



**MedInfo 2021 Scientific Papers,  
Student Papers and Posters  
Preliminary List**

**Information and Knowledge Management Track: Information Standards Theme**

**Topic: Interoperability**

**Papers**

Id 12: Coverage of Clinical Research Data Retrieved from Standardized Structured Medical Information eXchange Storage (M Nakayama, H Feng, R Inoue)

Id 185: Interoperability and Governance; Important Preconditions for Establishing Large-Scale Healthcare Infrastructures like the Akson Program in Norway (GH Severinsen, L Silsand, K Malm-Nicolaisen, R Pedersen)

Id 228: FAIRness for FHIR: Towards Making Health Datasets FAIR using HL7 FHIR (A Martinez-Garcia, G Canglioli, C Chronaki, M Löbe, O Beyan, A JUEHNE, CL Parra Calderón)

Id 283: AHD2FHIR: a Tool for Mapping of Natural Language Annotations to Fast Healthcare Interoperability Resources - A Technical Case Report (R Scheible, D Caliskan, P Firscher, F Thomczyk, S Zabka, H Schneider, M Boeker, S Schulz, U Prokosch, C Gulden)

Id 327: Cross-language Terminology Mapping between ICD-10-CN and SNOMED CT (N Hong, Y Zhang, Y Ren, L Hou, C Wang, J Li, M Van Zandt, L Liu)

Id 348: Data Sharing between Jail and Community Health Systems: Missing Links and Lessons for Re-entry Success (G Glowalla, V Subbian)

**Student Papers**

Id 20: Handling time constraints in Infection Clinical Pathways using openEHR TP (N Iglesias, JM Juarez, M Campos)

Id 183: Harmonization of Measurement Codes for Concept-Oriented Lab Data Retrieval (M Spotnitz, J Patterson, V Huser, C Weng, K Natarajan)

Id 257: How to optimize connexion between PACS and Clinical Data Warehouse : A web service approach based on full metadata integration (P Lemordant, G Bouzille, R Mathieu, R Thenault, B Gibaud, C Garde, B Campillo-Gimenez, D Goudet, S Delarche, Y Rolland, m

Cuggia)

Id 310: FHIR based interoperability of medical devices (S Caçador Monteiro, R João Cruz Correia)

Id 351: OpenEHR implementation guide: Towards standard Low-Code Healthcare systems (S Frade, T Beale, R João Cruz Correia)

### **Poster**

Id 21: Interoperable medical application for CTC counting (VM Cal González, L González-Castro)

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## **Topic: Metadata**

### **Papers**

Id 36: A Multi-omics Common Data Model for Primary Immunodeficiencies (M Buy, W Digan, X Chen, J Husson, M Ménager, F Rieux-Laucat, N Garcelon)

Id 212: Improving Findability of Digital Assets in Research Data Repositories Using the W3C DCAT Vocabulary (M Löbe, H Ulrich, C Beger, T Bender, C Bauer, U Sax, J Ingenerf, A Winter)

Id 217: Can researchers assess the suitability of datasets to answer their research questions, with access to metadata only? (G Tilston, R Williams, E Griffiths, S Al-Adely, S Lawson-Tovey, W Hulme, A Short, J Davies, J Welch, N Peek)

Id 253: TermiCron – Bridging the Gap between FHIR Terminology Servers and Metadata Repositories (J Wiedekopf, H Ulrich, C Drenkhahn, AK Kock-Schoppenhauer, J Ingenerf)

### **Poster**

Id 70: Using SPI-Hub™ to Promote the Key Role of Prepublishing in Healthcare (TY Koonce, MN Blasingame, AM Williams, J Zhao, J Su, MI Epelbaum, JD Clark, HM Naylor, SV Kusnoor, SJ DesAutels, NB Giuse)

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## **Topic: Ontology**

### **Papers**

Id 123: Translating the Observational Medical Outcomes Partnership - Common Data Model (OMOP-CDM) electronic health records to an OWL ontology (JB Lamy, A Mouazer, K Sedki, R Tsopra)

Id 255: An ontology-based semantic model for sharing and reusability of clinical pathways across context (ShaRE-CP) (G Bediang, G Falquet, A Geissbuhler)

### **Student Papers**

Id 209: Design of an ontology-based triage system for painful patients (A Saadi, A Rogier, A Burgun, R Tsopra)

Id 317: Using an ontological representation of chemotherapy toxicities for guiding information extraction and integration from EHRs (A Rogier, A Coulet, B Rance)

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## **Topic: Terminology**

### **Papers**

Id 58: Sequential mapping – a novel approach to map from ICD-10-CM to ICD-11 (J Xu, KW Fung, O Bodenreider)

Id 169: Mapping Korean National Health Insurance Reimbursement Claim Codes for Therapeutic and Surgical Procedures to SNOMED CT to Facilitate Data Reuse (H Kang, HA Park)

Id 200: Comparative Assessment of Completeness of CDISC Controlled Terminology (A Elghafari, J Finkelstein)

Id 211: WHO Family of Classifications - migration to terminology and digital rules (R Jakob)

Id 319: Adding an Attention Layer Improves the Performance of a Neural Network Architecture for Synonymy Prediction in the UMLS Metathesaurus (O Bodenreider, V Nguyen)

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## **Topic: Data Quality**

### **Papers**

Id 118: Identifying and Reconciling Patients' Allergy Information within the Electronic Health Record (S Vallamkonda, C Ortega, YC Lo, S Blackley, L Wang, D Seger, K Blumenthal, J Plasek, F Goss, L Zhou)

Id 248: Design of an Integrated Clinical Research Informatics System for a Multi-Centre and Multi-Visit Prospective Birth Cohort Study (R Sinitkul, R Maude, U Nithirochananont)

Id 293: Availability of Structured Data Elements in Electronic Health Records for Supporting Patient Recruitment in Clinical Trials (A Vass, I Reinecke, M Boeker, U Prokosch, C Gulden)

Id 326: Exploring Determinants of Longevity of Biomedical Databases (J Finkelstein, J Guarino, X Huo, K Borziak, I Parvanova)

### **Student Paper**

Id 329: Knowledge-driven Drug-use NamedEntity Recognition with Distant Supervision (G Bajaj, U Kursuncu, M Gaur, U Lokala, A Hyder, S Parthasarathy, A Sheth)

### **Posters**

Id 116: ODM-DQA-Reporter: A generic approach to assess and monitor basic data quality of medical research data in Operational Data Model (ODM) format (A Sürer, S Riepenhausen, M Storck, L Greulich, C Zeidler, S Ständer, M Dugas)

Id 199: Network Analyses on Hyperlinked Online Resources for Dissemination of Clinical Evidence – Updates of COVID-19 Vaccine Information Over Time and Measuring the Freshness of Information (M Abrams, D Wang)

Id 266: Design of an application for the automatic assessment of the quality of data produced in an African context (Burkina Faso) "Package Data Quality Assessment (PackDQA)" (M Yara, GS Barro, P Staccini)

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## **Topic: Electronic Health Records**

### **Papers**

Id 38: Using Clinical Data Warehouse to optimize the vaccination strategy against COVID-19: a use case in France (J Grosjean, T Pressat-Laffouilhère, M NDangang, JP Leroy, S Darmoni)

Id 71: Towards an Adaptive Clinical Transcription System for In-Situ Transcribing of Patient Encounter Information (W Van Woensel, B Taylor, SSR Abidi)

