GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN

Göttingen Campus

2018 Workshop on Clinical Decision Making

May 17th and 18th 2018

Program

Supported by the University of Göttingen, University Medical Center Göttingen,
European Association for Decision Making, and
Leibniz ScienceCampus Primate Cognition Göttingen

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Program

Thursday May 17th - Morning

Starts at	COGITA Research Group Meeting Department of General Practice (Allgemeinmedizin), Humboldtallee 38 Library First Floor	CDM Workshop Georg-Elias-Müller Institut für Psychologie, Gosslerstraße 14 Room 0.245 Ground Floor
8:30		Registration & Welcome
9:00	Chair: Paul Van Royen • Welcome, introduction, agenda • Marie Barais: Short report about the final conclusions of the feasibility study of the Gut Feelings Questionnaire (GFQ). • Marie Barais: First results of the role of gut feelings in the diagnostic process of pulmonary embolism. • Erik Stolper: The child abuse study: ongoing study.	Jacinto (Lisbon) The impact of task decomposability in hypothesis testing within the psychotherapy session
9:30		Druijff (Nijmegen) The influence of positive affect and time pressure on clinical decision making
10:00	Coffee Break	DeKwaadsteniet (Nijmegen) Is it safe? Judging about risks of child maltreatment
10:30	Chair: Marie Barais	Coffee Break
11:00	• Nydia van den Brink & Paul Van Royen: Hospital specialist gut feelings study: final results.	Hausmann (Zürich) Process tracing methods and the role of subjective probability
11:30	• Erik Stopler & Paul van Royen: Gut feelings of patients visiting an out-of-hours office.	Hagmayer (Göttingen) Causal Explanation based Decision Making - a rational model for clinical reasoning
12:00	• The future of COGITA: 10 yrs anniversary, key targets, implementing the GFQ in current and future research, discussing possibilities of a multi-centre Gut Feelings study protocol using the GFQ.	Pieper (Göttingen) Does biomedical knowledge improve diagnostic decisions?
12:30	Lunch Break	Lunch Break

Thursday May 17th – Afternoon

Georg-Elias-Müller Institute for Psychology, Gosslerstraße 14,
Room 1.140 First Floor

