Audit & Feedback

MetaLab

Driving and Sustaining Improvements in Health Care

International Audit & Feedback Summit 2022

OCTOBER 26-28, 2022
9AM - 12PM ET

VIRTUAL FORMAT

Supported by the
Ottawa Hospital Research Institute

PROGRAM SCHEDULE

October 26, 2022

9:00 - 9:05 am	Welcome and introductions	Jeremy Grimshaw
AUDIT & FEEDBACK REVIEWS		
9:05 - 9:45 am	Updating the Cochrane audit & feedback review - completing a decade long odyssey	Noah Ivers
	Economic evaluation of audit & feedback interventions: A systematic review	Lynne Moore
	Discussion	All
9:45 - 10:00 am	**BREAK**	
WORK IN PROGRESS		
10:00 - 11:00 am	An evaluation of quality improvement collaboratives aligned to a national audit to improve the uptake of insulin pumps for people with diabetes	Michael Sykes
	How can audit and feedback be designed and implemented with a nursing team to support quality improvement? Findings from a pilot study in primary care	Émilie Dufour
	Audit & feedback approaches for supporting a low-cost neonatal and paediatric learning health system in Kenya: Challenges and lessons learnt so far	Timothy Tuti

PROGRAM SCHEDULE

October 26, 2022

10:00 - 11:00 am	Discussion	All
11:00 - 11:15 am	**BREAK**	
SPREAD & SCALE		
11:15 - 11:55 am	Sustainability, spread and scale in trials of audit and feedback interventions: A narrative synthesis sub-study of a systematic review	Celia Laur
	Implementation of a multifaceted audit and feedback intervention to scale and spread bronchiolitis appropriate care in Alberta	Michelle Bailey
11:55 am - 12:00pm	Closing Remarks	Jeremy Grimshaw

PROGRAM SCHEDULE

October 27, 2022

9:00 - 9:05 am	Welcome and introductions	Jeremy Grimshaw
AUDIT & FEEDBACK IN ITALY		
9:05 - 9:45 am	Introduction to EASY-NET	Nera Agabiti
	Audit & feedback design and implementation in emergency care: The experience in the Lazio Region	Carmen Angioletti
	Audit and feedback for improving healthcare for chronic patients in a Primary Care setting: Experience with a group of General Practitioners in Italy	Anna Acampora
	Effectiveness of audit & feedback in improving cancer care quality within a regional oncology network: The ERAS Piemonte studies	Eva Pagano
	Discussion	All
9:45 - 10:00 am	**BREAK**	

PROGRAM SCHEDULE

October 27, 2022

THEORY BUILDING		
10:00 - 11:00 am	Moving from 'what' to 'how': Understanding how physicians engage with audit and feedback	Laura Desveaux
	What are the boundary conditions for audit and feedback?	Eilidh Duncan
	Discussion	All
11:00 - 11:15 am	**BREAK**	
TRAINEE PRESENTATIONS		
11:15 - 11:55 am	Systematic review and narrative synthesis of computerized audit and feedback systems in healthcare	Jung-Yin Tsang
	Feedback in an ambulance service setting: Developing an initial programme theory	Caitlin Wilson
11:55 am - 12:00 pm	Closing Remarks	Jeremy Grimshaw

PROGRAM SCHEDULE

October 28, 2022

9:00 - 9:05 am	Welcome and introductions	Jeremy Grimshaw
AUDIT & FEEDBACK TRIALS		
9:05 - 9:45 am	Effect of audit and feedback on rates of musculoskeletal diagnostic imaging requests by Australian general practitioners: A factorial cluster randomised controlled trial	Denise O'Connor
	Simple feedback in a complex process – is it enough?	Seán MacBride-Stewart
	Discussion	All
9:45 - 10:00 am	**BREAK**	