Id 120: Standardization of Personal Health Records in the Portable Health Clinic System (R Islam, F Yokota, K Kikuchi, M Nishikitani, R Izukura, Y Sato, M Rahman, N Sultana, M Nessa, A Ahmed, N Nakashima)

Id 170: How the Content of Progress Notes Affects Readers' Perceptions of Their Usefulness and the Burden Placed on Writers: Improving Interprofessional Communication (R Kagawa, H Tsurushima)

Id 250: End-User Need Assessment for Developing Electronic Integrated Antenatal Care (e-iANC) (H Markam)

Id 282: Success factors of an early EHR system for child and adolescent mental health: Lessons learned for future practice data-driven decision aid (K Koochakpour, Ø Nytrø, OS Westbye, B Leventhal, R Kopolov, V Bakken, C Clausen, TB Røst, N Skokauskas)

Id 306: Just Talk to me - A Qualitative Study of Patient Satisfaction in Emergency Departments (M Haug, M Dahm, H Gewalt, A Georgiou)

Id 312: Can CPOE based on electronic order sets cause unintended consequences (expensive and unnecessary tests) at the Emergency Department? (E Frutos, AM MUÑOZ, LA ROVEGNO, A Pedretti, C Otero, C Giménez, D Luna, MF Grande Ratti, B Martinez)

Id 333: Mobile application for home healthcare: physician's expectations and perceptions (MB Senillosa, J Saimovici, H Mandirola, D Rabinovich, CS Galvan, O Jáuregui, DA Rizzato Ledo, C Otero, D Luna)

### **Student Papers**

Id 6: Mobile Application Model for Supporting in Wound Treatment (MF Saggioro, G Eler, FC Figueiredo, H Shishido)

Id 53: Design and implementation of Model-driven development for Nursing information system (PY Wen)

Id 186: Implication of Latent Information Quality to the Reproducibility of Secondary Use of Electronic Health Records (S Fu, A Wen, S Pagali, N Zong, J St. Sauver, S Sohn, J Fan, H Liu)

### **Posters**

Id 27: Usability of three graphical user interfaces for drug allergy documentation (K Muylle, K Gentens, S Van Laere, C Hamza, M Grosber, P Cornu)

Id 271: Redesigning an electronic health record in Argentina to improve comprehensive health care and clinical research (LJ Giraldo Franco, V Fink, F Cahn, B Caceres, O Sued, S Duda, C Cesar)

Id 285: Design and development of an Electronic Health Record according to Argentine Gender Identity Law (LJ Giraldo Franco, V Fink, F Cahn, I Aristegui, B Caceres, O Sued, C Cesar)

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## **Topic: Medical Device Integration**

### **Papers**

Id 156: Mobilemicroservices Architecture for Remote Monitoring of Patients: A Feasibility Study (J Ruokolainen)

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## **Topic: Registries and Health Information Exchange**

### **Papers**

Id 165: Data-Sharing Gateway System Design for Large-Scale Medical Information Collection with Distributed EMR Storage (K Tanaka, M MUKAI, R Yamamoto, N MIHARA)

Id 188: "Re-materialized" medical data: Paper-based transmission of structured medical data using QR-Code, for medical imaging reports. (A Lauriot Dit Prevost, R Bentegeac, A Dequesnes, A Billiau, E Baudalet, R Legleye, MA Hubaut, P Puech, R Besson, E Chazard)

### **Student Papers**

Id 323: A System for Structuring, Storage and Georeferenciation of Dengue Vector Surveillance Data (D Conrado, V Santos, A Faria-Campos, J Serufo, S Campos)

Id 328: An Improved Immunization Record to Support Vaccination During the COVID-19 Pandemic at a University Hospital in Argentina (J Descalzo, J Verdinelli, J Nuñez, SV Diaz, ML Gambarte, SA Minoletti, MH Blanco, O Jáuregui, DA Rizzato Lede, C Otero, D Luna)

### **Posters**

Id 31: Use of Digital Health Technology for Seeking Health Information among Older Family Caregivers (D Baik, E Willems)

Id 239: Towards Data Analysis Environment for Multi-Partner Clinical Research Project - SMART-CARE (A Dudchenko, F Ringwald, P Knaup, M Ganzinger)

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## **Topic: Security, Privacy and Consent**

### **Papers**

Id 54: General Data Protection Regulation (GDPR) Toolkit for Digital Health (R Hussein, D Wurhofer, EM Strumegger, A Stainer-Hochgatterer, T Kulnik, R Crutzen, J Niebauer)

Id 124: Information assessment for the implementation of electronic informed consent for genetic studies in a high complexity hospital (J Descalzo, E Frutos, R Rebrij, D Luna, S Benitez)

Id 152: Protecting Privacy of Health Information, a Global Perspective (N Gatchalian, M Kandy, D Sattler)

Id 155: Towards a Toolbox for Privacy-Preserving Computation on Health Data (S Yazijy, R Schölly, P Kellmeyer)

Id 290: Design and implementation of a unique patient identification model in information systems in Burkina Faso (GS Barro, A UGON, NR Nana, P Staccini)

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## **Information and Knowledge Management Track: Computable Knowledge Theme**

### **Topic: Artificial Intelligence**

#### **Papers**

Id 45: Clinical Comparable Corpus Describing the Same Subjects with Different Expressions (Y Nakamura, S Hanaoka, Y Nomura, N Hayashi, O Abe, S Yada, S Wakamiya, E Aramaki)

Id 46: Analysis of Causal Relationships in Integrated Ontologies of Diseases, Phenotypes, and Radiological Diagnosis (C Kahn)

Id 84: The classification of scientific abstracts using text statistical features (T Ishankulov, G Danilov, K Kotik, Y Orlov, M Shifrin, A Potapov)

Id 112: Extending PICO with Observation Normalization for Evidence Computing (A Turfah, H Liu, LA Stewart, T Kang, C Weng)

Id 115: The effect of data augmentation in deep learning approach for peripheral blood leukocyte recognition (H Nozaka)

Id 154: MedSentinel – A Smart Sentinel for Biomedical Online Search Demonstrated by a COVID-19 Search (R Schölly, S Yazijy, P Kellmeyer)

Id 233: Using deep learning to improve phenotyping from clinical reports (M Vincent, M Douillet, I Lerner, A Neuraz, A Burgun, N Garcelon)

Id 238: A Hybrid Method for Scientific Paper Recommendation through Bibliographic Coupling and Text Similarity Measurement (G hongmei)

Id 247: Learning Insurance Benefit Rules from Policy Texts with Small Labeled Data (G Picco, TL Hoang, V Lopez, JS Daly, M Wei, M Sbodio, I Vejsbjerg, S Brady, M Kristiansen)

Id 314: Evaluation of Criteria2Query: Towards Augmented Intelligence for Cohort Identification (C Liu, H Liu, C Ta, J Rogers, A Butler, J Lee, J Kim, N Shang, C Weng)

Id 334: Tana, a Healthcare Chatbot to Help Patients During the COVID-19 Pandemic at a University Hospital in Argentina (DA Rizzato Ledo, D Inda, JM Rosa, Y Zin, N Tentoni, MM Medici, J Castaño, ML Gambarte, GE Lopez, M Merli, C Otero, D Luna)

### **Student Papers**

Id 17: POKR: Building a Computable Heterogeneous Knowledge Resource for Precision Oncology (Y Guo, C Wang, R Moore, H Liu, F Shen)

Id 40: A Novel Personalized Random Forest Algorithm for Clinical Outcome Prediction (A Johnson, G Cooper, S Visweswaran)

