

# Izvešće o radu EFMI WG IDeS

## EFMI WG IDeS - Report

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### EFMI WG IDeS

Working group name: Information and Decision Support in Biomedicine and Health Care

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#### Main Objectives:

Decision support systems (DSS) in biomedicine and health care, in the form of various applications, guidelines or reminders, is applied more often to assist the decision making processes. The complexity of decision-making procedures in these areas caused the development of various decision support systems in order to provide help to the decision makers. DSS are using existing knowledge and evidence, helping the decision maker to make appropriate decision for the specific situation. The quality and comprehensiveness of existing evidence and knowledge that are used in such systems, influence in deriving appropriate decisions, and indirectly affects decision maker's behaviour. DSS needs to be analysed, systematized, and validated before adopting them for routine use because of its influence on decisions and decision makers.

- Analysis of currently available Decision Support Systems in biomedicine and health care, especially in the European environment
- Classification of existing Decision Support Systems
- Definition of the recommendations set for successful evaluation and implementation of the Decision Support Systems

#### Relevant Activities 2013:

- Proposal of the new EFMI WG focused on DSS issues in biomedicine and health care was accepted at the EFMI STC Conference in Prague, April 17th-19th 2013.
- Presentation of the new EFMI WG at the CSMI Annual Assembly in Zagreb, Croatia, September 19<sup>th</sup> 2013.
- Special Session on Decision Support Systems in Health Care at the Medical Informatics 2013, 11<sup>th</sup> Symposium of CroSMI, Dubrovnik, Croatia, 7th – 9th November 2013. (<http://www.hdmi.hr/index.php/dogadanja-i-skupovi/61-medical-informatics-2013>)

#### Relevant Activities 2014:

- Presentation at the European Society of Anesthesiologists meeting, ESA 2014 Stockholm, Sweden, May 31-June, 2014.
- Presentations at One Health Symposium Slavonski Brod, Croatia, 5-7 June 2014.
- Presentation at 21st International Scientific Symposium on Biometrics Dubrovnik, Croatia, 11-14 June 2014.
- Local WG meeting during CroSMI Annual Meeting, Zagreb, Croatia, November 14, 2014.

#### Relevant Activities 2015:

- Workshop “*Clinical Decision Rules – Evidence or Sense Based?*” organized at the MIE 2015 in Madrid, Spain, May 27th-29th 2015. (<http://person.hst.aau.dk/ska/MIE2015/DetailedParallelProgram.htm>)
- Main Session “Decision Support Systems in Biomedicine and Health Care” organized by the Croatian Society for Medical Informatics at 12<sup>th</sup> Symposium Medicinska Informatika 2015., in Stubičke Toplice, Croatia, November 26th-28th 2015. (in Croatian) (<http://hdmi.hr/index.php/dogadanja-i-skupovi/74-mi2015-program-s-radovima>)
- Individual presentations at 22nd International Scientific Symposium on Biometrics BIOSTAT 2015, Dubrovnik, Croatia, 28 June - 1 July 2015

#### Relevant Activities 2016:

- Presentation: Sović Brkičić Lj, Sović S, Sonicki Z. e-medication in Croatia at Advancing and challenging e-medication around the globe - how to achieve patient safety through nationwide medication processes. Session 3 "nationwide solutions". MIE 2016; August 28 – September 2 2016. Munich, Germany. (Program overview available at <https://hec2016.online-registry.net/download/sessionlist/overview.html>)
- Lectures about Decision Support Systems at postgraduate study Leadership and Management of Health Services, University of Zagreb, School of Medicine, Zagreb, Croatia, November 24<sup>th</sup>-26<sup>th</sup> 2016. (<http://lmhs.eu/>)
- Predictive model development in prediction of the success of haemodialysis arteriovenous fistulas based on intraoperative vein distensibility (ongoing research and PhD thesis)
- Individual presentations

#### Relevant Activities 2017:

- Round table “Developing and validating clinical decision rules”, moderator: Mark Ebell, College of Public Health, Epidemiology and Biostatistics, University of Georgia, USA, April 13<sup>th</sup> 2017, venue: University of Zagreb, School of Medicine, Zagreb, Croatia
- Working group meeting in Croatia at 13<sup>th</sup> Symposium Medicinska Informatika 2017., in Čakovec, Croatia, November 9<sup>th</sup>-10<sup>th</sup> 2017. (in Croatian) (<https://hdmi.hr/index.php/dogadanja/simpoziji/medicinska-informatika-2017>)
- Predictive model development in prediction of the success of haemodialysis arteriovenous fistulas based on intraoperative vein distensibility, (research, B. Fila PhD thesis defended on July 13<sup>th</sup> 2017., Zagreb, Croatia)
- Individual presentations

#### Relevant Activities 2018:

- EFMI Special Topic Conference 2018, Decision Support Systems and Education – Help and Support in Healthcare, 14-16 October 2018, Zagreb, Croatia. (<https://www.efmistic2018.org/>)
- Working group meeting in Croatia during EFMI STC 2018, 14-16 October 2018, Zagreb, Croatia
- GO-FAR score validation in Croatian regional settings (research project)
- Individual presentations at different meetings focused on decision support topics

