyone else, to claim that because all cannot be known, nothing can be known, and therefore nothing can be told".* Wollersheim[55] underpins the importance of good communication after an adverse event with harmed patients or relatives too. *"Full disclosure may cause complaints by patients, legal bodies and assaults by the media, these problems are less than those that arise from defensiveness".* This point of view is recognized by the KNMG as well[56].
This approach about truth telling is laudable and very important but when investigation about the preconditions and/or underlying causes is not done, this truth telling is only half the truth. A systematic approach might bring in another kind of truth.

3.3 Chapter conclusion

Adverse events are consequences of actions with just and moral antecedents. When adverse events happen, the reaction to blame a person or a group, is deeply rooted in human thinking. This is a destructive approach for safety management since mistakes cannot be labelled as a rational choice to err. The "person approach" is based on the idea that bad things happen to bad people. People try, by blaming a person or a group, to keep their own live in order and it keeps the fantasy alive that the evil can be kept away. Blaming a person or a group releases the managers as well from taking preventive actions. Research shows that in health care the tendency to label "mistakes" as a "violation" is more common than in aviation. This might indicate that in health care the "person approach" is still a more common approach than in aviation. To turn to the justice system for accountability and retribution, criminalizes human error. This is not just and erodes independent safety investigations and openness and promotes fear rather than mindfulness in people safety-critical workers. The influence of adverse events on the medical doctor as the "second

[54] Ibid. p. 93.
[55] Wollersheim H. 'Responding to adverse events' in: *'The Netherlands Journal of Medicine'* September 2009 vol. 67 no. 8.p. 363.
[56] KNMG 2007 p. 5, 7.

victim" should not be underestimated and needs attention on management level. An open and just culture should be promoted. Truth telling is a very important issue in this and education and the so called "hidden curriculum" for medical students can influence an open safety culture as well.

Chapter 4. A System approach

In the system approach it is recognized that people are fallible. It focuses on the person, the team, the task, the workplace and on the institution as a whole. It focuses on the conditions under which individuals work and it tries to build defences or barriers to avert errors or minimize their effect.

Errors are to be expected because humans are wired up in a way that they make errors. So even in the best organisations human errors happen. The first priority is changing the work conditions since changing human conditions[57] is far more difficult. Rules and procedures form one of the major barriers between hazards and unwanted events. In case of a mistake, investigation can show how and why built-in defences failed. In fact it is not the perversity of human nature that causes errors (we saw intentions were good!) but "system factors" are seen as the cause, with human errors as a consequence.

An example of a system error is the design of medicine packaging that looks alike for different medicines. Medicines are easily mixed up and a wrong medicine ends up with the wrong patient. In technology system defensive barriers can be alarms or physical barriers. Other barriers rely on people; surgeons, anaesthetists, nurses. They are the safeguards who have to apply the rules and be vigilant in an organisation that is designed for safe health care.

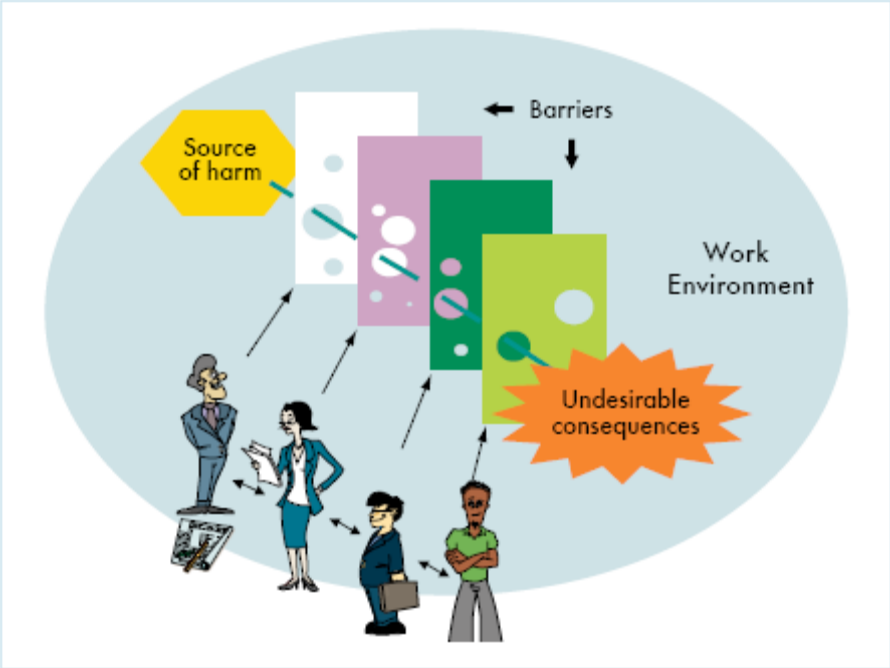
The "Swiss cheese model" shows how barriers and defences should be in place and how they sometimes give room to an adverse event.

4.1 Swiss cheese model

Reason compares built-in defensive layers with slices of a Swiss cheese. The slices are barriers. The upper left slice represents the barriers implemented by the organisation (good working conditions, good equipment) and the lowest slice on the right side represents the active failure (mistake or violation). A Swiss cheese has many big holes. Unlike in the cheese in this model the holes are continually opening, shutting and shifting position. One hole does not normally cause a bad outcome. Only when all the holes of different slices (barriers),

[57] Groeneweg J. 2000. P 196. He makes clear that human behavior is influenced by physical, organisational and social factors.

momentarily line up and form a pathway, an accident opportunity exists. The hazard finds its way and all circumstances are there to create damage (to a victim).



There are two reasons why the holes are able to line up.

- Active failure (slips, lapses, mistakes or procedural violations) committed by people.
- Latent conditions, e.g. decisions made by the top level management, designers, builders or procedure writers.

The latent conditions have two kinds of adverse effects:

- they can translate into error evoking conditions in the workplace (time pressure, understaffing, inadequate equipment, fatigue and inexperience).
- they can create long lasting holes or weaknesses in the defenses (alarms that do not work properly, unworkable procedures, design and construction deficiencies).

The latent conditions can be in the system for a long time already; dormant. When they combine with an active failure they create an accident opportunity. Active failures are hard to foresee. Recognizing latent conditions though, is a lot easier and solving them before an adverse event occurs, is a proactive, instead of reactive way of risk management. So human error is a weak link in safe operation and barriers have to be designed to prevent them as much as possible. The Swiss cheese model makes this clear.