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### **Topic: Guideline Implementation**

#### **Papers**

Id: 193: Annotation Guidelines for Medication Errors in Incident Reports: Validation through A Mixed Methods Approach (ZSY Wong, Y Qiao, R Sasano, H Zhang, K Taneda, S Ushiro)

Id 214: CroniCare: Platform for the design and implementation of follow-up, control and self-management interventions for chronic and multimorbidity patients based on mobile technologies (A Moreno-Conde, J Moreno Conde, S Salas, V Gonzalez, A Valido, P Guardia, L Luque, A Reales, M Machuca, E Montblanc, C Garcia, J De la Vega)

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### **Topic: Decision Support**

#### **Papers**

Id 227: Hypergraph based data model for complex health data exploration and its implementation in PREDIMED Clinical Data Warehouse (C Cancé, C Lenne, S Artemova, P Mossuz, A Moreau-Gaudry)

Id 244: Development, implementation and initial results of CDSS recommendations for patients at risk of hereditary breast cancer (A Gaiera, JM Rosa, M Tajerian, Y Zin, M Brunner, L Rubin, M Butti, D Luna, S Benitez, S Menazzi)

Id 263: Estimation and Monitoring of Operating Room Utilization by a Distributed Streaming and Analytics Architecture deployed at Heidelberg University Hospital's Medical Data Integration Center (O Klar, M Klass, G Schneider, H Kennigott, O Heinze)

Id 264: The Technology Landscape of Patient-Centered Clinical Decision Support – Where Are We and What is Needed? (P Dullabh, K Heaney-Huls, L Hovey, S Sandberg, D Lobach, A Boxwala, P Desai, D Sittig)

Id 273: A collective intelligence platform to support older cancer survivors: towards the definition of LifeChamps System and Big Data reference architecture (Z Valero-Ramón, P Louro, L Irio, I Dimitriadis, M Poiitis, T Toliopoulos, P Lagakis, G Petridis, N Papachristou, FJ Núñez-Benjumea, S Hors Fraile, A Billis, P Bamidis, V Traver Salcedo, A Vakali, A Gounaris, JC Naranjo, D Shapiro, S Levva)

### **Student Papers**

Id 28: A hybrid approach for designing dynamic and data-driven clinical pathways point of care instruments in low resource settings (GS Tegenaw, D Amenu, G Ketema, F Verbeke, J Cornelis, B Jansen)

Id 159: Decision-making support in stroke diagnosis process: an approach based on the Promethee method and Decision Model Notation (P Boareto, L Mantovani, J Safanelli, R Liberato, C Moro, C H C Moro, E Loures, E A P Santos)

Id 167: Clinical Usefulness of Drug-Disease Interaction Alerts from a Clinical Decision Support System, MedGuard, for Patient Safety: A Single Center Study (TN Poly, M Islam, J Li)

Id 196: Detecting Drug-Drug Interactions in COVID-19 Patients (E Jeong, A Person, J Stollings, Y Su, L Li, Y Chen)

### **Posters**

Id 23: A comparison of recommendations from a computer-based decision system and tobacco treatment specialists: insights and lessons learned (A Soares, A Khamesipour, J Davis)

Id 313: Exploration of the Decision Model and Notation (DMN) Standard for Representation of Knowledge Bases Encoded in the Arden Syntax (R Jenders)

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## **Topic: Curation**

### **Papers**

Id 113: Interactive Similarity-Based Search of Clinical Trials (Y Sun, J Tang, A Butler, C Liu, Y Fang, C Weng)

Id 166: OpenMRS Analytics Engine: A FHIR Based Approach (A Kimaina, J Dick)

### **Student Paper**

Id 85: A Knowledge Graph of Mechanistic Associations Between COVID-19, Diabetes Mellitus and Chronic Kidney Disease (M Barrett, SSR Abidi, A Daowd, S Abidi)

### **Posters**

Id 10: Qualitative evaluation of a drug terminology server (S Darmoni)

Id 207: Annotating Free-texts in EHRs towards a Reusable and Machine-actionable Health Data Resource (J Wang, L Yang, X Huang, J Li)

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## **Quality, Safety and Outcomes Track: Evaluation Theme**

### **Topic: Methods**

### **Papers**

Id 99: Proposed Patient-Inclusive Methodology for Developing and Validating Patient Experience Surveys (M Izower, Y Quintana)



Id 213: SHACL-based Report Quality Evaluation for Health IT-induced Medication Errors (J Wang, D Keuchel, N Spicher, M Völcker, Y Gong, T Deserno)

Id 288: Modification and Validation of a Maturity Assessment Tool for Public Health Information System implementations in Sri Lanka (J Wijayarathne, R Hewapathirana, V Dissanayake)

Id 295: Remote Usability Testing to Facilitate the Continuation of Research (L Sherwin, J Yevu-Johnson, M Matteson-Kome, M Bechtold, B Reeder)

### **Poster**

Id 83: How to Retain Participants in User-centered Design? Towards Recommendations for Minimizing Dropouts (AJ Fagerlund, BF Smaradottir, E Salvi, A Fredeng, JG Bellika)

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## **Topic: Healthcare Quality and Patient Safety**

### **Papers**

Id 86: Perioperative Care Structures and Non-Routine Events: Network Analysis (Y Chen, MW Alrifai, Y Gong, R Evan, J Slagle, B Malin, D France)

Id 89: Patient Safety Informatics: Meeting the challenges of emerging digital health (C McInerney, J Benn, D Dowding, I Habli, D Jenkins, C McCrorie, N Peek, R Randell, R Williams, O Johnson)

Id 90: Evaluation of telehealth service for COVID-19 outpatients: a dashboard to measure healthcare quality and safety (A Pedretti, S Márquez Fosser, RJ Mercau Cossio, JA Esteban, MDLP Rodriguez, B Martinez, S Frid, D Luna, AMA Iannicelli, F Plazzotta, MF Grande Ratti)

Id 93: Recurrence of hypoglycemia in hospitalized adult patients in non-critical areas: an opportunity to improve patient care using Electronic Health Records (L Llera, MF Grande Ratti, O Jáuregui, C Otero, D Luna, MA Burgos, MP Russo)

Id 145: Impact of COVID-19 pandemic on telehealth and in-person visits: implications from an Emergency Department in Argentina (MF Grande Ratti, S Frid, MDLP Rodriguez, JA POLLAN, LA ROVEGNO, JA Esteban, D Luna, B Martinez, A Pedretti, F Plazzotta)

Id 202: Overriding Drug-Drug Interaction Alerts in Clinical Decision Support Systems: A Scoping Review (V Subbian, L Villa Zapata, RD Boyce, JR Horn, PD Hansten, SM Gephart, AV Romero, DC Malone)

Id 206: Just Talk to me – A Qualitative Study of Patient Satisfaction in Emergency Departments (M Haug, M Dahm, H Gewald, A Georgiou)

Id 339: Implementation and Analysis of an Institution-Wide EHR-Integrated Handoff Note (E Arsoniadis, C Jahansouz, R Khatri-Olson, S Skube, J Marquard, M Kim, T Bjerke, T Kaun, G Melton-Meaux)

Id 341: Testing a Novel Inpatient Respiratory Depression Electronic Clinical Quality Measure (eCQM) for Orthopedic Practice in Two Large U.S. Health Systems (A Syrowatka, T Li, M Curtin-Bowen, A Pullman, SR Lipsitz, M Sainlaire, W Song, T Thai, A Businger, KJ Bozic, WA Jiranek, JR Lieberman, DW Bates, P Dykes)