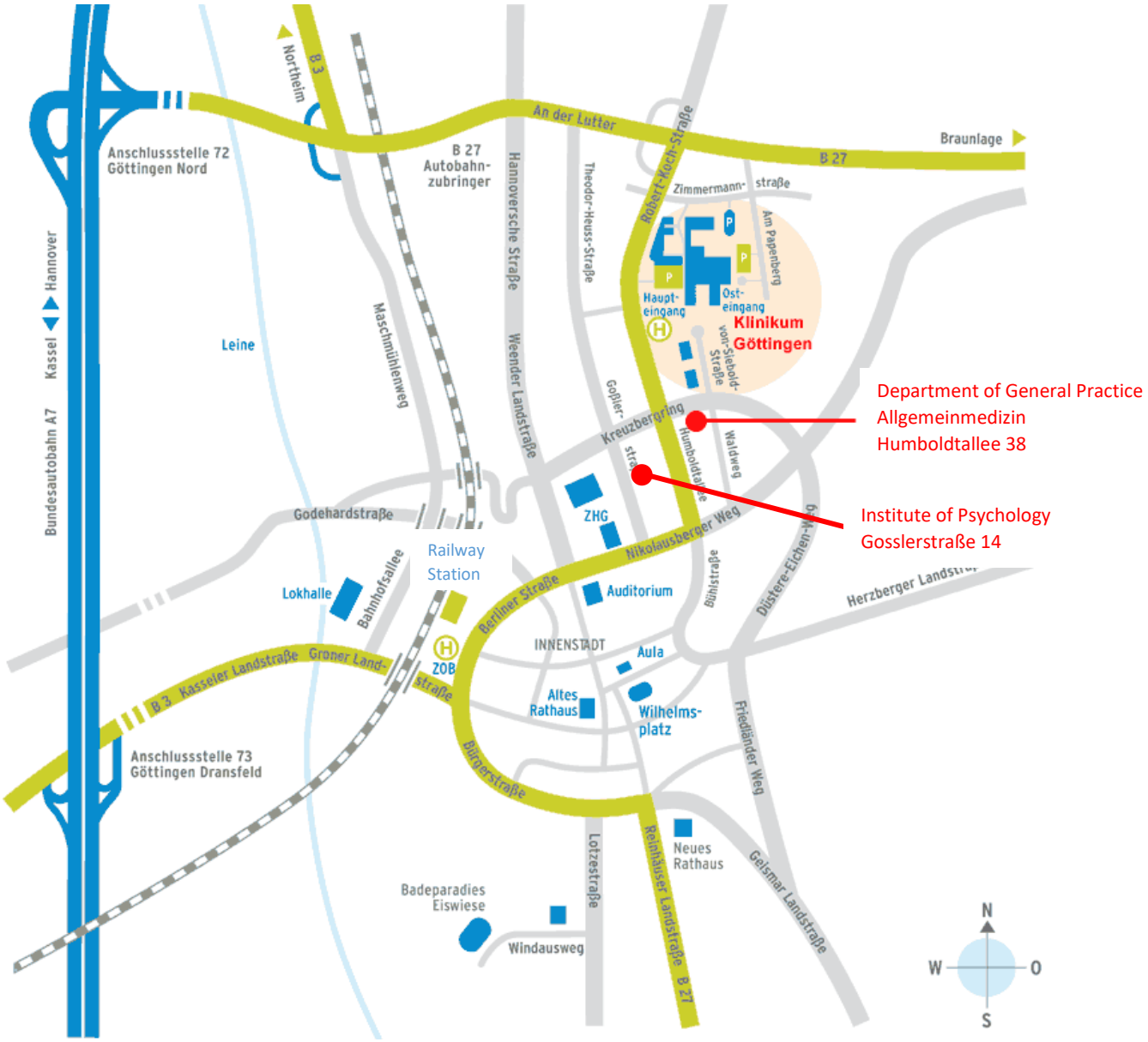
Starts at	CDM Workshop together with COGITA
14:00	**Keynote 1**: Norbert Donner-Banzhoff (Marburg): When things seem to go wrong: Diagnostic error in primary care
15:00	Groenier (Twente) How clinicians think: Changing gear to arrive at the right diagnosis
15:30	Oliva-Fanlo (Mallorca) Intuition and cancer diagnosis
16:00	Coffee Break
16:30	**Keynote 2**: Nancy Kim (Boston): Causal inference and the drive for causal coherence in clinicians' diagnoses, judgments, and memory
18:00	End of Day 1
19:00	Workshop Dinner at Ristorante Mazzoni Hermann-Rein-Straße 2, 37075 Göttingen

Friday May 18th

Georg-Elias-Müller Institute for Psychology, Gosslerstraße 14,
Room 1.140 First Floor

Starts at	CDM Workshop together with COGITA
9:00	**Keynote 3**: Wolfgang Gaissmaier (Konstanz): An adaptive toolbox for diagnostic decision making: Transparent representations, intuition, and social intelligence
10:30	Coffee Break
11:00	Douw (Ede) Exploring triggers used by nurses to identify surgical patients at risk for clinical deterioration
11:30	Schuck (Maastricht) Gut feelings in doctors' malpractice trials
12:00	Lambrechts (Antwerp) Gut Feelings in Obstetrics and Midwifery. The role of intuition in deciding to perform a secondary caesarean section during labour
12:30	Lunch Break
13:30	Plenary Discussion: Evidence-based decision making in clinical practice Introduction by Margje van der Wiel & Erik Stolper (Maastricht)
15:00	Farewell

Directions


Northeim
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An der Lutter
Braunlage
B 27
Anschlussstelle 72
Göttingen Nord
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Göttingen
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Bundesautobahn A7
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Maschmühlenweg
Weender Landstraße
Goßler-straße
Kreuzbergring
Humboldtallee
Waldweg
Department of General Practice
Allgemeinmedizin
Humboldtallee 38
Institute of Psychology
Gosslerstraße 14
Godehardstraße
ZHG
Nikolausberger Weg
Railway
Station
Lokhalle
Bahnhofsallee
Berliner Straße
Auditorium
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Herzberger Landstraße
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Friedländer Weg
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Göttingen Dransfeld
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Reinhäuser Landstraße B 27
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Abstracts in Order of Presentations