PROGRAM SCHEDULE

October 28, 2022

AUDIT & FEEDBACK FOR PRIMARY CARE		
10:00 - 11:00 am	**Campaign to Lower AntiMicrobial Prescribing (LAMP) in general practice – an enhanced feedback intervention**	Tasneem Khan
	Automated audit & feedback as a tool to implement antibiotic stewardship in primary care using the Intego database	Jan Verbakel, Bert Vaes, Steve Van den Bulck
	An introduction to the Joint Programming Initiative on Antimicrobial Resistance - Primary Care Antibiotic Audit and Feedback Network (JPIAMR-PAAN)	Kevin Schwartz
11:00 - 11:15 am	**BREAK**	
PANEL DISCUSSION		
11:15 - 11:55 am	Audit and Feedback - Looking back and looking forward	Robbie Foy, Sarah Alderson, David Kaplan, Timothy Tuti,
11:55 am - 12:00 pm	Closing Remarks	Jeremy Grimshaw

PRESENTERS

Dr. Anna Acampora

Anna Acampora is a medical doctor specialized in public health and epidemiology. Her areas of expertise include population health epidemiology and health services research. She is engaged in institutional and scientific activities at the Department of Epidemiology of the Regional Health Service of Lazio (an Italian Region) where is currently collaborating to the project management of the Italian EASY-NET research program that involves seven Italian Regions aiming at evaluating “Effectiveness of Audit & Feedback strategies to improve healthcare practice and equity in various clinical and organizational settings”. In addition to the program coordination, she is directly engaged in the development of a specific Work Package for the Lazio region regarding the application of A&F methodology for improving care for acute myocardial infarction, ischemic stroke, diabetes and COPD.

Dr. Sarah Alderson

Dr. Sarah Alderson is an associate professor in primary care at the University of Leeds and general practitioner. She leads the Campaign to Reduce Opioid Prescribing, a UK regional primary care A&F intervention that was successful in reversing the rising trend of opioid prescribing in the UK. Her research interests include harnessing routine primary care data in interventions to change professional behaviour (typically feedback) and evaluations, and the potential of ‘implementation laboratories’ to advance science and population impact.

PRESENTERS

Carmen Angioletti

Carmen Angioletti is a process analyst at the Department of Clinical Pathways and Outcomes Evaluation of the Gemelli Research Hospital and lecturer in "Healthcare organization and planning" at the Faculty of Economics of the Catholic University of the Sacred Heart, Rome campus. She was part of 'WP6 – Multimorbidity' in the EU Joint Action CHRODIS PLUS (Grant agreement ID: 761307) in the role of project manager for the UCSC pilot site. She is also participating in the Fair4Health (Grant agreement ID: 824666) and ICARE4OLD (Grant agreement ID: 965341) EU projects, funded by Horizon 2020, and in the EASY-NET (Effectiveness of Audit & Feedback strategies to improve healthcare practice and equity in various clinical and organizational settings) network program financed by the Italian Ministry of Health (NET-2016-02364191).

Dr. JA Michelle Bailey

Dr. JA Michelle Bailey practices Pediatric Hospital Medicine as well as providing ambulatory care for children with asthma and as clinic lead for the Tracheoesophageal Fistula/Esophageal Atresia and Congenital Diaphragmatic Hernia clinics at Alberta Children's Hospital. Michelle completed an undergraduate degree at Mount Allison University, an MSc. at McGill and an MD and pediatric residency at U of Calgary. As Quality and Safety Lead in the Section of Hospital Pediatrics her areas of focus are quality improvement and optimizing health care systems with an aim to improve the quality, safety and family centered care of acute and complex children and their families. As part of the MNCY SCN she leads the TRaC-K (Telehealth Rounding and Consultation for Kids) clinical model and research project. In 2020, she joined the Cummings School of Medicine Continuing Medical Education (CME) and Professional Development (PD) and Physician Learning Program (PLP) offices as Assistant Dean, PLP and as Medical Director, Quality and Practice Improvement. In these new roles, Michelle brings her passion for Quality Improvement and optimizing health systems to various PLP and CME/PD projects including the creation of an Alberta Continuing Professional Development (CPD) Network.