4.1.1 Sophisticated safety culture

In organisations where more sophisticated safety culture is in place, these barriers are in place and people are trained to think about everything that "can go wrong". The human variability is used as a safeguard in the system here as a constant vigilance[58].
Safety is preserved by timely human adjustment, by quick reconfiguration in different circumstances. Flexibility and a clear understanding of the aspiration, as a team, is central in these organisations. As said, all the members of high reliability organisations do have one thing in mind all the time: "What can go wrong? Where is a potential failure?" The culture of their organisation helps them to be pro-active, to recognize and recover. It keeps people aware of possible failure. Clarity on tasks, consistent mindset of intelligent wariness, teamwork, vigilance and resilience of the system are ingredients for safe clinical practice.
A system approach helps to prevent and minimize adverse events. The 2008 NIVEL report[59] and the 2000 IOM report "To Err is Human"[60] make this clear in the recommendations as well. Groeneweg[61] makes clear that the impact of decisions for the safety state of an organisation, made by the higher management, attribute *"most part of the accident causation process to error at the "sharp end".* This means that measures still too often are taken against or for the lower or junior staff. The Tripod Beta analysis method might help to focus on a wider view of safety management.

In general it is thought that *"…. adapting success strategies and tools of ultrasafe systems, …. will lead to comparable successes and safety outcomes in health care".* [62] But Amalberti,

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[58] Reason J. 2000. Reason mentions that this was the case in a study where a group of social scientists looked at success stories instead of failures in safety management in high reliable organisations. These high reliable organisations did not see human variability as unwanted but as a compensation and adaption to changing events. In that vision the human variability was the most important safeguard in the system.
[59] Langelaan et al, 2010, p. 78-79. Recommendations here are: implement Health Safety Programs on the work floor, organize insight in functioning of different departments in hospitals, strengthen cooperation and transfer procedures between professionals by standardization, encourage teamwork and accountability, pay attention to the high risks in surgery, standardize files. The NIVEL report focuses with the research on lower 'slices' in the Swiss cheese model.
[60] Kohn L.T. et al., 2000 p. 155 – 197. Establish a patient safety program in which visible attention to safety, non punitive systems, well understood safety principles, standardization and interdisciplinary team training is present and implement proven medication safety practices. This should be based on five principles: Strong leadership, respect human limits in process design, promote effective team functioning, anticipate the unexpected, create a learning environment.
[61] Groeneweg J. 2000 p. 207-208 and 213. Groeneweg explains this as the '*attribution effect'*. It is 'never blame management'. He makes clear that risk attached to human behavior can be reduced most effectively by putting barriers in place that prevent certain human behavior. Restructuring the environment has a reasonable effect in a well-developed industrial organisation. Feedback on the effectiveness of the changes is essential in this.
[62] Amalberti R., Auroy Y., Berwick D., Barach P. 2005 'Five System Barriers to Achieving Ultrasafe Health Care' in: '*Annals of Internal Medicine'*, Vol. 142, issue 9 p. 756 – 764.

Auroy, Berwick and Barach think the willingness to abondon historical and cultural precedents and beliefs that are linked to performance and autonomy, are a very important issue and are different per industry. These *"historical and cultural precedents and beliefs……. that some professionals erroneously believe are necessary to make their work effective, profitable and pleasant*[63]*"* should be abandoned in health care as well, if health care wants to become an ultra safe industrial system. The article describes five barriers that have to be in place[64]:

- The acceptance of limitations on maximum performance has to be clear (balanced regulations for maximum working hours).
- Abandonment of professional autonomy. Systems like Crew Resource Management have reduced the authority of pilots and improved made aviation safer. Systems like this improved safety in health care. Systematic thinking across departments is still a challenge in this.
- Transition from the mindset of craftsman to equivalent actor. The self image and status has to be abandoned and a position that values equivalence has to be adopted among their ranks[65]. Pilots and anaesthesiologists for example sell a service instead of an individual identity. Surgeons sell their personal craft; this is a typical craftsman view.
- System level arbitration to optimize safety strategies. Liability and media scrutiny created the need for this. This development leads to decrease of reporting adverse events. And top management views safety often as one of the sources of risk, while individual clinicians are aware of the patient safety issues because of the risks that may damage their own self-image and reputation.
- Need to simplify professional rules and regulations. A lot of attention to safety management can make a system complex and even annoying. Ultra protection makes people think that reporting is not necessary anymore. Risk becomes less visible.

[63] Ibid p. 756.
[64] Aviation has overcome the first three barriers according to Amalberti. Health care is still working on the first barrier.
[65] Ibid. In the article an example of a last minute change of a captain in an aircraft is given. This change does not concern the passengers. All pilots are expected and trusted to have equivalent skills. Towards anesthesiologists this is the same. A change of surgeon before an operation upsets people. They only trust their surgeon. People recall the name of their surgeon and often have chosen a specific person/craftsman. This is about selling a service instead of an identity. Small industries (charter airlines, small chemical companies) have a lower safety level.

The barriers described above are applicable in health care and many other industries. Health care has only some health care specific factors, Amalberti states, in risk and stress.

- The risks in health care are not homogeneous. For example in trauma surgery has many risks. But not all complications are related to medical errors. Some risks are inherent in the clinical circumstances.
- The magnitude and impact of human error are unclear in medicine. Three risks are combined in health care: the disease, the risk entailed by the medical decision and that of implementing the selected therapy. This makes risks going different directions and prevention much more difficult.
- The third risk is the risk of personal harm, such as becoming infected with HIV.

Unusual degree of stress derives from:

- Application of common safety enhancing solutions, like limiting the flow and choice of incoming patients, is not possible. Public demand makes this difficult (think of first barrier).
- Health care, being a risk-prone area, is extensively supported by novices, like students, interns and residents. This might be an extra risk factor.
- Health care, being a risk-prone area, has many obvious sources of human error in the system (fatigue, long working hours, overtime, overload of work schedules, time pressure, shortage of staff).
- In situations where clinical care and technology is shifting from clinical to ambulatory setting risks are growing[66].

4.2 Tripod Beta

So far we saw that blaming persons usually does not work, when adverse events happen. People make mistakes unintentional. Health care has specific risks and stress factors which seem difficult to handle. When no systematic action and only isolated actions are taken, mistakes will happen over and over again and will end up in disasters. A systematic approach is needed.