The impact of task decomposability in hypothesis testing within the psychotherapy session

Sofia Jacinto – ISCTE-Instituto Universitário de Lisboa/CIS-IUL; Department of Psychological and Brain Sciences, Indiana University
Marina Ferreira – ISCTE-Instituto Universitário de Lisboa/CIS-IUL
João Niza Braga – Católica Lisbon School of Business of Economics, Universidade Católica Portuguesa; Faculty of Human Sciences
Elizabeth Collins – ISCTE-Instituto Universitário de Lisboa/CIS-IUL

In a psychotherapy session it is very difficult to decompose the flux of information in its parts, which favors holistic intuitive judgments (Hammond et al., 1987), and constrains the interpretation of subsequent information according to the initially activated scheme (Eyal et al., 2011). Thus, we hypothesize the clinical session leads to confirmatory hypothesis testing and favors primacy effects (Jacinto et al., 2016). In two studies, we manipulated the decomposability of a clinical judgment to elicit either end-ofsequence (EoS) or step-by-step (SbS) response modes (Hogarth & Einhorn, 1992). In study 1, participants listened to audio excerpts of fictional clients describing, in random order, depression symptoms and non-depression behaviors. The excerpts were presented uninterruptedly followed by a global judgment (EoS) or broken into six shorter segments (SbS). Hypothesis testing strategy was measured through participants' likelihood ratings of three possible diagnoses. Study 2 followed a similar paradigm, additionally testing for the scheme activation by manipulating the order of depression symptoms (beginning vs. end of the excerpt). Results show that understanding the case in a non-decomposable way (EoS mode) leads to more confirmatory hypothesis testing strategy, but only when a scheme is activated (depression symptoms presented in the beginning). Implications to therapy session are discussed.

The influence of positive affect and time pressure on clinical decision making

Gerrieke Druijff – van de Woestijne and Lars Jaswetz
Radboud University Nijmegen, The Netherlands

Diagnostic decisions influence the treatment approach and therefore also a patient's well-being. However, as with all decisions humans make, clinical decisions are prone to situational influence. Two sources of influence, affective state and time pressure, have been shown to alter general decision making in various ways, but have not been studied in clinical decisions. Therefore, we investigated the influences of positive affect and time pressure on clinical decision making by clinical psychology master students. Clinical decisions were assessed using two tasks, namely a vignette task in which participants had to judge which of two diagnoses matched a patient case best, and a triad task in which participants had to judge whether sets of three symptoms belonged to one DSM-5 diagnosis or not. Compared to a neutral baseline condition, both positive affect and time pressure altered neither accuracy nor confidence. However, positive affect led to increased inclusion of irrelevant information. Compared to a neutral condition, participants judged triads more often as belonging to one DSM-5 diagnosis regardless whether or not these belonged to one diagnosis. The results are discussed in terms of methodology and relevance for clinical practice.

Is it safe? Judging about risks of child maltreatment

Leontien de Kwaadsteniet & Cilia Witteman
Radboud University Nijmegen, The Netherlands

Child abuse and neglect is a serious threat to children's development. In the Netherlands, professionals whose work involves children are obliged to signal and report child maltreatment. However, professionals seem reluctant to signal and report. Another problem is that instruments for the assessment of children's safety and risks do not seem effective yet. Interrater agreement and predictive validity are insufficient, and it is unclear whether the use of instruments leads to better assessments of safety and risks than when no instrument is being used.

Why is it so difficult to accurately signal (risks of) child maltreatment? Assessments of whether a child is safe or not, and of whether future risk at abuse or neglect is high, might be made on the basis of (professional) intuitions rather than deliberatively. Is this then for the better, or are assessments made better in a structured, transparent way? Can intuitions be included in structured, explicit decision making? We would like to discuss these questions, as well as how we might investigate them.