PRESENTERS

Dr. Laura Desveaux

Dr. Desveaux is the Scientific Director of the Institute for Better Health at Trillium Health Partners and the Lead for the Learning Health System Portfolio. She is also the founder and Executive Director of Women Who Lead, an organization dedicated to supporting the career advancement and leadership development of women in the health sector. Her career focuses on understanding high performing individuals and teams, with a specific interest in how we can optimize audit and feedback for individual and team differences.

Émilie Dufour

Émilie is a registered nurse from Quebec who has worked in various community settings. She is a doctoral candidate in the Faculty of Nursing at the Université de Montréal. As part of her doctoral research, she developed indicators specific to primary care nursing activities that were used to design and implement team-based audit and feedback interventions that allow nurses to actively participate in quality improvement processes.

Dr. Eilidh Duncan

Dr. Eilidh Duncan is a Research Fellow and Health Psychologist working to produce evidence about what works to improve health care, what doesn't and why. She began working in the Health Services Research Unit at the University of Aberdeen in 2009 and her work has focussed on i) the translation of research evidence into routine clinical practice; ii) the design and evaluation of interventions to change behaviour; and iii) the application of behavioural theory to trial recruitment and retention. She is currently undertaking a THIS (The Healthcare Improvement Studies) Institute postdoctoral fellowship exploring participatory approaches to the design of audit and feedback.

PRESENTERS

Dr. Robbie Foy

Robbie Foy is Professor of Primary Care at the Leeds Institute of Health Sciences and a general practitioner in Leeds. He has led and collaborated in a number of major studies evaluating ways of improving the impact of clinical audit and feedback.

Dr. Noah Ivers

Noah Ivers is a family physician at Women's College Hospital, scientist at Women's College Research Institute, and innovation fellow at the Women's College Institute for Health System Solutions. He is also an Associate Professor in the Department of Family and Community Medicine and at the Institute for Health Policy, Management and Evaluation at the University of Toronto. He holds a Canada Research Chair in the Implementation of Evidence Based Practice. Noah's research focuses on the use of data to drive evidence-based, patient-centred improvements in healthcare. He has conducted multiple pragmatic randomized trials, systematic reviews, and qualitative work on health services and quality improvement interventions.

Dr. David M. Kaplan

Dr. David Kaplan is the Vice President, Quality at Ontario Health (Clinical Institutes and Quality Programs). Previously, he was the Chief, Clinical Quality and Primary Care Quality Lead at Health Quality Ontario.
Dr. Kaplan is an academic family physician at North York General Hospital, where he serves as the Deputy Chair of the Medical Advisory Committee. He is an associate professor in the Department of Family & Community Medicine and Joint Centre for Bioethics at the University of Toronto. He completed his graduate training in Health Policy and Bioethics in the Institute of Health Policy, Management and Evaluation at the University of Toronto. He is a fellow of the College of Family Physicians of Canada.

PRESENTERS

Dr. Tasneem Khan

Tasneem Khan is a newly qualified general practitioner in Bradford, UK. She completed an NIHR Academic Clinical Fellowship at the University of Leeds, focusing on implementation research (in particular audit and feedback). She is currently undertaking the Trailblazer Fellowship, a National Programme to train and support GPs working within areas of social deprivation. She additionally provides clinical support for general practice audit and feedback campaigns run by West Yorkshire Research and Development. Her current research interests include the effect of quality improvement on health inequalities and using audit and feedback to improve antimicrobial stewardship in primary care.

Dr. Celia Laur

Celia, works at the intersection of research and practice. She is Scientific Lead of the Office of Spread and Scale at Women's College Hospital Institute for Health System Solutions and Virtual Care (WIHV), and Assistant Professor (Status) at the University of Toronto, Institute of Health Policy, Management and Evaluation. In these roles she works to advance and apply implementation science, focusing on how to sustain, spread and scale effective interventions.

Dr. Seán MacBride-Stewart

Sean's main area of interest is the safe prescribing of medicines. He is a lead pharmacist in NHS Greater Glasgow and Clyde supporting quality improvement and medicines management activities through the effective analysis of prescription data coupled with the development and implementation of digital tools or solutions for clinical audit and medication review within GP practice. He has also conducted research into the use of prescription data as an improvement tool to improve prescribing quality. He is keen that within the boards in Scotland there is an opportunity to share interesting and innovative ways if using data to drive improvements in the safe and effective use of medicines.