### **Student Paper**

Id 342: Electronic reporting of workplace violence incidents: Improving the usability, and optimizing healthcare workers' cognitive workload, and performance (M Foster, K Adapa, A Soloway, J Francki, S Stokes, LM Mazur)

### **Posters**

Id 13: Current Status of Contrast Computed Tomography Examination for Diagnosing Acute Pulmonary Thromboembolism (K Shida, S Okumura)

Id 63: Using artificial intelligence for the early detection of micro-progression of pressure injuries in hospitalized patients: a preliminary nursing perspective evaluation (SC WU, YC( Li, HL Chen, ML Ku, YC Yu, PA Nguyen, CW Huang)

Id 222: TECIPOT: Study for the evaluation of new technologies and process engineering applied to the optimization of hospital transfers (C Miguez, A Moreno-Conde, J Moreno Conde, V Gonzalez, S Salas, JM Herrerias)

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## **Topic: Legal, Ethical and Regulatory**

### **Papers**

Id 131: Associations Between Aggregate NLP-extracted Conflicts of Interest and Adverse Events By Drug Product (S Graham, Z Majdik, J Barbour, J Rousseau)

### **Poster**

Id 262: Developing a Pediatric EHR Testing & Certification Program in the USA: Initial Phase (C Thompson, T Margo, F Yu, C Lehmann)

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## **Topic: Safety and Security**

### **Student Paper**

Id 243: Quality Assessment of Meta-analyses on Cervical Cancer (S Milosavljevic, PY Yang, H Kang, P Mullen, Y Gong)

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## **Quality, Safety and Outcomes Track: Quality Improvement Theme**

### **Topic: New Service Delivery Models**

### **Papers**

Id 52: Barriers to seasonal influenza vaccine uptake in a pediatric inpatient healthcare setting after implementation of clinical decision support (S Kandaswamy, E Masterson, R Blanco, P Shah, P Lantis, S Iyer, A Shane, S Jernigan, E Orenstein)

Id 148: Using informatics framework in immunosuppressed or transplanted patients for a preferential care route at the emergency department (C Ungaro, F Binder, D Luna, JA POLLAN, B Martinez, O Jáuregui, MF Grande Ratti)

### **Student Papers**

Id 343: Feature Engineering for Interpretable Machine Learning for Quality Assurance in Radiation Oncology (M Pillai, K Adapa, J Shumway, J Dooley, S Das, LM Mazur)

Id 350: Assessing Patient Satisfaction with Tele dermatology Implementation during the COVID-19 Pandemic (S Khairat, J Hamad, A Fox)

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## **Topic: Measuring Outcomes**

### **Papers**

Id 281: Natural Language Processing to Identify Abnormal Breast, Lung, and Cervical Cancer Screening Test Results from Unstructured Reports to Support Timely Follow-up (C Diamond, J Laurentiev, J Yang, A Wint, K Harris, T Dang, A Mecker, E Carpenter, A Tosteson, A Wright, J Haas, S Atlas, L Zhou)

Id 332: Using Publicly Available Recall and Safety Alert Reports for Learning From Technology-Induced Error (E Borycki, A Kushniruk)

### **Student Papers**

Id 322: Business Intelligence Dashboards for Patient Safety and Quality: A Narrative Literature Review (A Davy, E Borycki)

Id 347: Using Socio-Technical Context to Understand the Role of Informatics in Guideline Implementation: Assessing Risks from Chronic Opioid Therapy in Primary Care (M Mishra, M Pickett, N Weiskopf)

### **Posters**

Id 25: Consideration of usefulness of leakage prevention system for critical diagnostic information transmission (Y Tani, T Hayashi, T Iwata, H Hirokawa)

Id 291: COVID 19 Care Call-in Helpline. A Report from India (N Khan, M Sen, SB Gogia, GS Jaiya, V Garodia, J Maheshwari, A Ramachandran)

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## **Quality, Safety and Outcomes Track: Innovation Theme**

### **Topic: Emerging Technologies**

#### **Papers**

Id 15: Teamwork and Patient Safety in Intensive Care Units: Challenges and Opportunities (Y Chen, Y Gong)

Id 182: Introducing Augmented Reality Technique to enhance the Preparation Circuit of Injectable Chemotherapy Drugs (S ben othman)

Id 189: Digital Methodology for Mobile Clinical Decision Support Development in Long-Term Care (M Gallimore, C Howland, JA Chase, A Grimsley, C Emezue, K Boles, A Anbari, L Sherwin, A Vogelsmeier, L Popejoy, M Rantz, B Reeder)

Id 208: Compiling criteria for assessing essential aspects of home exercise performance: A questionnaire-based approach (B Saalfeld, L Elgert, B Steiner, KH Wolf)

Id 269: Designing A Cloud-based System for Affordable Cyberinfrastructure to Support Software-Based Research (B Anderson, J Cameron, U Jefferson, B Reeder)

Id 308: Bibliometric Analysis of Chatbots in Health- Trend Shifts and Advancements in Artificial Intelligence for Personalized Conversational Agents (M Pears, S Konstantinidis)

Id 330: Telehealth Use in Prenatal Care (C Gao, S Osmundson, B Malin, Y Chen)

### **Student Paper**

Id 316: Use of Robots to Support those Living with Dementia and Their Caregivers (E Wagner, E Borycki, A Kushniruk)

### **Posters**

Id 144: Web-based nursing intervention to promote healthy lifestyle of older adults living with coronary artery disease : Protocol for a mixed method pilot study (A Lavoie, V Dubé)

Id 245: Chinese Medical Students' Acceptance and Use of e-Health Services (J Yao, C Ji, Z Lin, X Jia, X Shen, L Wen, Y Jiang, R Yang)

Id 325: Telehealth Uptake into Primary Care during the COVID-19 Pandemic (C Gao, B Malin, Y Chen)

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## **Topic: Novel Applications**

### **Papers**

Id 43: Can we do better than gesturing? Requirements for a digital communication aid to support non-verbal communication in paediatric emergency care (B Kaufmann, A Haldemann, C Lueg, L Olalia, F Thilo, K Denecke)

Id 338: User-Centered Evaluation of a Visual Annotation Tool for Rapid Assessment of Pediatric Weight Entry Errors (DT Wu, P Van Camp, A Kim, M Parikh, L Liu, M Cecilia Monifa, N Yizhao, A Spooner)

### **Student Paper**

Id 210: A mobile health application to enhance self-management skills of patients with shoulder impingement syndrome during rehabilitation (S Hacke, P Krämer, B Steiner)

### **Posters**

Id 95: Building a Genome Archiving and Communication System integrated into a Health Information Systems (M Brunner, F Jauk, N Candenias, A Cancio, D Luna, S Benitez)

Id 181: Using Facebook™ as a platform for remote patient care to address rehabilitation needs in a resource-limited environment during a crisis (SN Silva, MDAI Karunaratne, JS Jayalath, RD Chaturanga)

Id 274: G-Lens: Using HL7 FHIR International Patient Summary to highlight key information in Medication Leaflets (A Moen, C Chronaki)

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## **Topic: Governance, Change and Adoption**

### **Paper**

Id 187: ISO/IEC-standards on quality and safety of telehealth services and mobile medical apps (W Meijer, A Taylor)

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## **Quality, Safety and Outcomes Track: Patient-facing Technology Theme**