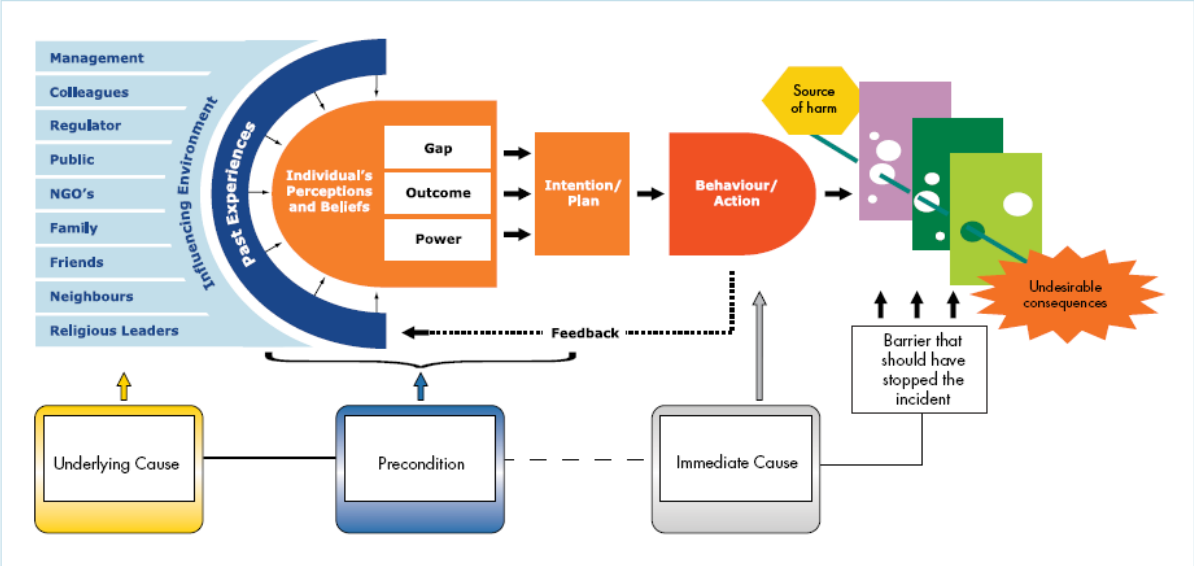
Tripod Beta[67] acknowledges that each company has its own particular way of conducting its business. It has its own "organisational culture". Within the organisational culture a number

[66] Ibid p. 761.
[67] '*Tripod Beta Incident Analysis Primer*' 2006 Stichting Tripod Foundation. See: www.tripodfoundation.com.

of processes or systems reside, e.g. Health Safety and Environment Management Systems and Quality Management Systems. Organisations usually do investigate, analyse and report incidents so they understand why things went wrong. This gives them the opportunity to correct procedures or standards and future losses and consequently business interruptions will be prevented. Tripod designed a methodology, Tripod Beta, that reflects on incidents through investigations. The analysis and clear understanding of the failures that come out of investigation have to be addressed in order to make significant and lasting improvements in incident prevention. This technique deals systematically with the analysis of the *immediate cause* for failure, with attention to *preconditions* and the *underlying causes*[68].

4.2.1 Behavioural model

Tripod Beta has a human behaviour model, the upper part of the figure below, as a basic line which helps to explain why people act the way they do.



People suffer from mistakes. They are part of our intentions and plans that form the basis for our acts and behaviour. Only the likelihood of mistakes increases when situations that negatively affect human functioning e.g., tiredness, lighting, noise levels, illogical design and sudden changes in routines, are present. When barriers are broken disasters are likely to happen. The disaster can "wait" and be dormant for a long time till the last remaining barrier fails and then the disaster really happens. As the model shows people are influenced by their

[68] 'Root Cause Analysis' or the Dutch equivalent 'SIRE' focuses more on one underlying cause. Organisational aspects of mistakes (the highest slice of the cheese), is not looked at closely. Only the lower ones are examined. Reality shows that not only one cause is found in case of an accident, disaster or adverse event.

environment and past experiences form their individual perceptions and beliefs. The brain needs to ask three simple questions before an intention to act can be formed.

- The Gap question: “Is there a gap between the current situation and how the person wants it to be?”
- The Outcome question: “Is there a reason to do something?” “What’s in it for me?” “Will I be disciplined if I do not follow the rules?” “Is it more fun or pleasant?”
- The Power question: “Does the person have the ability to make something happen?” “Is it within that person’s power to start it and complete it?”

Perceptions of the world around and beliefs are making the answers to these questions. The perceptions are real, they seem to be good “facts” for the decision to make, they make the decision acceptable. The influencing environment, the experiences (education, hidden curriculum), have a huge impact on these perceptions and beliefs and so they influence the plan we make and finally define our behaviour, our action. When our action appears to be not right, barriers can prevent disaster. When the barriers fail a disaster happens.

The Tripod incident analysis methodology helps to clearly identify both the immediate (human error) and underlying causes. This makes the conclusions about an adverse event more to the point, because managers and colleagues (and not only the medical doctor) can see their role in creating the environment that led to the incident. Insight in unintended consequences of actions and the influences on the beliefs and perceptions of others help to create an influencing environment that promotes safe behaviour. And this process can help to cope with the consequences of what was previously perceived as a meaningless event and brings back meaning with the medical doctor (and other professionals and managers) involved in an adverse event.

4.3 Case study – a practical example of underlying causes in adverse event

How can the case of Peter de Leeuw[69], the story this thesis started with, be interpreted in the light of this approach?

> *"Sometimes you have those moments when everything happens at once. That's what happened that evening. I received a phone call; something had happened in my family that really upset me. At the same time, there was a nurse standing next to me with a problem and the abdominal x-ray I had ordered for a patient with unexplained symptom, was being shown to me. I had a quick look at it, could not detect anything unusual and took no further action. The patient died the next morning, while I was still on duty".*

De Leeuw stresses that it was a hard blow to take that the death of this woman could have been prevented if he had been more attentive (an explanation that doesn't give the adverse event any meaning). He was at the time of this adverse event, a third year resident, and did not have a lot of experience. The "backup colleague" was not present and in those days it was not common to call unless it was absolutely necessary. It happened late at night and he had been on duty for a long time. There was no policy on working hours as yet, so he worked

[69] Leeuw de P. "It felt a bit like involuntary manslaughter" in: Buikema M. 2011, '*When Health care Hurts. Doctors share their darkest hours*' Zin publishing p. 38 – 41.

entire days and nights in succession. He was tired, had received an upsetting telephone call, and it was busy. These were mitigating circumstances. He mentions that the stupid thing was that in the aftermath, there was little in the way of repercussions. No action was taken. There was no incident reporting committee as yet and his supervisor did not make a special trip to the hospital. They did discuss the cause of death some time later, but there were no further consequences as a result of what he had done. The fact of the matter was, patients die sometimes. In those days, patients safety was simply not yet "on the agenda". Nor did he receive any support, despite his distress at what had happened to him. But that was just how things were done at the time; everybody dealt with their own problems. He experienced that the mistake he had made, made him more focused on similar situations for the rest of his life. Because of his own mistake, years later, he was able to guide a resident who had also missed the sign of a gastric perforation, in the right direction. External factors are difficult to change (long working hours, tiredness) and he felt at that time that you did not challenge the system; that was just not done.

4.3.1 Analysis of the case study from the human behaviour model

If we look at this case in the light of the Tripod Beta methodology it shows that the medical doctor was influenced by the environment in different ways.

- The management had initiated that the medical doctor had to work long shifts (fatigue).
- The hidden curriculum had taught him that the supervisor should not be called for "non emergencies".
- The disturbing news from his family influenced the already tired medical doctor.
- It was a busy shift and his tired mind was overloaded (time pressure).
- Right after the family phone call the medical doctor had to answer a question from a nurse *and* the x-ray was showed to him. He was multi-tasking, while tired.