Process tracing methods and the role of subjective probability

Daniel Hausmann
University of Zurich, Switzerland

Experimental and applied research revealed relevant building blocks and components of clinical decision making processes, such as information search, probabilistic cues, options in terms of suspected and final diagnoses, etc. In the meantime, a multitude of specific process tracing methods have been developped, such as a Decision Process Matrix (DPM), Confidence Profile (CP), or Objective Behavioral Testing (OBT), etc. Focusing diagnostic processes of physicians, psychotherapists, and non-clinical control groups, significant results and conclusions are drawn from several field and laboratory studies conducted within the last years. At least three findings are striking: first, diagnostic processes can be seen as an evidence accumulation process, second, subjective confidence plays an important role for participants, and last, confidence has to be seen in the sense of a «degree of belief», rather than a conventional-objective understanding of probabilities. Consequently, the question is rising: What are «subjective probabilities»? I would like to discuss, in what extent subjective probability is a probability derived from an individual's personal judgment about whether a specific outcome is likely to occur, whether it only reflects the subject's opinions and past experience, and if subjective probabilities differ from person to person, and contain a high degree of personal bias.

Causal Explanation based Decision Making - a rational model for clinical reasoning

York Hagmayer, University of Goettingen, Germany
Laurence Claes, University of Leuven, Belgium
Cilia Witteman, Radboud University Nijmegen, The Netherlands

Based on clinical case conception accounts and theoretical models of causal decision making we propose a five step process in a causal-explanation based decision making framework for making intervention choices in mental health. We argue that clinicians should first consider whether knowing the factors causing and maintaining a client's problems would make a difference for their treatment plan and whether they actually have this causal knowledge. Only if these conditions are fulfilled, clinicians are advised to analyze causes and maintaining factors, otherwise they had better rely on diagnostic classification, evidence-based guidelines, and empirically supported treatments. When a causal analysis is indicated, the subsequent steps in the decision making process are (ii) identification of causal factors (i.e., generation of a causal explanation), (iii) selection of interventions to address these factors, (iv) decision on treatment, and (v) implementation and evaluation of treatment and causal explanation. An exemplary case will be described in the talk to illustrate the process. We argue that this decision making process maximizes the treatment utility of causal analysis and that it is therefore rational to follow it. We will argue that basically the same decision making process may be used to decide whether and how to adapt an intervention to a particular client.

Does biomedical knowledge improve diagnostic decisions?

Hannah Pieper and York Hagmayer
University of Göttingen, Germany

Quite a number of studies in medical education investigated whether biomedical and/or pathophysiological knowledge improves diagnostic classifications in medicine. In general, a positive effect of respective knowledge on diagnostic decisions is assumed. A good theoretical rationale justifying a respective hypothesis, however, is often missing. We propose such a rationale based on narrative accounts of decision making (e.g. Pennington & Hastie, 1992) and causal model theories of categorization (e.g. Rehder & Hastie, 2003). In addition, we present a systematic review of experimental studies, which explore the effect of biomedical, pathophysiological, causal and/or basic science knowledge on diagnostic accuracy. Fifteen out of 127 identified studies fulfilled our inclusion criteria. A majority of studies found a positive, but rather small effect. The pattern of findings and other aspects of the research raise some concerns about an increased risk of bias. We discuss which kind of evidence is lacking and should be explored in future research.

KEYNOTE 1

When things seem to go wrong: Diagnostic error in primary care

Norbert Donner-Banzhoff
University of Marburg, Germany

In the area of therapeutics and management, reflections on past errors usually focus on conditions and causes preceding an event and possible improvements to avoid future incidents. Regarding diagnostic decision making, however, the main difficulty is to decide, whether an error has occurred at all. In the case of wrong-side surgery or prescription of drugs despite contraindications, wrongdoing is usually obvious. In these cases a behavioural clinical standard can be clearly described.