### **Topic: Personal Health Records**

#### **Papers**

Id 275: An online community for patient with psoriasis with built-in self reported questionnaires (G Colussi, D Inda, L Bruchanski, F Binder, B Hernandez, MJ Cura, ML Galimberti, L Mazzuocolo, J Sommer, F Plazzotta, D Luna)

Id 278: Designing an atopic dermatitis community that integrates patient self-uploaded information into the EHR to optimize follow-up (G Colussi, D Inda, Y Zin, S de Matos, M Angles, S Bruey, A Lanteri, L Mazzuocolo, D Luna, F Plazzotta)

Id 331: Telerehabilitation for Patients with Cancer: A Scoping Review (P Rocco, J Finkelstein)

#### **Student Paper**

Id 260: Should app self-management mean self-control? A quantitative study on app supported diabetes self-management (L Reineke, U Hübner, S Niemöller, JD Liebe)

#### **Posters**

Id 132: Identifying implementation strategies to enhance the uptake of OpenNotes in mental health settings: A study protocol (I Kassam, B Lo, K Durocher, N Shen, G Strudwick)

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## **Topic: Fitness trackers**

### **Student Papers**

Id 174: Obstructive sleep apnea home-monitoring using a commercial wearable device (M Mokhtaran, L Sacchi, V Tibollo, I Risi, V Ramella, S Quaglini, F Fanfulla)

Id 203: Using a wearable device and patient reported outcome to evaluate the influence of Sleep on Quality of Life among Breast and Prostate Cancer patients (E Dhar, D Barsasella, S Srikanth, AK Panja, S Malwade, S Syed Abdul)

### **Poster**

Id 75: Informing the product development of an mHealth solution for people with Multiple Sclerosis through Early Health Technology Assessment (G Giunti, J Haverinen, J Reponen)

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## **Topic: Social Media**

### **Paper**

Id 349: Latent linguistic motifs in social media postings resisting COVID-19 misinformation (TKR Singh, S Olivares, S Myneni)

### **Student Papers**

Id 50: To Improve Supportive Care for Patients Taking Oral Anticancer Agents (L He, T Song, Y Jiang, P Yu, L Song, Y Gong)

Id 65: Data Veracity of Patients and Health Consumers Reported Adverse Drug Reactions on Twitter: Key Linguistic Features, Twitter Variables, and Association Rules (T Lyu, A Eidson, J Jun, X Zhou, X Cui, C Liang)

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## **Health Data Science Track: Methods Theme**

### **Topic: Natural Language Processing**

#### **Papers**

Id 96: Title: Representation and Normalization of Complex Interventions for Evidence Computing (Z Chen, H Liu, S Liao, M Bernard, T Kang, LA Stewart, C Weng)

Id 101: Improving Keyword-Based Topic Classification in Cancer Patient Forums with Multilingual Transformers (TM Buonocore, E Parimbelli, L Sacchi, R Bellazzi, L Del Campo, S Quaglini)

Id 119: Does Enrichment of Clinical Texts by Ontology Concepts Increases Classification Accuracy? (K Denecke)

Id 134: Understanding public perceptions of measles from Twitter using multi-task convolutional neural networks (S Wang, J Du, L Tang, C Tao)

Id 143: AUTOMETA: Automatic Meta-Analysis System Employing Natural Language Processing (FW Mutinda, S Yada, S Wakamiya, E Aramaki)

Id 149: A Sample Size Extractor for RCT Reports (F Lin, H Liu, P Moon, C Weng)

Id 163: NLP-Assisted Pipeline for COVID-19 Core Outcome Set Identification Using ClinicalTrials.gov (F Shah-Mohammadi, I Parvanova, J Finkelstein)

Id 305: Text Classification Model Explainability for Keyword Extraction – Towards Keyword-based Summarization of Nursing Care Episodes (A Reunamo, LM Peltonen, R Mustonen, M Saari, Tapio Salakoski, Sanna Salanterä, Hans Moen)

Id 309: Towards Automated Screening of Literature on Artificial Intelligence in Nursing (H Moen, D Alhuwail, J Björne, L Block, S Celin, E Jeon, K Kreiner, J Mitchell, G Ozegovic, CE Ronquillo, L Sequeira, J Tayaben, M Topaz, SPK Veeranki, LM Peltonen)

### **Student Papers**

Id 192: Protected Health Information Recognition of Unstructured Code-Mixed Electronic Health Records in Taiwan (YQ Lee, BH Wang, CH Su, PT Chen, WQ Lin, CS Wu, HJ Dai)

Id 318: Review of the Performance Metrics for Natural Language Systems for Clinical Trials Matching (J Kim, Y Quintana)

### **Posters**

Id 67: Sentiment Analysis of the Covid-19 Vaccines on Social Media (C Melton, O Olusanya, N Ammar, A Shaban-Nejad)

Id 137: t-SNE Visualization of Vector Pairs of Similar and Dissimilar Definition Sentences Created by Word2vec and Doc2vec in Japanese Medical Device Adverse Event Terminology (A Yagahara, M Uesugi, H Yokoi)

Id 179: Bottom-up Natural Language Processing based Evaluation of the Fitness of UMLS as a Semantic Source for a Computer Interpretable Guidelines Ontology (G Despotou, I Korkontzelos, TN Arvanitis)

Id 249: A Natural Language Processing Tool Offering Data Extraction for COVID-19 Related Information (DECOVRI) (P Heider, R Pipaliya, S Meystre)

Id 303: Comparing Multiple Models for Section Header Classification with Feature Evaluation (R Pipaliya, S Meystre, P Heider)

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## **Topic: Deep Learning**

### **Student Papers**

Id 51: Medical Workflow Design and Planning Using Node-RED Data Fusion (L Ewen, S Mohammed, A Kim)

Id 59: Comparison of Supervised and Self-supervised Deep Representations Trained on Histological Images (D Rymarczyk, A Borowa, A Bracha, M Chronowski, W Ozimek, B Zieliński)

Id 104: Augmentation of Electronic Medical Record Data for Deep Learning (G Kennedy, M Dras, B Gallego Luxan)

Id 280: The use of convolutional neural networks in the prediction of invasive ductal carcinoma in histological images of breast cancer (E Assis, Z do Patrocínio, C Nobre)

### **Posters**

Id 111: Towards Better Diagnosis Prediction Using Bidirectional Recurrent Neural Networks (J Lee, C Liu, C Ta, C Weng)

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## **Topic: Data Visualisation**

### **Student Paper**

Id 42: Using Interactive Visual Analytics to Optimize Blood Products Inventory at a Blood Bank (J Rad, JG Quinn, C Cheng, R Liwski, S Abidi, SSR Abidi)

### **Posters**

Id 37: COVID-19 geographical maps and Clinical Data Warehouse PREDIMED (S Artemova, A Caporossi, C Cancé, PE Madiot, B Nemoz, S Larrat, A Moreau-Gaudry, JL Bosson)

Id 91: A Method for Generating Dashboard Aggregations in an International HIV Consortium (J Lewis, E Brazier, B Katz, D Nash, S Duda)

Id 158: Application of business intelligence in decision support to hospital management: An example of outpatient clinic schedule arrangement (PC Hsu, WN Huang, KM Kuo, YT Yeh)

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## **Topic: Simulation**

### **Papers**

Id 60: Validity of lognormal distribution in analyzing laboratory test values to quantitatively evaluate patient's context of disease status (M Shiro, R Kagawa)

Id 284: Accuracies of Training Labels and Machine Learning Models: Experiments on Delirium and Simulated Data (Y Cheng)