He made a meaningless mistake. Previous experiences and influencing environment formed the individual perceptions and beliefs of this medical doctor. The "Gap question" gives the answer that all questions and advices asked from him had to be answered right away. He wanted the job to be done according to the "art"; quickly and multifunctional because patients (and nurses) were waiting.

The “Outcome question” gives the answer that the action, done the way it was done, would give recognition. The medical doctor showed that he was able to perform under high pressure while tired. The supervisor would be pleased to see he did not need his advice. If he wanted to be part of the culture of medical doctors he had to act like this.
The “Power question” gives the answer that the medical doctor indeed had the power to act the way he did. He was the responsible person who had to diagnose. Other health care workers gave him this power as well. It was the culture that had constructed it this way. So perceptions and beliefs made that the medical doctor did put his intentional plan into action. He diagnosed the x-ray and saw nothing serious and the blood test results of this patient were flushed out of his mind. Barriers that should have stopped the mistake were not in place.

4.3.2 Tripod Beta analysis

There are a number of barriers in this example: applying the right medical diagnosis, intervention of the supervisor etc. One of the immediate causes of the death of the patient is the “wrong diagnosis” of the medical doctor. The human error, related to the wrong diagnosis was a mistake. Preconditions, under which the mistake was made, are mentioned in the Gap, Outcome and Power question. They are haste, stress, lack of direction, competing demands, ignorance, personal crisis, complacency and unfamiliarity or over-familiarity. Underlying causes that made this possible were the management decisions to make medical doctors work long shifts. The leadership did not manage fatigue, time pressure and stress in the hospital. Management decision made it possible that the supervisor was not easy to reach for advice. The protocol made it possible, through procedures, that the medical doctor could decide on the x-ray without having the blood test results in front of him and that several questions, about different patients could be asked by other health care workers at the same time to only one medical doctor. Colleagues “decided” together that this medical doctor had to solve everything on his own. Family could bring in disturbing news during work hours and no “time – out procedure” was taught in the education program. Maybe even society (neighbours , friends and public) gave the impression that the job of the medical doctor had to be done the way it was done; quickly and straight forward . No one asked critical questions; everybody went with “the flow”. So, many underlying causes were dormant in relation to this adverse event (and to many

potential other adverse events).This case makes clear that adverse events are not mistakes where only one person can be blamed for. With this analysis, the adverse event gets a meaning as it is not a 'random' event anymore but the end result of a web of systemic failures. The influence of "the system" is high on patient safety. Improving patient safety has to be done systematically by the management of health care institutions in cooperation with all professionals involved. Leistikow[70] concludes this as well. Since every organisation has its own culture and design, situations are different in different places. How management has to work on patient safety depends on the level the organisation is on as well. Parker of the University of Manchester[71] makes clear that safety is "between the ears". When safety management is on a high level, leaders seek actively information to improve safety. They talk to patients and employees and the culture is open and responsibility is shared. The workforce is intrinsically motivated to do a safe job. And a safe job is a meaningful job.

4.4 Chapter conclusion

The human behaviour model/Tripod Beta helps to investigate adverse events in a way that not only one person or a group is held accountable for an adverse event. It helps systematic thinking and indicates systematic solutions for patient safety improvement on different levels in the organisation. This systematic thinking helps the search for the place of hermeneutics and helps to construct it on organisational level, since meaning cannot be found in the adverse event it self. Underlying causes become visible and these underlying causes bring up questions about morals and values in the organisation. Why are working hours so long, what does this say about the idea of patient centred health care? Are limits for autonomy and accountability clear? How does the organisation value the medical doctor? And how does the organisation value the patient? Analysis of adverse events brings in reflection on actions and on ethics. The analysis asks for changes that prevent adverse

[70] Leistikow I.P. 2010, *'Patientveiligheid, de rol van de bestuurder'* Elsevier Gezondheidszorg Amsterdam. In his thesis he gives six pre-conditions that should be in place when improving patient safety from the top. All involved should be able to give in-put; participation should be safe for all involved; a balanced pressure has to be created to monitor the progress; the outcomes should be defensible with respect to content; it has to be possible to motivate professionals intrinsically to cooperate in the improvements; participation and support has to be organized by the top management.

[71] Parker D. 2010, 'The importance of safety culture' Presentation www.linneaus-pc.eu Dianne Parker is professor of Psychology at Manchester University. She distinguishes five 'maturity' levels for organisations. Pathological: Why implementing safety conditions? The law is the bare minimum. Incidents are covered up. Reactive: Being interested. An incident causes reaction, approach is narrow and person orientated (blame and shame). The safety system is superficial and there is no learning from incidents. Bureaucratic: A calculative attitude. Investigations are done and the processes are in place. Checks are done and people rely on the paperwork. Data are available but not used. Pro-active: The management looks ahead. They try to prevent incidents before they occur. Time to implement and to structure the processes into the practice is difficult. Aspirational, generative: the workforce is intrinsically motivated to do a safe job.

events from happening again. Medical doctors and other health professionals have to ask attention for these necessary changes. Regulations have to be implemented, in dialogue from the top and medical doctors have to guard these “bottom up” with their colleagues. Meaning can come back with the medical doctor in this way.

With attention to a system approach on safety, the attention to hermeneutics on medical doctors involved in adverse events is addressed to different levels in the organisation. And finds a way to be constructed. The management has to implement, in dialogue her part of safety improvement, made clear with systematic analysis and has to facilitate other levels to do the same, with clear goals. “Top down” and “bottom up” initiative is needed.

Chapter 5. Normative professionalism; a meaningful job

5.1 Introduction

"Safety systems in health care organizations seek to prevent harm to patients, their families and friends, health care professionals, contract – service workers, volunteers, and the many other individuals whose activities bring them into a health care setting"[72]. Patient safety can be defined as "freedom from accidental injury". This definition is focused on the patient, but it is emphasized in the report "To Err Is Human" that attention to patient safety will provide a safer environment for workers as well[73]. So far it is made clear that implementation of health care safety has to be issued from a systematic approach. Patient safety programs should be in place and be established with a clear, visible and continuous attention and well – understood safety principles[74]. Interdisciplinary team training programs should be established to make clear for everybody, the task that has to be fulfilled. Kohn, Corrigan and Donaldson make clear that leadership has an important role to fulfil. Management has to make patient safety a priority corporate objective, that is everyone's responsibility[75]. The Tripod beta model made the necessity for this clear as well. All health care workers and in fact all employees in health care organisations, have to be committed to health care safety. This is important because we saw that hermeneutics is the interpretation of actions and an intersubjectively *shared* understanding of the meanings of actions. And it involves considerations of morals and values. And these are essential to consideration of risk and safety[76].