In diagnosis, however, the clinical standard there is difficult to define. This is even more pronounced in generalist settings, such as hospital emergency departments or in primary care. In patients with identical presenting complaints, additional characteristics or symptoms may lead to widely differing disease likelihoods. As a result, appropriate next diagnostic steps differ considerably from patient to patient. Under these circumstances, the comparison standard would consist of a potentially unlimited algorithm.

Despite these difficulties, clinicians confronted with an undesirable outcome need support for their critical reflection on a case and their own diagnostic decision making. To this end, I have developed a heuristic to distinguish true diagnostic error from so called pseudo error – the Diagnostic Error Reflection Heuristic (DER-Heuristic).

I will present results from a qualitative survey of 30 primary care reporting cases of possible diagnostic error. They elaborate on their emotional reaction and consequences for their future management of patients. I will also present preliminary data from an ongoing project evaluating the usefulness of the DER-Heuristic. The distinction between true diagnostic and pseudo error is important, because in the latter case learning, i.e. change of future clinical behaviour, is not indicated. Pseudo-learning from pseudo-error may lead to over-diagnosis, over-treatment, harm to patients and waste of resources.

How clinicians think: Changing gear to arrive at the right diagnosis. An exploratory study on the transition from the routine to the effortful mode of clinical reasoning

Marleen Groenier PhD [1], Noor Christoph PhD [2], Carmen Smeenk MSc [2,3], Maaike Endedijk PhD [3]

[1] Department of Technical Medicine, MIRA, University of Twente, Enschede, The Netherlands
[2] Center of Evidence Based Education, Faculty of Medicine, Academic Medical Center – University of Amsterdam, Amsterdam, The Netherlands
[3] Department of Human Resource Development, Faculty of Behavioral, Management and Social Sciences, University of Twente, Enschede, The Netherlands

Background: Clinical reasoning relies mainly on two processes: near-automatic pattern detection and effortful analytical processes. Pattern detection allows clinicians to quickly diagnose routine cases. Transitioning or 'slowing down' from near-automatic to analytical reasoning is important for accurate diagnosis for non-routine cases. The aim of this study is to uncover what forms of 'slowing down' occur and what initiates slowing down moments.

Methods: Five radiologists were purposefully sampled and 41 outpatient consultations were observed. During a pre-interview pro-actively planned triggers that might initiate slowing down were identified. In a post-interview initiators and occurrences of slowing down were verified with the radiologist. Thirteen occurrences of slowing down were included in a within- and cross case analysis.

Results: Four manifestations of slowing down were identified: shifting, checking, searching, and focusing. Shifting to a new diagnosis is initiated by unexpected clinical data. Checking additional data to confirm a diagnosis is initiated by unlikely clinical data. Searching for additional information is initiated by clinical data that cannot be explained or by a lack of information. Focusing more intently on the gathered clinical data is initiated by a lack of information or ambiguous information.

Conclusion: Transitions from near-automatic to analytical reasoning have previously been described in the surgical domain.[1] We replicated these results in the clinical reasoning domain. Learning clinical reasoning should include being able to decide when and how to switch to analytical problem solving, a key aspect of adaptive expertise. Insights in slowing down can help educators support learners in adaptive expertise development.

[1] Moulton CA, Regehr G, Lingard L, Merritt C, MacRae H. Slowing down to stay out of trouble in the operating room: remaining attentive in automaticity. Acad Med. 2010;85(10):1571–7.

Intuition and Cancer Diagnosis

Bernardino Oliva-Fanlo
Mallorca, Spain

Introduction: The role of intuition (gut feelings, system 1…) in cancer diagnosis has been rarely studied so far. As part of our study on the predictive value of the Gut Feelings Questionnaire for the diagnosis of cancer and serious diseases we wanted to review the existent literature.

Method: We made a search using the terms “Cancer”, “Diagnosis”, and “Intuition” in PubMed and Embase. We kept it as RSS feed. The search has retrieved 545 results in PubMed and 85 in Embase until now.

Results: We found 16 papers regarding the use of intuition in the diagnosis and management of cancer and cancer risk.