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## **Topic: Process Mining**

### **Papers**

Id 49: A qualitative method for learning medical expert reasoning (K Sedki, JB Lamy, R Tsopra)

Id 286: A multi-class approach for the automatic detection of Congestive Heart Failure in windowed ECG (G Rosa, M Russodivito, G Laudato, S Scalabrino, AR Colavita, R Oliveto)

Id 336: Using Data-driven Machine Learning to Predict Unplanned ICU Transfers with Critical Deterioration from Electronic Health Records (L SHI, GP Shaeffer, N Muthu, Y Sun, VM Ruiz Herrera, R Tsui)

### **Student Paper**

Id 315: Predictions of Academic Performance of Children and Adolescents with ADHD using the SHAP Approach (M Balbino, C Jandre, D de Miranda, C Nobre)



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## **Topic: Data Cleansing**

### **Paper**

Id 98: “Book music” representation for temporal data, as a part of the feature extraction process: a novel approach to improve the handling of time-dependent data in secondary use of healthcare structured data. (E Chazard, P Balayé, T Balcaen, M Génin, M Cuggia, G Bouzille, A Lamer)

### **Student Paper**

Id 39: Implementing predictive models within an electronic health record system: lessons from an external validation of a suicide risk model (L Sequeira, D McNair, D Wiljer, G Strudwick, V Deluca, K Kailasam, M Thompson, B Chou, J Strauss)

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## **Health Data Science Track: Applications Theme**

### **Topic: Disease Surveillance**

#### **Papers**

Id 47: Identifying new COVID-19 variants from spike proteins using novelty detection (S Basu, R Campbell)

Id 106: Tracing COVID-19 infection chains within healthcare institutions – Another brick in the wall against SARS-CoV-2 (A Wulff, P Biermann, T von Landesberger, T Baumgartl, C Schmidt, A Yussef Alhaji, K Schick, P Waldstein, Y Zhu, HIC Study Group, D Krefting, S Scheithauer, M Marschollek)

Id 177: Developing a Siamese Network for UTIs Risk Prediction in Immobile Patients Undergoing Stroke (Z Xu, C Zhu, Y Gu, S Zheng, X Sun, J Cao, X Wu, J Li)

Id 191: Automatic Patient Fall Outcome Extraction using Narrative Incident Reports (ZSY Wong, J LIU, Hy So)

Id 223: Phylogenetic Analyses of SARS-CoV-2 Strains Reveal its Link to the Spread of COVID-19 Across the Globe (S Sawmya, A Saha, S Tasnim, N Anjum, M Toufikuzzaman, AHM Rafid, MS Rahman, MS Rahman, T Alam)

#### **Student Papers**

Id 146: Vaccine Rollout and Shift in Public Sentiment: Twitter-based Surveillance Study (U Shah, MR Biswas, KMM Dolaat, M Househ, Z Shah, T Alam)

Id 168: Linking Tweets Towards Geo-localized Policies : COVID-19 Perspective (SSR Jony, R Shahriyar, MS Rahman, MS Rahman, T Alam)

Id 180: Who influences cancer conversations on Twitter?: A Comparative Surveillance of Cancer Communications (N Jain, I Zachary, S Boren)

## Posters

Id 34: A survey on Cases of Serious and High-risk Child Abuse with Trauma Using the Database of Health Insurance Claims (T Iwao, M Sakai)

Id 80: Predicting Readmission Following Hospital Treatment for Patients with Alcohol Related Diagnoses in an Australian Regional Health District (J Zhang, S Qian, G Su, C Deng, P Yu)

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## Topic: Biomedical Imaging and Image Analysis

### Papers

Id 102: Study of 2D Feature Extraction Techniques for Classification of Spinocerebellar ataxia type 12 (SCA12) (S Agrawal, S S Kumaran, A Kumar Srivastava, R Kumar Agrawal, M Kaur Narang)

Id 205: Noninvasive glioma grading with deep learning: a pilot study (G Danilov, V Korolev, M Shifrin, E Ilyushin, N Maloyan, D Saada, T Ishankulov, R Afandiev, A Shevchenko, T Konakova, T Tsukanova, S Shugay, I Pronin, A Potapov)

Id 256: Correlation Between Quality Evaluation Metrics and Teeth Detection Results in Panoramic X-rays using Deep Learning (C L. Giardina, H Legal-Ayala, JL Vázquez Noguera, L Salgueiro, V R. Fretes, D Defazio)

Id 259: Automatic Diagnosis of Diabetic Retinopathy from Fundus Images using Neuro-evolutionary Algorithms (D Aquino-Brítez, J Ayala, JL Vázquez Noguera, M García-Torres, JC Mello Román, PE Gardel-Sotomayor, VE Castillo Benítez, I Castro Matto, DP Pinto-Roa, J Facon, SA Grillo)

### Student Paper

Id 237: The pitfalls of using open data to develop deep learning solutions for COVID-19 detection in chest X-rays (R Harkness, G Hall, A Frangi, N Ravikumar, K Zucker)

### Poster

Id 122: ODIASP: clinically contextualized image analysis using the PREDIMED clinical data warehouse, towards a better diagnosis of sarcopenia (K Charrière, PE Madiot, S Artemova, P Tep, C Lenne, B Cohard, A Caporossi, I Boudry, J Meyzenc, G Ferretti, I Bricault, J Giais, JL Bosson, E Fontaine, C Bétry, A Moreau-Gaudry)

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## Topic: Population Health

### Papers

Id 8: Deep Learning and Explainable Artificial Intelligence to Predict Patients' Choice of Hospital Levels in Urban and Rural Areas (L Chen, JT Sheu, Y Tsao, YJ Chuang)

Id 35: Exploiting Social Media for Active Pharmacovigilance: The PVClinical Social Media Workspace (C Kakalou, S Dimitsaki, V Dimitriadis, P Natsiavas)

Id 88: AuguR: A Scalable Open-Source Interactive Web Application for Routinely Collected Data (K Zucker, M Wagstaff, C Tomson, R Beecham, G Hall)

Id 108: Adoption of digital pain manikins for research data collection: a systematic review (SM Ali, R Lee, A Chiarotto, W Dixon, J McBeth, SN van der Veer)

Id 161: Prediction of Incident Dementia using Patient Temporal Health Status (S Fu, O Ibrahim, Y Wang, M Vassilaki, R Petersen, M Mielke, J St. Sauver, S Sohn)

Id 162: Applying Formal Concept Analysis for the recognition of infant mortality patterns (L Marzano, C Nobre, L Zárata, M Song)

Id 201: Extraction of Medication-Effect Relations in Twitter Data with Neural Embedding and Recurrent Neural Network (K Jiang, D Zhang, G Bernard)

Id 267: Characterizing Infant Mortality using Data Mining: a Case Study in two Brazilian States – Santa Catarina and Amapá (W Soares, M Song, L Zárata, C Nobre)

Id 279: Characteristics of Electronic Informed Consent Platforms for Consenting Patients to Research Studies: A Scoping Review (I Parvanova, J Finkelstein)

Id 297: Using Machine Learning on Imbalanced Guideline Compliance Data to Optimize Multidisciplinary Tumour Board Decision Making for the Management of Breast Cancer Patients (MA LE THIEN, A Redjda, J Bouaud, B Seroussi)

Id 340: Identification of Transportation Barriers in Patient Portal Messages via Deep Semantic Embeddings and Clustering (M Huang, A Khurana, G Mastorakos, J Fan)