The confluence of the attention to hermeneutics and patient safety could bring in commitment and involvement of medical doctors in patient centred health care. If management is one of the agents in the influencing environment around adverse events in

[72] Kohn L.T. , Corrigan J.M. Donaldson M.S. 2000, p. 155.
[73] Ibid. p. 156.
[74] Examples of safety principles are standardizing and simplifying equipment, supplies and processes.
[75] Kohn L.T. , Corrigan J.M. , Donaldson M.S. 2000, p. 166. Other objectives leadership should make effective are: making clear assignments for and expectation of safety oversight, provide human and financial resources for error analysis and systems redesign, develop effective mechanism for identifying and dealing with unsafe practitioners. Next to providing leadership, respect for human limits in the design process, promoting effective team functioning, anticipating the unexpected and creating a learning environment is important as well.
[76] Taylor D. 1981 p. 490.

an health care institutions, we have to look more precise how management can positively contribute to a meaningful working environment for medical doctors. So far we have seen that management can influence the environment and experiences of their employees by strong leadership, implementation of rules in dialogue, procedures and standards and just culture for patient safety. Encouraging normative professionalism is another important issue for developing an open and just organisation.

5.2 Knowing from science and knowing in action

Professionalism is developed from science and daily practice. It is about skills, specific knowledge, social status, trust of the "public" and being organised in professional associations. The "hyper- specialist" in professionalism is more and more common. We can say that in 20th century scientific health care professionalism has been growing and every specialised group of professionals has its own domain.

Donald Schön[77] advocates to reflect on what professionals do "without being aware of it". Their professional practice is made complete with the knowledge from experience and intuition. This is the "*knowing in action"*[78]*;* professionalism developed from daily practice. This is what Widdershoven names "*tacit knowledge*[79]". It is not "know *what"* but "know *how"*. The professional learns in practice, how to address the patient, how to communicate with colleagues; he learns a lot from the "hidden curriculum". Besides, Schön mentions that other knowledge is available here. The "client" (read patient) involved, has knowledge too and this knowledge should be used. Reflection on the professional practice (this is applying scientific knowledge in the work environment) is seen as a source of knowledge together with technical rationality. It is what van Houten names "practical science". This *"knowing in action"* needs "*thinking in action*" and "*reflection in action"*[80]. To make reflection valuable is difficult, because different professionals give different input, generate different outcomes of reflection and develop different meaning from this. "Know what" and "know how" do need the "know why". And this "know why" can be formed by reflection in action, dialogue and training in ethics.

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[77] Houten van D. 2008 'Professionalisering: een verkenning.' 2008 in: Jacobs, G., Meij R., Tenwolde H., Zomer Y. (red.) *'Goed Werk. Verkenning van normatieve professionalisering'* Uitgeverij SWP Amsterdam p. 27.
[78] Houten van D. in: Jacobs G. (red.) 2008 p. 26 – 28.
[79] Widdershoven G. 2000 p. 138 – 139. The term 'tacit knowledge ' comes from Dreyfus in Benner P. 1991 'The role of experience, narrative and community in skilled ethical comportments' in: *'Advances in Nursing Science'* 14, 2 pp 1 -21.
[80] Smaling A. 'Reflectie en normatieve professionaliteit' in: Jacobs G. (red.) 2008 p. 53 -54.

5.3 Professionalism in a scrape

The professional has his own domain, his own logical thinking in practice. This *"thinking in action"* of the professional can give tension with the logic of the economic market and the logic of the management or other professional domains. Rules and protocols might negatively influence the work of professionals, since the rules don"t fit in to a specific professional practice. De Bruijn talks about this tension in an interview[81]. The growing specialisation on the professional level in medicine is difficult to handle for managers . The more specialised the profession the more difficult to manage. Besides, health care is a complex process and a causality is often not clear between a specific action and a medical error. Managers want to implement rules and protocols and professionals do not like protocols and systems because it seems they don"t help them in their job in any way. Since the market and the managers do have more power and resources (costs, efficiency, profit and loss accounts) than the professional, the professional is in a scrape.

De Bruijn thinks the contradictions between managers and professionals are not as prominent as some theories say. In fact his indication fits in the classification the Dutch *"Wetenschappelijke Raad voor het Regeringsbeleid"* which states that the model of three logics: "*managerialism"*, "*consumentism"* and "*professionalism"* of Eliot Freidson[82] does not fit well in the Dutch context of health care. Instead of making managers a special group, they make politics a group that influences the managers and professionals as one group and the client as a third group.

Fact is that professionals and managers have to work in the post-modern society and in a health care system that is exposed to many influences from the economic market, insurance companies and empowered customers. To make the managers the "bad guys" , only implementing protocols and systems no one asked for, and making the professionals the "good guys" who just want to do their job their way, is not fair and not productive for good

[81] Bruijn de H. 'Stuur op processen in plaats van op inhoud'in: *NotaBene Tijd(schrift) voor patientveiligheid* no. 12 mei 2011, p. 3 – 5. *NotaBene* is a collective safety magazine of the UMC Utrecht, Ziekenhuis Rivierenland Tiel, St. Antoniusziekhuis, AMC, OLVG and St. Fransiscus gasthuis.

[82] The classification of management, professional and market is based on the model of Eliot Freidson ('The Third Logic' 2001). He marks three logics: '*managerialism'*, '*consumentism'* and '*professionalism'*. The Dutch Wetenschappelijke Raad voor het Regeringsbeleid (Report '*Bewijzen van goede dienstverlening'* 2004) brings a nuance in this model. The three fold made here is: Institutional logic (politics; law and rules, models of finance, models for coordination of sectors), Commission logic (professionals and managers; the actual service and everything around it; eg. operation room lay out) and the Demand logic (the client; the needs, demands, wishes and claims the client approaches the health care institute with). See: Jacobs G. 2008, p. 37 – 38.

and just health care and neither for a successful implementation of a health care safety system and attention to meaning. So managers and professionals should be regarded as one group in health care and work together.

5.4 Normative professionalism.

But how to work together and make good and just health care that is safe for the patient and that generates meaning for patients and medical doctors alike? There are many perspectives and positions. Rules and policies, coming from the institutional logic influenced by politics and market, do change the practice. Values and norms might drop to the background, because production and efficiency is leading. It is likely that this influences the involvement in the job in a negative way. People don"t feel the meaning of work if it is "making production" only.

Jacobs[83] suggests to focus on:

- "bottom up" management, where practice experience and democratic decision-making is used.
- Development of powerful moral professionals; being the safeguards of values and norms.
- Making management and professionals sparing partners; dialogistic professionalism.

The "bottom up" management can be introduced by empowerment of employees together with clarity on the task one has to do and clarity on specific responsibilities. Empowerment brings responsibility more to the "bottom" of the organisation. People work in self regulating teams, competent, with confidence, meaningful, with a positive view knowing that working together and inter-dependent is part of their job. They get the feeling to have more influence on what is important to them, to their work. Jacobs states[84] however that empowerment brings bureaucracy as well and that does neither help professionals nor the managers.