#### Relevant Activities 2019:

- Selected presentations at BIOSTAT 2019, 24th International Scientific Symposium on Biometrics, Zagreb, Croatia, 5 - 8 June 2019, <https://www.hbmd.hr/biostat-2019>
- Working group meeting in Croatia during BIOSTAT 2019 in Zagreb, Croatia
- GO-FAR score validation in Croatian regional settings (research project)
- Participation at 14<sup>th</sup> Symposium Medicinska Informatika 2019., organized by the Croatian Society for Medical Informatics, Zagreb, Croatia, 28 – 29 November 2019, <https://hdmi.hr/index.php/dogadanja/179-medicinska-informatika-2019-14-simpozij-hrvatskog-drustva-za-medicinsku-informatiku>
- Working group meeting during 14<sup>th</sup> Symposium Medicinska Informatika 2019., organized by the Croatian Society for Medical Informatics, Zagreb, Croatia, 28 – 29 November 2019
- Individual presentations at different meetings focused on decision support topics

#### Relevant Publications:

- Sonicki Z, Fišter K, Kern J, Vuletić S. New EFMI Working Group “Information and Decision Support in Biomedicine and Health Care”. Med.Inform. 2013;11:41-42.
- Deželić G. The beginnings of medical informatics research in the field of medical decision-making in Croatia. Med.Inform. 2013;11:43-44.
- Kern J. Decision Support System – What it is and why we need it? Med.Inform. 2013;11:45-46.

- Somek M, Hercigonja-Szekeres M. Predikcija bolničkih infekcija dubinskom analizom podataka. Med.Inform. 2013;11:47-52. (in Croatian)
- Dobša J, Daraboš N. Usage of decision tree for determination of nail position in tibial intramedullary nailing. Med.Inform. 2013;11:53-54.
- Meštrović T, Sonicki Z, Petrunić M, Premužić-Meštrović I. Operative mortality prediction models in ruptured abdominal aortic aneurysms. Med.Inform. 2013;11:55-56.
- Šimurina T, Sonicki Z, Kern J, Ivanković D. Predictive model of vomiting following gynaecological surgery under general anesthesia. Med.Inform. 2013;11:57-58.
- Šolić K, Kramarić-Ratković K, Antolović Z. Applying Evidential Reasoning Approach in biomedicine – example of the APGAR score. Med.Inform. 2013;11:59-60.
- Šimurina T, Sonicki Z. Predictive model for postoperative vomiting based on CoPlot visualization technique. Eur J Anaesthesiol 2014; 31 Suppl 52: 1AP5-3. Presented at the European Society of Anesthesiologists meeting, ESA 2014 Stockholm, Sweden, May 31-June 3, 2014. Publication 3
- Sonicki Z. Statistical Modelling and Case-Based Reasoning – Method to Capture New Experience. Presented at the One Health Symposium Slavonski Brod, Croatia, 5-7 June 2014.
- Meštrović T. Prediction of Operative Mortality in Vascular Surgery - Using Data Mining Methods. Presented at the One Health Symposium Slavonski Brod, Croatia, 5-7 June 2014.
- Frey L. Big Data Analytics in Clinical Research. In: Jazbec A, Pecina M, Sonicki Z, Šimić D, Vedriš M (eds.) BIOSTAT 2015 - eBook of Abstracts: Croatian Biometric Society; 2015. ([https://bib.irb.hr/datoteka/800157.BIOSTAT\\_2015\\_-\\_BOOK\\_OF\\_ABSTRACTS.pdf](https://bib.irb.hr/datoteka/800157.BIOSTAT_2015_-_BOOK_OF_ABSTRACTS.pdf))
- Sonicki Z, Fišter K, Božikov J, Sović S, Kujindžić Tiljak M, Ivanković D, Kern J, Vuletić S. Approaches for Deriving Decision Support Systems. Med.Inform. 2015;12:13-14.
- Čaklović L, Sonicki Z. Decision Support System in Medicine. Med.Inform. 2015;12:15-16.
- Kurtanjek Ž. Application of Computer Decision Tree Models in Diagnostics. Med.Inform. 2015;12:17-22.
- Čaklović L. Timeline of MEG Sensors Activation. Med.Inform. 2015;12:23-24.
- Stanić Benić M, Sonicki Z. Predictive Mathematical Model – Relationship between Antibiotic Use and Bacterial Resistance. Med.Inform. 2015;12:25-26.
- Somek M, Hercigonja-Szekeres M. Asocijacijska pravila u funkciji oblikovanja nastavnog procesa. Med.Inform. 2015;12:27-32. (in Croatian)
- Šolić K, Galba T, Kralik K, Ilakovac V. Ontology Based Representation of Health Status. Med.Inform. 2015;12:33-34.