Qualitative studies:

- 1 on how women understand and manage their increased breast cancer risk
- 2 studies that mentioned physicians gut feelings playing a relevant role in the first stages of cancer diagnosis
- 1 study about use of intuition in the use of imaging to stage prostate cancer.

Quantitative studies:

- 1 study about predictive value of GP suspicion of cancer.
- 1 study about prevalence of physician gut feelings in patients with non-specific symptoms and signs of cancer, and their probability of being diagnosed of cancer.
- 1 study about prevalence of gut feelings related with cancer.
- 1 study on PPV of gut feelings for the diagnosis of cancer.
- 1 study about predictive value of warning signs of cancer, including GP suspicion.
- 2 studies about increased consultation frequency in primary care as a risk marker for cancer.

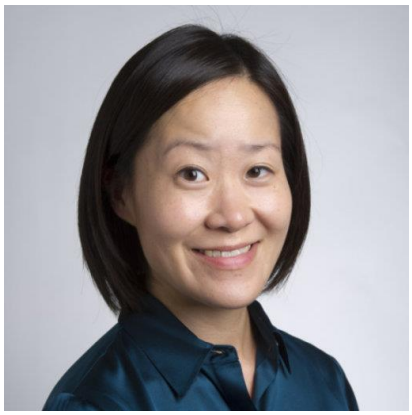
Other studies

- 4 studies about intuition in surgery of suspected renal cell carcinoma, clinician’s gut feeling of the likelihood of malignancy in patients requiring urgent diagnostic endoscopy for suspected head and neck cancer, intuitive management of MRI-only BI-RADS 3 findings, and physician assessment of pulmonary nodules probability of malignancy.

Conclusion: Intuition and gut feelings may be of help in the diagnosis and management of cancer suspicion, specially in situations of high uncertainty (first stages of diagnosis, patients with non-specific symptoms and signs). More research is needed.

KEYNOTE 2

Causal Inference and the Drive for Causal Coherence in Clinicians' Diagnoses, Judgments, and Memory



Nancy Kim

Northeastern University, Boston, USA

Drawing causal inferences to help make sense of the world begins early in life (Gopnik & Meltzoff, 1997), is reinforced by positive affect (Lombrozo, 2006), and has been argued to constitute a fundamental motivational drive (Gopnik, 2000). Accordingly, studies have shown that mental health clinicians mentally represent disorders and client cases as causal models, which predict their thinking in a variety of ways (de Kwaadsteniet, Hagmayer, Krol, & Witteman, 2010; de Kwaadsteniet & Hagmayer, 2018; Flores, Cobos, López, Godoy, & González-Martín, 2014; Kim & Ahn, 2002; Kim, Paulus, Gonzalez, & Khalife, 2012). Furthermore, this appears to be the case even when clinicians' causal models are idiosyncratic and/or do not necessarily align with official disorder nosologies.

In keeping with this general body of work, I will discuss some recent research further suggesting that the causal inferences clinicians draw can be predicted by the framing of symptoms, and that clinicians' drive for causal coherence may systematically influence their diagnoses, judgments, and memory for client cases (e.g., Kim, Ahn, Johnson, & Knobe, 2016; Kim, Johnson, Ahn, & Knobe, 2017; Weine & Kim, 2018; Weine & Kim, in press). I will first present recent research indicating that the mere framing of disorder symptoms influences expert clinicians' inferences about the causes of those symptoms, as well as their judgments about treatment effectiveness. Then, I will present work examining how the causal coherence of client cases influences expert and trainee clinicians' open-ended diagnoses and other clinically relevant judgments. Finally, I will present an investigation of false recognition demonstrating that expert and trainee clinicians tend to misremember client cases as having been more causally coherent than they actually were. Potential future research directions and practical implications for these findings will be discussed.

KEYNOTE 3

An adaptive toolbox for diagnostic decision making: Transparent representations, intuition, and social intelligence

Wolfgang Gaissmaier

University of Konstanz, Germany

Exploring triggers used by nurses to identify surgical patients at risk for clinical deterioration

Gooske Douw
Ede, The Netherlands

Introduction: Nurses often recognize deterioration in patients through intuition. We identified underlying triggers and summarized these in nine indicators: the Dutch-Early-Nurse-Worry-Indicator-Score (DENWIS).