PRESENTERS

Dr. Lynne Moore

Lynne Moore is full professor of epidemiology and biostatistics at the department of social and preventative medicine, Laval University in Québec City. She is recipient of an IRSC new investigator award, holds or shares over 10$m in research grants, and has published 150 peer-reviewed papers over her research career. Her research interests are in developing audit & feedback interventions to improve injury care. She collaborates with the Québec Institute for Healthcare Excellence (INESSS), Health Standards Organization Canada, and the Trauma Association of Canada to implement quality improvement solutions across Canada.

Eva Pagano

Eva Pagano has a degree in Economics and a Master of Science in Epidemiology and is currently working in the Unit of Cancer Epidemiology at the AOU Città della Salute e della Scienza in Torino, Italy. She has been working as clinical epidemiologist with health economic expertise for research projects on: clinical audit in cancer care; analysis and assessment of local policies in cancer care, mainly focused on quality, appropriateness and cost of care; evidence-based clinical practice guidelines elaboration; administrative data analysis for healthcare assessment (performance and outcomes indicators); protocol design, data collection planning and analysis of RCTs and cost-effectiveness evaluations within RCTs; cost analysis within clinical epidemiology studies (observational cohorts); health care costs modelling methods. She has also been collaborating with the Piedmont Region for the development of the Health Technology Assessment activity at regional level and with the hospital EBM group.

PRESENTERS

Dr. Kevin Schwartz

Dr. Kevin Schwartz is the division head for infectious diseases at St. Joseph's Health Centre in Toronto as well as an academic infection control and antimicrobial stewardship physician at Public Health Ontario. He is an assistant professor at the Dalla Lana School of Public Health at the University of Toronto and an adjunct scientist at ICES. His clinical area of interest is adult and pediatric infectious diseases and tropical medicine. His research interests include vaccine preventable diseases and antimicrobial stewardship with a particular focus on improving community antibiotic use to slow the emergence of drug resistant infections.

Michael Sykes

Michael is a nurse with experience of leading improvements across health sectors in NHS England and Scotland. He is currently the Quality Improvement Lead for the English and Welsh National Audit of Diabetes. His NIHR Doctoral Research Fellowship used co-design and multi-methods qualitative work to describe and enhance audit and feedback in hospital dementia care. Subsequent work explored the feasibility of the co-designed intervention to implement the enhancements. He is currently undertaking a multi-site study to translate, and test the feasibility of, the intervention to the Irish National Audit of Dementia. He is the Chief Investigator on a qualitative, co-design study to describe and enhance the use of a performance dashboard for hip and knee surgery. He also co-leads an NIHR grant to investigate the effectiveness of a Quality Improvement Collaborative aligned to the National Diabetes Audit.

PRESENTERS

Dr. Timothy Tuti

Tuti is an Early Career Post-Doctoral Research Fellow at the KEMRI-Wellcome Trust Research Programme. His background is in Computer Science, and he holds an MSc in Social Research Methods and Statistics from University of Manchester, UK. He also holds a PhD in Learning and New Technologies from Oxford University, UK. His doctoral research was exploring effectiveness of smartphone-based adaptive feedback approaches to gamified clinical training in low-income countries.
He has a keen interest and 7+ years of experience in Maternal, Neonatal and Child Health (MNCH), Computational Sociology, as well as Health Data Science research in Kenya. As part of his role, he is the principal investigator for the project evaluating an audit and feedback intervention to reduce gentamicin prescription errors in newborn treatment in neonatal inpatient care in Kenya (ReGENT Study). Additionally, his research work entails development and monitoring of quality-of-care indicators for inpatient paediatric and neonatal care in public Kenyan hospitals as well development, validation, and implementation of clinical prediction models for routine use in clinical settings.