### **Student Papers**

Id 150: Patients' and Clinicians' Perspectives on the Acceptability of Completing Digital Quality of Life Questionnaires during Routine Haemodialysis Clinics: a Mixed-Methods Study (R Meiklem, K Stevenson, S Richarz, DB Kingsmore, MM Bouamrane, MD Dunlop, P Thomson)

Id 292: Interpreting the Human Longevity Profile through Triadic Rules – A Case Study Based on the ELSA Longitudinal Study – UK (M Dias Moreira Noronha, C Nobre, M Song, L Zárata)

Id 320: Hierarchical Representation of Complex Intervention Sequences for Automated Subgroup Analysis in Critical Care Settings (A Trivedi, W Ogallo, G Tadesse)

### **Posters**

Id 30: Development of an application for sustainable support of returning residents displaced by the Fukushima nuclear accident (H NAKANO, A GOTO, T OHBA, K YOSHIDA, K NOLLET, M MURAKAMI, T OHIRA, A KUMAGAI, K TANIGAWA)

Id 48: Supporting doctor's decisions based on electronic medical documentation in Polish (W Jaworski, P Biecek, A Dobrakowski, M Marciniak, A Mykowiecka, A Morusiewicz, J Przetacka, Ł Kamiński)

Id 64: Privacy-preserving Partner Notification service to control Sexually Transmitted Infections (C Kakalou, E Polychronidou, V Drosou, V Dimitriadis, T Dermaris, R Kordonias, A Papaprodromou, T Tsirelis, C Maramis, K Votis, D Tzovaras, D Savarino, M Maffeo, N Jasic, T Nemeth Blažić, Z Dominković, D Pogleđić, I Jovovic, A Simkunaite-Zazecke, L Stoniene, A Sammut, L Cosmaro, P Natsiavas)

Id 194: Data Analytics of Electronic Health Records to Enhance Care of Coronary Artery Disease in Younger Women with avoiding Possible Delay in Treatment (M Panahiazar, A Bishara, Y Chern, r alizadehsani, D Hadley, R Beygui)

Id 204: Experiences in using KoBo Collect and KoBo Toolbox in a cross-sectional dog population and rabies knowledge and practices household survey in the Philippines (TJ Dizon, N Saito, MD Reñosa, TA Bravo, C Silvestre, V Endoma, JR Guevarra, B Quiambao, A Nishizono)

Id 229: GeoHealth: Geographic Information System for health management and clinical, epidemiological and translational research (A Moreno-Conde, J Moreno Conde, V Gonzalez, S Salas, C Segura, P Cuadri, V De luque, P Guardia, L Luque, A Vilches)

Id 277: Air pollution and health risk: Intelligent mapping (K Bouharati, i Bouharati, N Boucenna, M Hamdi Cherif)

Id 289: Race and racialization in mental health research and implications for developing and evaluating machine learning models: A rapid review (M Maslej, N Shen, I Kassam, T Rodak, L Sikstrom)

Id 294: Prediction of future health care utilization through note-extracted Psychosocial Factors (D Dorr, T King, A Quinones)

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## **Topic: Precision Medicine**

### **Paper**

Id 94: Automatic integration of clinical and genetic data using cBioPortal (M Brunner, L Mullen, F Jauk, J Oliver, F Cayol, J Minatta, V Herrera, W Pavicic, D Luna, M Risk, H Garcia Rivello, S Benitez)

### **Student Paper**

Id 234: Expanding Access to CNS-TAP: Design, Development, and Initial Use of a Complex Precision Health Specialty Web App for Neuro-Oncology (K Ravi, G Meng, H Roberts, A Schepers, A Franson, C Koschmann, B Marini, A Flynn)

### **Posters**

Id 254: A Comparative Analysis of Phenotypes derived from genes or biomedical literature in COVID-19 (S Steenson, C Hawthorne, G Lopez-Campos)

Id 311: Exploring Molecular Mechanisms within Biomedical Literature (N Glendinning, C Hawthorne, S Beck, G Lopez-Campos)

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## **Human, Organisational and Social Aspects Track: User Experience Theme**

### **Topic: UI/UX Design**

#### **Papers**

Id 100: What You See Is What You Get Computer-Interpretable Guidelines: The Design and Implementation of NoviGuide (E Danziger, M Muhindo, J Bress)

Id 117: Pre- and Post-Redesign Usability Assessment of a Telemedicine Interface Based on Subjective Metrics (J Campbell, H Monkman)

Id 175: Digitally mediated schizophrenia care – a Swedish case of translating, designing and expert evaluation of Dialog+ (B Lindenfalk, A Gremyr, M Lundmark, T Jacobsson)

#### **Student Papers**

Id 87: Design-relevant factors affecting the patient experience in digital health: preliminary results of an umbrella systematic review (T Wang, G Giunti, M Melles, R Goossens)

Id 141: KidneyCloud: a clinically-codesigned solution to support kidney services with assessing patients for transplantation (V Sharma, S Foster, P Whelan, S Antrobus, T Augustine, J Ainsworth, SN van der Veer)

#### **Poster**

Id 109: Design Recommendations for Presenting Clinical Guidelines on Mobile Devices (J Mitchell, E de Quincey, C Pantin, N Mustfa)

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### **Topic: Human-Computer Interaction**

#### **Papers**

Id 19: Improving Parents' Experience in the Pediatric Emergency Waiting Room: Researching the Most Optimal Design for an Information Tool (R Marcilly, M van Heerde, J Schiro, LW Peute)

Id 164: A User-Centered Evaluation of a COVID-19 Intelligent Query System (COVID-IQS) (DT Wu, F Zhou, WC Su, H Vu, P Sahu, B Harnett, TP Chiu, C Vogel, J Lee)

Id: 172: How does users of modern EHR perceive the usability, user resistance and productivity five years or more after implementation? (K Malm-Nicolaisen, AJ Fagerlund, R Pedersen)

Id 218: Towards Reducing Health Information Inequities in the Caribbean: The Eastern Caribbean Health Outcomes Research Network Data Sharing Platform Usability Study (T McCall, S Date, D Alexis, S Whiteman, S Dick, L Marengo, M Campbell Britton, B Tessier-Sherman, C Brandt, K Wang)

Id 335: Mobile Health Applications for Postpartum Depression Management: A Theory-Informed Analysis of Change-Use-Engagement (CUE ) criteria in the Digital Environment (A Zingg, L Carter, D Rogith, S Selvaraj, A Franklin, S Myneni)

### **Student Papers**

Id 55: Parent engagement with a self-tailored cancer prevention digital behavior change intervention: exploratory application of affiliation network analysis (E Becker, S Myneni, R Shegog, K Fujimoto, LS Savas, EL Frost, C Healy, S Spinner, SW Vernon)

Id 231: A Design Thinking Approach to developing a Clinical Decision Support System for Breathlessness in Primary Care (AP Sunjaya, A Martin, C Jenkins)

### **Posters**

Id 72: My Contraceptive Choice: A Decision Support Tool for College Women (M Redman, D Wang, J Brian)

Id 103: The development of a digital tool for planning physical exercise training during cardiac rehabilitation (D Wurhofer, EM Strumegger, R Hussein, A Stainer-Hochgatterer, J Niebauer, T Kulnik)

Id 105: Exploring the Use and Adoption of Wearable Physical Activity Trackers in Oil-Rich Nations: A Qualitative Study of Youth Perspectives from Kuwait (R Altabtabaei, D Alhuwail)