5.4.1 Rooting and Shifting

It is interesting to see that Jacobs mentions the "*Theorie van Presentie"* of Andries Baart as a good example of "bottom up" management. Professionals find room for initiatives given by

[83] Jacobs G. 'De professional in de knel? Het debat en de zoektocht naar een nieuwe professional' in: Jacobs G., 2008 p. 41.
[84] Ibid. p. 41.

managers[85] . The "theory of presence" asks for *exposure* that makes someone present. *Exposure* is meant as exposure to the partner or ally in health care, the colleague, the team member and of course the patient . Menken–Bekius and van der Meulen[86] refer to *Exposure* in this theory as "exercising spirituality". I think it can be approached as exercising dedication to the job, to colleagues, to the patients who are in the hard and alienating situation of their illness and suffering [87]. Use of the theory could help to experience reality from the perspective of "the other". To exercise this kind of spirituality, one has to remain orientated to "the other", to be a go-getter, to be courageous, to be present without interest and be loyal to the world of the patient (and partner or ally). The theory of presence is about caring for a person as a whole, as a subject. The professional relationship from this perspective has characteristics like patience and time, no hurry, availability, involvement and nearness. Menken - Bekius and van der Meulen mention however, that in these circumstances guidance in supervision is necessary, since people involved in this kind of professionalism need support. For example finding a personal, dedicated sound involvement and distance and balanced self criticism/reflection asks for support.

As a contrast to presence, Baart describes intervention. Although he states that they do not exclude each other, presence is "to be there" and intervention is "interference". Interference as calculations, efficiency, evidence based approach, puts the quality of life, meaning of life, of work, to the background. The patient (or colleague) is more a "problem case" that has to be solved and is part of production. The professionalism Baart develops in his theory is normative – reflective. It focuses on quality and meaning of life, and on human existence. It is reflective, in openness, focused on the local situation[88]. The theory of Baart is developed for pastoral counselling. Since it is always difficult to change a theory from on professional field to another, this theory might need adjustment when practiced in health care.

[85] CRM developed for the health care environment is a training that provides this room.

[86] Menken – Bekius C. & Meulen van der H. 2007, *'Reflecteren kun je leren Basisboek voor pastoraat en geestelijke verzorging'* Kok Kampen p.130 – 140.

[87] The aim is to be present in a way that support can be experienced even in difficult circumstances. The theory of Baart might contribute to 'being present in commitment'.

[88] Taylor D. 1981 p. 493. He states that hermeneutical explanation of accidents and safety is local in character, linked more to what obtains in the particular culture and circumstances than in general.

With this in mind we can say that the theory helps to focus on the world of reality, which is always a social and subjective domain. Training in this theory helps to connect people, to tune, to bring about that what is right and already was available but not visible yet.
A pitfall of the theory of presence is however that people are not focused on their own judgment and power, but on the judgment and power of the other. To prevent this, professionalism and the related morality need dialogue and critical thinking. For this, professionals have to be sparring partners. Although they are rooted in their own culture, language, reality and system they have to be able to shift to the other in another culture, system or reality. The professional, Jacobs states, should find a balance between this rooting and shifting.

5.4.2 Restorative justice movement

Because dialogue and work processes have to do with power, a clear focus on the definition of "good work" and the frame of normative professionalism is needed. The statement of Jacobs is meant for a general working environment. In the perspective of health care it is good to see the two sides where the view of Jacobs is applicable. One side is the professional – management relation and the colleague - colleague relation, the other side is the patient – medical doctor relation. For patient safety (so for good quality health care and meaning) both relations are important and therefore it is good to know that Jacobs mentions the "democratic professionals" of Dzur[89] and the "restorative justice movement". For patient safety this means that all parties involved in injustice have a voice in decisions when a conflict has to be solved. Dialogue, exploration, imagination, engagement[90] and being partners with one aim, are key words[91]. To discuss different views off an aspect in openness asks courage. When professionals do have a shared problem they have to find an alliance. That can be reached by critical thinking and critical looking at oneself in openness for the other perspective. It makes people vulnerable but only then connection can be made and the dialogue brings a *"flow of meaning in the relationship*". Normative professionalism asks

[89] Jacobs G. ' De professional in de knel? Het debat en de zoektocht naar de nieuwe professional' in: Jacobs G. 2008, p. 47 - 48.
[90] Smaling A. Reflectie en normatieve professionaliteit' in: Jacobs G. 2008, p. 55 -57.
[91] Kohn L.T. , Corrigan J.M. , Donaldson M.S. 2000 do recommend that health care professionals like health care organisations should make safety a specific aim. '*Many, if not most, physicians in community practice view organisations such as hospitals primarily as platforms for their work and do not see themselves as being part of these larger organisations. ….. They should view the entire organisation as a safety system and the search for improved safety and its associated design principles as a lifelong, shared journey*'. See p. 167.

for co-creation, to let go own reality and listen to the other and look for possibilities that come up in the relation with the other. It is about teamwork. Besides this focus on relation with the other Van Dartel & Jeurissen[92] mention that in the post - modern society professionalism is about the knowledge how to handle right in a unique situation; excellence in a particular situation. This is professionalism that fits in a local situation. Besides this professionals have to guard the beneficence[93], since benefit is leading in a competitive organisation. They say that normative professionalism works from experience and not from figures. Experience can be found on the work floor. For patient safety the professional who is able to do the right thing in a unique situation, is the ideal professional[94]. He is the one who practices situational awareness and is on alert of possible things that go wrong. Normative professionalism ("bottom-up") together with a strong implementation of safety management (top down), provides patient safety improvement and thus meaning.

De Bruijn[95] explains this as well. Often managers focus on the content when improving patient safety. If protocols and prescriptions are introduced "top down" the professionals can say: "This might be good in general, but in our specific context it does not fit". Interventions always have to fit in a particular context. This "fitting in" can be reached through dialogue. In patient safety this is important, otherwise people who have to apply the protocol, don't use it since it does not fit in their context and the influence of the overall patient safety measures will not be high. This has effect on meaning. De Bruijn suggests to focus on process management, in which experience and expertise from the work floor is used. Fitting procedures in local processes, where employees have benefit from it, because when they find the implementation relevant, the procedures have higher potential. It should be implemented by "key professionals"; professionals who have status in their environment. *"When professionals are made "co-owners" of the process of patient safety, the involvement will proportionally increase "*[96]. Being a co-owner of this process provides hermeneutics (meaning) to the medical doctor and the job he has to do.