Professor Jan Verbakel

Professor Jan Verbakel's research focuses on the diagnosis of serious diseases and the use of point-of-care devices in primary care, as part of the newly established EPI-Centre, of which he is the co-founder.
He has a strong interest in other conditions, such as chronic kidney disease, gynaecologic cancers and heart failure.
He holds a professorship position since 2017 at the Department of Public Health and Primary Care, KU Leuven, where he is involved in research and teaching. He combines this with a Senior Clinical Researcher-post at the Nuffield Department of Primary Care Health Sciences at the University of Oxford and a part-time appointment in an active GP practice in Leuven as a GP partner and trainer. Professor Verbakel is a member of the Working Group POCT of the Belgian National Commission on Clinical Biology and appointed advisor (expert panel) to the European Commission in the field of in-vitro medical devices.

PRESENTERS

Professor Bert Vaes

Professor Bert Vaes is the supervisor of the INTEGO network. INTEGO is a morbidity registration network of more than 100 general practices spread across Flanders that has developed into a monitoring tool with weekly automated data collections. In addition, with the GP barometer he tries to implement technology for AUDIT and Feedback 'population health management' in general medicine. He has a lot of experience with data management and data analysis. He is the promoter of an FWO project investigating the association between urbanization factors and mental health in Flanders. Furthermore, he is the promoter of the ongoing IMPACT-B study evaluating the implementation of a heart failure disease management program in the Leuven region (Flanders). As a practicing general practitioner (Hoeilaart), he also has a lot of clinical experience and understands very well the barriers and facilitating factors in implementing new technologies and procedures in general practice. He collaborates intensively with Sciensano and the universities of Ghent, Antwerp and Brussels (ULB) on research projects in the field of primary care data, such as the mapping of the 'GP dictionary' to the SNOMED-CT terminology. During the Covid pandemic, he worked as a consultant for VIVEL, the Flemish Institute for Primary Care, and was a member of the federal Vax Strategy Working Group of the Covid Vaccination Task Force. He is a member of the Expertise Group Quality and Training of Domus Medica (the Flemish Association of General Practitioners) and he is a member of the advisory committee of VIKZ (Flemish Institute of Quality of Care). Prof. Vaes is (co)author of more than 100 international scientific articles.

Dr. Steve Van den Bulck

Dr. Steve Van den Bulck qualified as a general practitioner (GP) in 2006 and obtained his PhD in 2021. During his PhD he investigated the automation of Audit & Feedback in primary care. Currently he is working as a postdoc researcher for the Intego database (a large primary care database in Flanders) located at the Catholic University of Leuven. His research interest include the development of quality indicators, the integration of A&F in the electronic health record, population health management and patient centered health technologies.

PRESENTERS

Caitlin Wilson

Caitlin Wilson is a clinical academic paramedic currently in the final year of her PhD at the University of Leeds, United Kingdom. Her PhD is funded by the National Institute for Health Research Yorkshire & Humber Patient Safety Translational Research Centre, and explores how enhancing feedback for ambulance service staff promotes workforce wellbeing and patient safety. Caitlin has recently taken up a role as Senior Research Fellow for Yorkshire Ambulance Service NHS Trust and is also an Associate Editor for the British Paramedic Journal.

Dr. Jung Yin Tsang

Dr. Jung Yin Tsang is a family physician and early career researcher with roles at both the Centre for Health Informatics and the Centre for Primary Care and Health Services Research at the University of Manchester. As an academic general practitioner he has led work with the Royal College of General Practitioners (RCGP) to develop national guidance for medication safety after discharge. Jung Yin's research focuses on harnessing health data to improve the care of patients and reduce inequalities in outcomes. He has led an NIHR research grant exploring the use of electronic audit and feedback to improve medication safety, using mixed methods to implement routine health data in large database research through combing quantitative, qualitative and informatics methodologies.

ABSTRACTS

October 26, 2022

Updating the Cochrane audit & feedback review - Completing a decade long odyssey

Presenter: Noah Ivers

The 2012 Cochrane review has been widely cited and the work led to advances in theory and in networking related to Audit and Feedback. Ten years later, as we approach the completion of an update of that review we observe that the literature has exploded 140 trials to nearly 300. This presentation will summarize the methods of the updated Cochrane review and give a preview to the preliminary findings.