Aim: Explore nurses' worry and DENWIS-indicators in the process of early recognition of deteriorating surgical ward patients.

Methods: Nurses judged every patients' condition for one year in each shift and reported worry and underlying DENWIS-indicators. We calculated the area under the receiver-operating characteristics curve (AUROC) to determine the value to predict unplanned Intensive-Care-Unit/High Dependency Unit (ICU/HDU)-admission or unexpected mortality. In retrospect we studied calls to physicians when worry was expressed at different vital sign levels.

Results: In 3,522 patients, 102 (2.9%) patients had unplanned ICU/HDU-admissions (97) or died unexpectedly (5). AUROCs were: Worry=0.81, DENWIS-model=0.85, worry & DENWIS combined=0.87. Of 46,571 measurements, vital signs were normal 18,727 times with 605 times (3.2%) worry expressed, resulting in 62 calls (10.2%) to the attending physician. More than half of these calls resulted in accurate interventions.

Conclusion: Nurses' worry and DENWIS-indicators are good predictors of deterioration in surgical patients. Nurses can foresee and do act upon patient deterioration when vital signs do not support the judgement. DENWIS objectifies worry, systematic assessment of these indicators is recommended.

Based on publications: PMID: 27865003; PMID: 27222458; PMID: 25990249

Gut feelings in doctors' malpratice trials

Ulrike Schuck, Erik Stolper, Geert-Jan Dinant
Maastricht University, The Netherlands

In the Netherlands, there is a specified court for doctors' malpractice trials which is called 'tuchtcollege'. We know from earlier studies that those courts consider the 'gut feeling' as part of the GP's professional attitude. The main objectives of the study were to search for 'gut feelings' of patients in trial notes and explore the verdicts of malpractice courts on their consideration of the patient's 'gut feeling' in the verdict. It is an exploratory study conducted in the online data base www.Tuchtrecht.overheid.nl of the malpractice court of the Netherlands. Patients use different phrases to explain their 'gut feeling' which were discovered in an earlier study. The most significant phrases 'worry', 'concern', were searched in the online search engine of the court database. All malpractice trials in the period from 1.1.2010 to 31.06.2017 were included in the search. Results showed that malpractice courts consider it as professional standards that: 1. Doctors have good communication skills to talk about their patients concerns and worries. 2. Doctors consider the patients gut feelings in their evaluation of the case.

Gut Feelings in Obstetrics and Midwifery. The role of intuition in deciding to perform a secondary caesarean section during labour

C. Lambrechts, M. Mees, Y. Jacquemyn
Department of Ob Gyn Antwerp University Hospital UZA and ASTARC Antwerp University Antwerp, Belgium