[92] Dartel H. van , Jeurissen R. 'Professionaliteit als normatief organisatiekenmerk' in: Jacobs G. 2008, p. 254, 258 – 260.
[93] Beneficence is the moral principles of doing right, just. It has to be guarded carefully in an organisation were benefit is present because of the competition.
[94] Reason J. 2000.
[95] Bruijn de H. 'Stuur op processen in plaats van op inhoud' in: *NotaBene* 2011.
[96] Bruijn de H. 2011, p. 5.

5.5 Chaplains, spiritual and pastoral counsellors

Chaplains, spiritual and pastoral counsellors are professionals in health care as well. They do have specific knowledge of coping, ethics, meaning, spirituality and religion, which makes them good facilitators of hermeneutics. They often do have a lot of experience leading moral consultations (moreel beraad) and know the process of finding an intersubjectively shared understanding of the meanings of actions. From the perspective of hermeneutics they can contribute to normative professionalism and ask for attention to the search for meaning in the organisation. From the perspective of hermeneutics, the search for meaning is situated in the domain of all professionals and managers. It becomes a search for all involved. In dialogue chaplains and counsellors can initiate and support overall plans for central policies around norms and values and rules of conduct. Chaplains, pastoral and spiritual counsellors can underline the necessity to conduct clear rules and procedures on full disclosure, truth telling, just compensation and attention to 'the second victim' in the case of adverse events. Training in the field of ethics for medical doctors and medical students can be organised. Offering rituals[97] or other forum for medical doctors to explore their emotions in the aftermath of adverse events and to discuss their obligation to affected patients and families in neither a punitive nor a demeaning setting, is a practical possibility. "Inspiration meetings"[98] can be organised; they contribute to attention to meaning and resources for inspiration. As a part of the start of the "academic year" an interview or presentation can be organised where the most respected professor of the university speaks about "inspiration" , "hermeneutics" or "meaning". But all this is only effective when a clear, open, systematic and transparent safety management system is in place and information about adverse events is shared.

5.6 Chapter conclusion

Normative professionalism focuses on a work environment where dialogue, intrinsic motivation, involvement and commitment is encouraged. From the perspective of hermeneutics, normative professionalism helps to come to an intersubjectively shared understanding of the meaning of actions. All health care workers, professionals and managers alike, are challenged to take their responsibility and to combine their scientific

[97] Berlinger N., 2005. P. 111. Ethical actions are listed here.

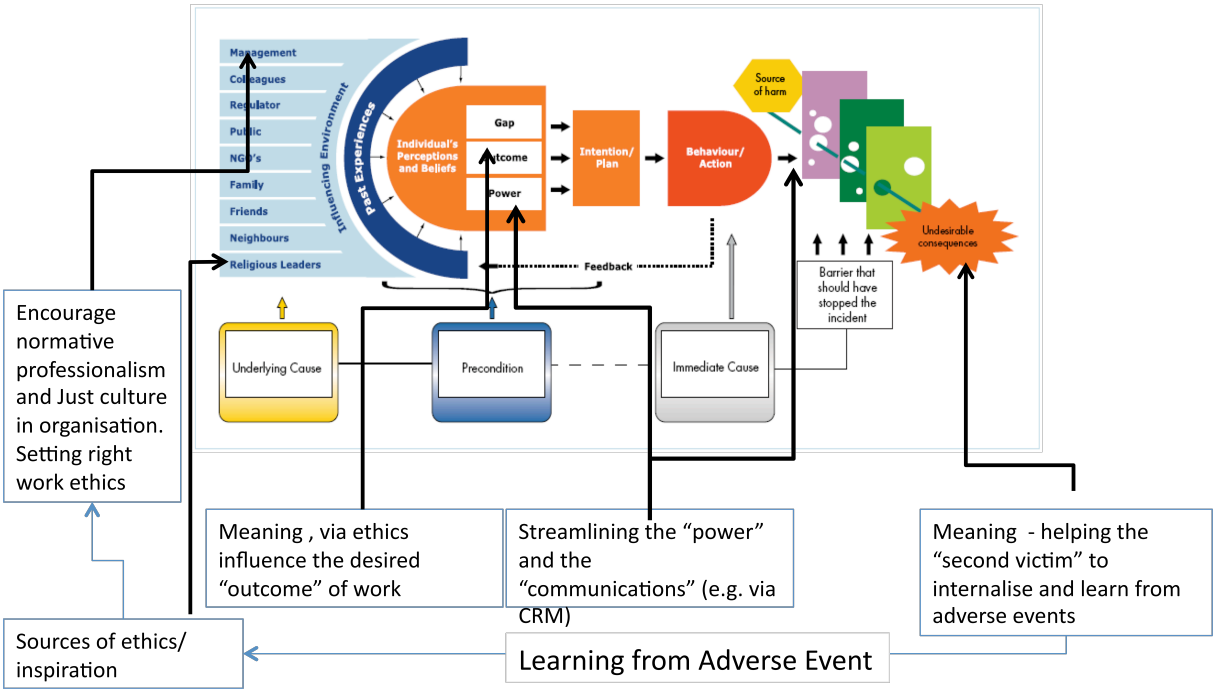
[98] In the UMC Utrecht 'Openhaard gesprekken' are organised. A group of about 7 people from different departments discusses what inspires them in their work and what their ideal is. Meetings like this are only effective when they are part of a large 'normative professional plan'. Otherwise the results will be very small.

knowledge with the “knowledge in action”. Practical science exists and “knowing in action” will become “thinking in action” and “reflection in action”. A balanced rooting and shifting between the domain of the other and well known domain of the self, helps to built a collective normative professionalism where people want to be accountable for their actions in a process they understand and appreciate. In this way normative professionalism increases the attention to morals and values, to shared understanding of the meaning of actions. This helps to work on prevention and reduction of adverse events. It creates understanding for the context the medical professioanl is in when involved in an adverse event. In this way “meaning” is not just a concept in the domain of chaplains and counsellors but a topic for all managers and professionals in the medical organisation.

Chapter 6. The Tripod beta model extended

The behaviour model is explained in chapter 4.2. To clarify the influence of hermeneutics in this process an extension of the model is given below. It shows the potential of hermeneutics in different stages of the human behaviour model. This could help to reduce and prevent adverse events.

Additions to the Tripod beta model with respect to 'meaning'



Chapter 7. Survey data in perspective

In the first chapter of this thesis results of the survey [99] were presented. They are put in perspective of the findings of this thesis now.

7.1 Motivation

The level of motivation amongst medical doctors to do a good job and to contribute to the quality of health care is very high. It shows high commitment to the patients, to colleagues and to health care in general. This is a solid starting point for attention to hermeneutics and for the creation of a good safety management system that helps to reduce and prevent adverse events.

7.2 Resources

Finding support from contacts with colleagues in practice scores very high with 84 per cent. So colleagues happen to be a very important resource to find support from. Interpretation and an intersubjectively shared understanding of the meanings of actions can root in these support groups. This can be very positive when the interpretations and understandings are exchanged with the policies of the organisation. Hermeneutics and normative professionalism can be influencing tools here.