Economic evaluation of audit & feedback interventions: A systematic review

Presenter: Lynne Moore

Background: The effectiveness of Audit & Feedback (A&F) interventions to improve compliance to healthcare guidelines is supported by randomized controlled trials (RCTs) and meta-analyses of RCTs. However, there is currently a knowledge gap on their cost-effectiveness.

Objective: We aimed to assess whether A&F interventions targeting improvements in compliance to recommended care are economically favorable.

Methods: We conducted a systematic review including experimental, observational, and simulation-based economic evaluation studies of A&F interventions targeting healthcare providers. Comparators were a «do nothing» strategy, or any other intervention not involving A&F or involving a subset of A&F intervention components. We searched MEDLINE, CINAHL, CENTRAL, Econlit, EMBASE, Health Technology Assessment Database, MEDLINE, NHS Economic Evaluation Database, ABI/INFORM, Web of Science, ProQuest and websites of healthcare quality associations to December 2021. Outcomes were Incremental Cost-Effectiveness Ratios, Incremental Cost-Utility Ratios, incremental Net Benefit, and incremental Cost-Benefit Ratios. Pairs of reviewers independently selected eligible studies and extracted relevant data. Reporting quality was evaluated using CHEERS. Results were synthesized using permutation matrices for all studies and pre-defined subgroups.

Results: Of 13,221 unique citations, 35 studies met our inclusion criteria. The A&F intervention was dominant (i.e., at least as effective with lower cost) in 7 studies, potentially cost-effective in 26, and was dominated (i.e., the same or less effectiveness and higher costs) in 2 studies. A&F were more likely to be economically favorable in studies based on health outcomes rather than compliance to recommended practice, considering medical costs in addition to intervention costs, published since 2010, and with high reporting quality.

Discussion: Results suggest that A&F interventions may have a high potential to be cost-effective. However, as is common in systematic reviews of economic evaluations, publication bias could have led to an over-estimation of their economic value.

ABSTRACTS

October 26, 2022

An evaluation of quality improvement collaboratives aligned to a national audit to improve the uptake of insulin pumps for people with diabetes

Presenter: Michael Sykes

Background: People with poorly controlled type 1 diabetes are at greater risk of retinopathy, nephropathy, neuropathy, cardiovascular disease, sexual health problems and foot disease [1]. Since 2008, NICE has recommended continuous subcutaneous 'insulin pump' therapy for people with type 1 diabetes whose HbA1c is above 69 mmol/mol [2]. Insulin pump use can improve quality of life [3], cut cardiovascular risk [4] and increase treatment satisfaction [5]. About 90,000 people in England and Wales meet NICE criteria for insulin pumps but do not use one [6]. The National Diabetes Audit (NDA) has identified increasing insulin pump use as a key improvement priority [1]. Progress has been slow and insulin pump use also varies markedly by deprivation, ethnicity, sex and location [1]. Whilst patient preferences are important, much variation is likely to be attributable to staff and local organisational factors [7]. Limited capabilities of healthcare providers to mount effective responses to feedback from national audits, such as the NDA, undermines efforts to improve care [8]. We have worked in partnership with patients and carers, national audits and healthcare providers to co-develop a theoretically and empirically-informed quality improvement collaborative (QIC) to strengthen local responses to feedback. Piloting has demonstrated feasibility, acceptability, appropriateness, scalability and fidelity of delivery, receipt and enactment of target behaviours [9]. The NDA plans to roll out the QIC to all specialist diabetes teams but its effectiveness and value for money are unknown. Aim and objectives: To evaluate a QIC to improve the uptake of insulin pumps following NDA feedback. We will:

- Evaluate the effectiveness of NDA feedback with QIC compared to NDA feedback alone;
- Understand intervention implementation, engagement, fidelity and tailoring of actions;
- Estimate value for money of NDA feedback with QIC.

Research questions: Does a QIC delivered alongside NDA feedback increase insulin pump use, and equality of use, compared to standalone NDA feedback? How do participants engage with, and respond to, the QIC? Is the QIC cost-effective?