Introduction: Intuition plays an undeniable role in clinical decision-making, but studies on intuition are rare. The goal of this study is to describe the impact of intuition in obstetrics. Does intuition occur in decision-making during labour? Are obstetricians and midwives aware of the use of intuition in gynaecological practice? Is there a difference in intuition between obstetricians and midwives? Can numerical data on the impact of intuition be analysed? We operationalized these questions by focussing on which role intuition plays in the decision of a secondary caesarean section during labour.
Method: The role of intuition in obstetrics was investigated at first by qualitative research, including focus group discussions. We performed five focus group discussions with midwives, and three with gynaecologists and/or trainees. The qualitative research was organized with homogenous groups, which means gynaecologists, trainees and midwives separately. In total the focus groups included a heterogeneous sample of 37 participants, which consisted not intentionally of more women than men. The discussions were recorded and transcribed. The transcriptions were thereafter encoded by two people independently in NVivo® and analysed until consensus was reached. The second part of our study was a non-participating observational study at the Department of Obstetrics at the Antwerp University Hospital following obstetricians and midwives caring for women in labour. A short questionnaire was taken after every contact of a caretaker with the patient, to estimate the probability of a vaginal delivery. With an expected percentage of secondary caesarean section between 10-15%, the decision-making process of a secondary caesarean section should be followed five to eight times. The data of the questionnaires were plotted graphically to unfold certain patterns of decision making.
Results focus group discussions: The analytic reasoning in obstetrics is based on evidenced based knowledge, guidelines and (pseudo-)objective diagnosis like fetal distress, non-progressive labour, macrosomia or fetopelvic disproportion. This process of decision making is used particularly by young obstetricians with little experience, who have gut feelings, but do not dare to use them yet. The non-analytic reasoning includes a more free approach to the guidelines, with inclusion of intuition and previous experiences of the practitioner. This form of practising medicine is more seen in more experienced obstetricians. They state however that the decision to perform a secondary caesarean section is never set on intuition alone; there are always multiple factors in the process, including important objective parameters. There were no differences mentioned in using intuition between gynaecologists and midwives, not were gender differences noted. The use of intuition seems more a personal matter affair than a professional one. The patient herself also plays a huge role in decision making with elements like character, the ability to endure pain and participation in shared decision making. In terms of communication between obstetricians intuition constitutes a rare conversation topic. Decisions in the delivery room are seldom reported as based on intuition; there will be "objectifying of the events" in all reports. Thirdly time plays an important role in decision making in obstetrics. this includes the time of the day, as well as the time of the week. In the daytime

especially the doctor's agenda plays a role. A delivery can be postponed for an hour or so if the gynaecologist first has to finish consultations or private matters. In the evenings however, or by example on a Friday night, there is less willingness to wait and an intervention will occur in a shorter delay. **Observational study:** The observational study included 50 deliveries, which were 38 vaginal deliveries and 12 secondary caesarean sections. There were a couple of elements discovered which play a role for the obstetricians to predict chances for a vaginal delivery. These included a small stature mother, a large child, non-progressive labour or an unfavourable fetal monitor. There were however no predictable patterns observed in the course of the deliveries.

Discussion: There exist a few contributing factors which influence the results of this study. First there was the focus group bias. As it was a group session, not everyone will have had the same speaking time, and in group the individual opinion can get lost. A selection bias occurred by the way participants were present: only obstetricians who were interested in the subject of intuition were motivated to take part in the focus groups. Finally also patients should be included in the focus groups to have their opinion on the subject. The observational study was biased as well. The observations only took place in a University Hospital. Furthermore the observations covered only a short period of time, which makes it rather difficult to generalize. Last but not least a Hawthorne-effect on the obstetricians of the Antwerp University Hospital could exist, as they could have reacted different under observation. **Conclusion**: Intuition plays an undeniable role in the decision making in obstetrics. The conscious use of it however depends on the personality and willingness to listen to it from the practitioner. The use of intuition also is directly correlated to the experience of the obstetrician. The hassles of daily life and clinical practice seem to interfere with clinicians ability to listen to the voice of their intuition.

Plenary Discussion: Evidence-based Decision Making: How to integrate expertise, evidence and patients' preferences in clinical decisions?

Introduction by
Margje van de Wiel & Erik Stolper
Maastricht University, The Netherlands

In the beginning of the 1990s evidence-based medicine was introduced to oppose eminence-based medicine. Physicians were challenged to use evidence from clinical research in their decision making and move beyond their intuition and clinical experience. Good doctors, however, are supposed to use both, their clinical expertise and the best possible evidence, in order to make decisions with the best possible outcomes for patients. This means that they need to gather information about individual patients' conditions and wishes and search for the relevant research data that can be applied to the case at hand. Clinicians initiate these processes based on their knowledge and experience and have to integrate the outcomes in deciding what to do.

In this session we will discuss evidence-based decision making in both medicine and clinical psychology. What is the value of evidence-based decision making in daily practice, both in diagnostic reasoning and in management decisions? What kind of evidence is available and do clinicians actually use it? What is the best evidence? How to involve patients in a shared decision making process? When to adhere to guidelines or discard them? What is the interplay between intuitive and deliberate processes in evidence-based decision making? What is the relation between evidence and intuitive knowledge? How to enhance effective evidence-based practice and how to teach it?