7.3 Stress

Time pressure scores very high as a stressful factor with a 76 per cent . Time pressure is one of the basic risk factors for accidents and the percentage of 76 is an alarming finding in the survey. Time pressure is an error enforcing condition and might create fatigue and memory failure, which are possible preconditions for mistakes. Managers and professionals should take action to reduce time pressure when the idea to contribute to quality of health care is taken seriously.

“Mistakes made” scores as a stress factor at the second place with 34 percent, which is a considerable percentage. The aspect “mistakes made” is listed in a group of more personal orientated points of possible stress, as there is “own impotence” (21 per cent), “indifference” (8 per cent), “confrontation with own vulnerability, limitations and mortality” (11 per cent). The percentage of 34 per cent is very high in this list and shows the significant

[99] Hijweege N.M., Pieper J.Z.T. 2010.

effect of mistakes on medical doctors as individuals. Literature[100] showed that the emotional pressure of "mistakes made" is high on professionals involved. The figures of the survey confirm this. Hermeneutics might be a tool to bring openness around the emotional pressure of "mistakes made" in the process of a systematic approach on adverse events.

7.4 Religion/spirituality/philosophy

A 70 percent of the respondents has a "philosophy of life". How this philosophy is fed and how norms and values are incorporated and maintained in this, cannot be verified from the survey. A 69 per cent of the respondents do mention that they do not belong to a religious, spiritual or philosophic group. There seems to be no mayor rooting in an institutional setting for medical doctors who say that they do have a "philosophy of life".

For a health care organisation it is important to be clear on the values and norms (rules of conduct) the organisation wants their employees to stand for. Paying attention to ethics helps to keep up values and norms. Hermeneutics and a system approach on adverse events, the Tripod beta model, bring in questions about morality and ethics. By doing so they help to structure the organisation's principles and the "philosophy of life" of the respondents might benefit from this.

7.5 Chapter conclusion

Overall the data of the survey show a strong positive motivation of medical doctors to contribute to the quality of health care. Serious attention to the stressful factors "time pressure" and "mistakes made" is needed. This thesis makes suggestions to deal with these factors through attention to hermeneutics and a system approach on adverse events.

[100] BuijssenH., Buis S. 2003 and Buikema M. (ed.) 2011.

Chapter 8. Conclusion

In this thesis the findings are presented of the question "What does literature tell about the effect of attention to meaning on medical doctors involved in adverse events?" For the individual involved, meaning cannot be found in the adverse event itself. Adverse events are meaningless and no inspiration of any kind is found in it. Literature and figures from the survey *"Zingevingvragen in het contact tussen patiënt en medisch specialist"* underline that medical doctors experience adverse events and time pressure as main stressful events. To find meaning in adverse events asks for attention to adverse events on organisational level. Meaning from the perspective of hermeneutics can structurally help to promote this attention and brings in questions about the organisation's ethics and safety culture. This helps to search for an intersubjective shared understanding of meanings of actions. And considerations of morals and values find their way into the organisation and into the "narrative of life" of the medical doctor. Hermeneutics makes "meaning" not just a concept in the domain of chaplains and counsellors but a topic for all professionals and managers in an organisation and should be considered as an interesting tool for chaplains and counsellors in health care.

Literature made clear that blaming persons in the case of adverse events is proven to be unjust and bad for safety efforts. To promote the process of finding meaning in adverse events, asks for a strong safety management system. A strong system approach is found in the human behaviour model/Tripod beta, which is a systematic tool that helps to analyse adverse events and helps to prevent reoccurrence. This makes the adverse event meaningful as it provides information on how future accidents can be prevented. It helps organisations at all levels to become more aware of workers responsibility (think of teamwork) and leaders accountability. Strong leadership (top down) and normative professionalism (bottom up) is encouraged in this system approach. This has a positive effect on the attention to meaning; as medical doctors involved in adverse events are not blamed as causation of adverse events, but are part of the solution to prevent reoccurrence. Sharing information about accidents for analysis is a first requirement to start this process. This is for the benefit of the patients but also for the medical professionals involved to help them cope with the consequences of what was previously perceived as a meaningless event. The extended

human behaviour model/Tripod beta illustrates the potential of hermeneutics in this system approach.

Glossary

Throughout this thesis a number of terms are used which could be subject of debate. An accurate appreciation of the meaning attached to the terms is important in understanding this thesis and its conclusion.

Meaning: A hermeneutic approach of meaning from psychology. Interpretation, shared or not, of actions. The focus is on elucidation of the meaning of human actions. The meaning of action has to be understood otherwise an action becomes meaningless. Hermeneutics as meaning is an active process that can be influenced. Hermeneutical explanation is sought in the form of an intersubjective shared understanding of the meaning of actions. Considerations of morals and values are involved in this.

Adverse events. Adverse events are injuries caused by medical intervention instead of underlying conditions of the patient. An adverse event attributable to human error is a "preventable adverse event"[101].

Different errors in a row:

- Human Error: can be a "slip", caused by attention failure or distraction.
- Human Error: can be a "lapse" caused by memory failure (overload of memory makes you forget to do the right action) or change in nature of task or task environment.
- Mistake (rule based): Intended action inappropriate to the circumstances (lousy plan – wrong conclusion). There is a misunderstanding of the world where the rule should be applied = sound rule – inappropriate circumstances. A rule based mistake could be an application of an unsound rule as well.
- Mistake (knowledge based): Erroneous judgement in situation not covered by rule. Insufficient knowledge or experience-immaturity. Time or emotional pressure, inadequate training.

[101] Kohn L.T., Corrigan J.M., Donaldson M.S. (eds.) 2000 *'To Err Is Human. Building a Safer Health System'* National Academy Press p. 28.

- Violations – unintentional: It is about understanding. People not knowing how to apply the procedures. It can be due to poor writing, complexity, failure to understand users.
- Unintentional Violations – Awareness: People acting as if there is no procedure. Poor training, lack of availability in organisation.
- Routine violations: Rules broken because they are felt to be irrelevant or because people no longer appreciate the dangers. Unnecessary rules, poor attitude to compliance, weak supervision.
- Situational violations: (No can do): Impossible to get the job done by following the procedures strictly. Lack of resources (people equipment and tools). Failure to understand working conditions.
- Optimising violations: (I can do better) for organisational benefits. To get the job done faster, with less disturbances etc. by not adhering to rules. Wanting to do a good job for the "boss" or company.
- Optimising violations: (I can do better) for personal benefits. To get the job done more conveniently or to experience a thrill by not adhering to rules. Personal convenience and opportunities to get more personal satisfaction from the act.
- Exceptional violations: Solving problems for the first time and fail to follow good practice. Unexpected situations – no obvious rules. Pressure to solve problems.

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