Design: Efficient cluster randomised trial with parallel process and economic evaluations using routine NDA data.

Participants: Diabetes specialist teams in England.

Intervention: QIC delivered alongside the NDA, involving virtual coaching sessions, workshops and multisite facilitation, and delivered as part of the new NDA contract.

Control: Standalone NDA feedback.

Outcomes: The proportion of people with poorly controlled type 1 diabetes (HbA1c above 69 mmol/mol) who start and continue insulin pump use during 18 months (primary), with subgroup analyses by ethnicity, sex, age and deprivation; HbA1c levels; first use of insulin pumps (secondary), all via NDA data.

Process evaluation: Theory-informed investigation of diabetes specialist teams' engagement, implementation, fidelity and tailoring.

Economic evaluation: We will micro-cost the QIC, estimate cost-effectiveness of NDA feedback with QIC and estimate the budget impact of NHS-wide QIC roll out.

Timescale: July 2022 to April 2025

ABSTRACTS

October 26, 2022

How can audit and feedback be designed and implemented with a nursing team to support quality improvement? Findings from a pilot study in primary care

Presenter: Émilie Dufour

The effectiveness of audit and feedback has been studied primarily with medical teams. Characteristics related to the organization of care and the role of nurses suggest that they react differently to this type of intervention and that some of its parameters should be adjusted accordingly. The purpose of this quasi-experimental longitudinal study was to assess the feasibility and preliminary effectiveness of an audit and feedback intervention with a primary care nursing team over a 24-month period. Seven wound care nursing-sensitive indicators were measured from clinical administrative data, including self-management support and relational continuity. The indicators were reported to clinicians and local managers in two feedback sessions. Most of these sessions were devoted to discussion of the indicators, leaving little time to develop an action plan. Indicator scores were compared from a total sample of 1605 wound care episodes. Self-management support and initial assessment indicators showed significant improvement at the end of the intervention period. We suggest that audit and feedback is feasible and engages nursing team members but needs to better support action planning at the team level.

Audit & feedback approaches for supporting a low-cost neonatal and paediatric learning health system in Kenya: Challenges and lessons learnt so far

Presenter: Timothy Tuti

The creation of a clinical network underpinned by a robust Audit and Feedback (A&F) mechanism was proposed as a means of promoting implementation and evaluation of a set of recommended clinical practices targeting inpatient neonatal and paediatric care in Kenya in efforts to enhance the quality of hospital care and reduce the high patient mortality. We have previously provided elsewhere the rationale for selecting a network as a strategy. Here, we aim to describe the evolution of the A&F activities embedded within the network conducted over 8 years, reflecting on the differences in context and hypothesised mechanisms underpinning the A&F implementations to explaining under what contexts, for whom, how and why A&F efforts were sustained or not sustained in routine clinical context. We provide our ‘insider’ interpretation of how challenges and learnings from the A&F driven network are shaping current and future A&F interventions in the network.

ABSTRACTS

October 26, 2022

Sustainability, spread and scale in trials of audit and feedback interventions: A narrative synthesis sub-study of a systematic review

Presenter: Celia Laur

Little is known about if or how audit and feedback (A&F) trials discuss sustainability, spread or scale. A sub-review within the Cochrane update for A&F among health professionals will examine A&F interventions published in 2011 and later to explore the number of studies that mention sustainability, spread and/or scale (and related terms). When these terms are mentioned, we will explore how sustainability, spread and scale of interventions are described in A&F RCTs, following the Integrated Sustainability Framework. Data extraction is underway, and we aim to have preliminary results in the next few months.

Implementation of a multifaceted audit and feedback intervention to scale and spread bronchiolitis appropriate care in Alberta

Presenter: Michelle Bailey

Acute viral bronchiolitis is among the most common illnesses seen in the emergency department (ED) and is the leading cause of infant hospitalization in Canada. Successful implementation of an audit and feedback (A&F) intervention at the Alberta Children's Hospital (ACH) suggested that low-value interventions and tests can be improved. Yet, practice variation and potential opportunities to improve bronchiolitis management are likely present in urban and rural settings. This project will spread and scale the work completed at ACH to 16 sites across Alberta focusing on children under the age of one diagnosed with bronchiolitis who are managed both in ED and inpatient settings.