Id 139: A common electronic health record for Norwegian municipalities (G Ellingsen, B Christensen, R Wynn)

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## **Topic: Ergonomics**

### **Student Paper**

Id 337: Predicting objective performance using perceived cognitive workload data in healthcare professionals: A Machine Learning Study (K Adapa, M Pillai, P Mosaly, S Das, LM Mazur)

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## **Topic: Workflow**

### **Papers**

Id 133: Artificial intelligence and clinical decision support systems or automated interpreters: what characteristics are expected by French general practitioners? (S Tabla, M Calafiore, B Legrand, A Descamps, M Rochoy, E Chazard)

Id 300: Medical Scribes Have a Variable Impact on Documentation Workflows (A Rule, M Chiang, M Hribar)

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## **Topic: Patient-Clinician Communication**

### **Papers**

Id 26: Physician Communication Skills in Telemedicine: The Role of Eye Contact (S Helou, E El Helou, J El Helou)

Id 61: Telemedicine use and assessment during the COVID-19 pandemic (G Bezerra, E Studart de Lucena Feitosa, JG Vale Catunda, C Nogueira Sales Graça, P Lucena de Aquino, AG Bezerra Neto, G Bezerra da Silva Junior)

Id 135: Using Informatics to Engage Vulnerable Populations in Research: Lessons Learned from the COVID-19 pandemic (G Demiris, J Chung, A Turner)

### **Posters**

Id 32: Stakeholder mapping on the development of digital health interventions for self-management among patients with chronic obstructive pulmonary disease in China (Q An, M Kelley, PY Yen)

Id 241: Telerehabilitation based on markerless motion capture and IMT-2020 (5G) networks (S Oyama, M Saeki, S Kaneta, S Shimoda, H Yoneda, H Hirata)

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## **Human, Organisational and Social Aspects Track: Health Policy and Ethics Theme**

### **Topic: Citizen Co-Design**

#### **Poster**

Id 242: Co-design Approaches Involving Older Adults in the Development of Electronic Healthcare Tools: A Systematic Review (A Cole, K Adapa, LM Mazur, DR Richardson)

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### **Topic: Consumer Perspectives**

#### **Paper**

Id 246: Policy and Strategy for Interoperability of Digital Health in Europe (A Kouroubali, DG Katehakis)

#### **Poster**

Id 304: Planning for the Future of Digital Mental Health in Canada: Priorities of Canadians Affected by Mental Health Conditions. (N Shen, I Kassam, N Boparai, C Ma, S Cheng, D Jankowicz, G Strudwick)

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### **Topic: Learning Health Systems**

#### **Paper**

Id 128: The Gap Between Technology and Ethics, Especially in Low- and Middle- Income Country Health Information Systems: A Bibliometric Study (J Thomas, R Carlson, M Cawley, Y Quan, V Fleming, F Yu)

#### **Poster**

232: The Future of Medicine is Digital: Developing Educational Materials to Explore the Ethics of Digital Pills (D Gordon, JP Gibson, Y Jacob, I Stavrakakis, D O'Sullivan)

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## **Human, Organisational and Social Aspects Track: Education and Training Theme**

### **Topic: Continuing Professional Development**

#### **Poster**

Id 62: Building Cancer Control Capacity in Health Professionals Through Telementoring: A Survey Study of a Cancer Prevention and Survivorship Care ECHO Program (Z Milgrom, T Severance, C Scanlon, A Carson, A Janota, T Vik, J Duwve, BE Dixon, E Mendonca)

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### **Topic: Formal Education**

#### **Papers**

Id 136: Developing Harmonized Benchmarks for the Master of Science in Health Informatics for the East African Region (M Were, J Nyameino, K Some, M Kuria, A Nangulu, S Kasasa, F da-Costa Vroom, G Wright)

Id 147: Perspective on Code Submission and Automated Evaluation Platforms for University Teaching (F Auer, D Müller, J Frei, F Kramer)

Id 220: Your quest begins now! EBMQuest, a digital interactive fiction module for medical student engagement in evidence-based practice. (A Varan, R McKenzie, K Winkel)

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### **Topic: Health Information Literacy**

#### **Poster**

Id 14: University Students' Ability to Assess Misinformation about COVID-19 (Y Gu, Z Kalibatseva, X Song, S Prakash)

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### **Topic: Serious Gaming**

#### **Student Paper**

Id 77: The BioVisualSpeech serious game with voice exercises for people with Parkinson's disease with hypokinetic dysarthria (T Viana, S Cavaco)

Id 307: Customizable serious speech therapy games with dynamic difficulty adjustment for children with sigmatism (S Martins, S Cavaco)

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### **Topic: Workforce Development**

#### **Papers**

Id 121: Clinical Informatics Professionals' Training Needs and Job Satisfaction in Singapore (D Sivasegaran, R Misra, D Li, YM Tan)

Id 258: Digitally Transforming the United Workforce: Manchester's Journey – from the Masses to the Champions (A Davies, A Davies, H Abdulhussein, I Eleftheriou, L Hassan, P Bromiley, P Couch, C Wasiuk, A Brass)



### **Poster**

Id 151: The eHealth4all@eu Pipeline of Course Development: TIGER Recommendations in Action (U Hübner, K Saranto, P Marques, UM Kinnunen, N Egbert, B Babitsch, D Kalthoff, A Cardoso, P Sousa, J Hüsters, M Padilha, P Mannavaara, T Jokinen, H Mansholt, R J. Cruz-Correia, T Shaw, G Wilson, M Ball)

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## **Global Health Informatics Track: One Health Theme**

### **Topic: Mental and Emotional Well-Being**

#### **Poster**

Id 176: An International Research Collaborative to Examine Global Health Resilience using the MyStrengths+MyHealth Application (R Austin, E Lozada, S Secginli, A Werner, K Monsen, K Martin)

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### **Topic: Disaster Management**

#### **Paper**

Id 346: Unpacking misinfodemic during a global health crisis: a qualitative inquiry of psychosocial characteristics in social media interactions (S Olivares, S Myneni)

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## **Global Health Informatics Track: Public Health Theme**

### **Topic: Healthcare Access and Equity**

#### **Papers**

Id 215: Impact of the automation of inpatient bed management to reduce the emergency service waiting time (F Ajmi)

Id 230: Ontology for Overcrowding Management in Emergency Department (K Fakhfakh Maala, S ben othman, L Jourdan, G Smith, JM RENARD, S Hammadi, H Zgaya Biau)

Id 287: Simplified Community Based Telecare During The COVID-19 Pandemic (M Sen, A Ramachandran, P Chandak, N Khan, SB Gogia)

#### **Student Paper**

Id 197: Ensuring Care Continuity in Extreme Crises: A Participatory Action Research Approach (M Daou, S Helou, J El Helou, C El Hachem, E El Helou)

Id 324: Simple Heuristics for Near-Optimal Appointment Scheduling in Primary Care (P Meckoni, H Balasubramanian)

#### **Posters**

Id 9: Prescribing Trends Psychotropic Drugs Against Children and Adolescents and Association with Polypharmacy Reduction Policy for Psychotropic Drugs: Based on Japanese National Database Survey (J Park, T Okui, N Nakashima)

Id 219: Totally Online Complex Decongestive Therapy (CDT) Initiation for Lymphedema (SB Gogia, AR Gogia, A Ramachandran)

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**Topic: Social Determinants**

**Paper**

Id 265: Using EHR Data to Identify Social Determinants of Health Affecting Disparities in Cancer Survival (W Cui, J Finkelstein)