Site implementation includes two key aspects:

1. Audit & Feedback – review practice data, facilitated discussion with clinicians and their teams, and identify enablers and barriers to practice change.

a. The seasonality of bronchiolitis cases (November to April) helped inform the frequency of A&F feedback reports: mid-season (February) and end-of-season (April)

b. Clinical dashboards are being developing within the new clinical information system – ConnectCare - that will provide teams with real-time feedback on potential practice change

2. Site Specific Implementation Plan – Resources are tailored to fit site needs which includes the use of posters, handouts and practice guidelines; utilization of order sets; and staff and family education resources.

Preliminary findings:

Six facilities implemented rollout from September to November 2021 with a total of 151 physicians attending the A&F sessions. Preliminary findings on changes in chest x-rays and medication use (bronchodilators, antibiotics, steroids) from data up to April 30, 2022) will be presented. Facilitators and barriers to practice change and summaries from the A&F sessions will be shared.

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Audit & feedback design and implementation in emergency care: The experience in the Lazio Region

Presenter: Carmen Angioletti

Audit & Feedback (A&F) is often the foundation of multidimensional quality improvement activities but the optimal design is still unknown. As part of the Italian EASY-NET Program (NET-2016-02364191) "Effectiveness of Audit & Feedback strategies to improve healthcare practice and equity in various clinical and organizational settings", the Lazio region develops a comparative evaluation of the effectiveness of different A&F strategies to improve the appropriateness and timeliness of emergency care pathways for acute myocardial infarction (AMI) and ischemic stroke. We report the development and implementation of the mentioned A&F interventions and the identification of obstacles and facilitators. The Lazio research group is experimenting, according to a controlled pre-post intervention study, an A&F strategy including the periodic delivery of feedback reports (six months) and the subsequent organization of audit meetings starting from the delivered results. All the emergency hospitals in the Lazio Region were invited to participate. A central aspect of the strategy is the active involvement of the target. Indicators for feedback were selected involving representative participating hospitals in a two rounds Delphi survey. The way for feedback reporting (graphical representation of data and additional information) was defined through a web-based survey. Additionally, starting from A&F literature, a comprehensive form was developed and disseminated to collect information on Audit conduction and to provide a guide. The control group have public access to a regional web platform that periodically updates the same indicators. At the end of the intervention, a quantitative efficacy analysis will be conducted to compare 2022 (post-intervention period) and 2021 (pre-intervention period) results between intervention and control group by using Difference-In-Differences (DID) models. A total of 18 hospitals have joined the intervention group, respectively 16 for AMI and 13 for the ischemic stroke care pathways. The first feedback was delivered in February 2022.Volume, process (e.g. Proportion of PTCA within 90 minutes) and outcome (e.g. 30-days mortality) indicators have been included. Eleven hospitals for AMI and four for stroke showed high or very high volumes for all indicators, while three hospitals for AMI and four for ischemic stroke showed low or very low volumes. Looking at process and outcome indicators, three hospitals for AMI and two for stroke showed neither critical nor average results, five hospitals for AMI and two for ischemic stroke showed no critical but average results in at least one indicator, five hospitals for AMI and three for ischemic stroke showed at least one critical or very critical indicator. Following the first feedback delivery, five hospitals have communicated that they had organized the audit and returned the form to the research group. All of these involved all the relevant figures, and defined at least one improvement action. At this point, our lessons learned include:

- sharing methods and instruments with the target increases the acceptability of the intervention;
- strong collaboration with the stakeholders keeps the interest high and reduces drop- outs;
- staying informed about audits conducted at hospitals remains an open challenge. We are addressing this obstacle with frequent update communications, calls and emails.

ABSTRACTS

October 27, 2022

Audit and feedback for improving healthcare for chronic patients in a Primary Care setting: Experience with a group of General Practitioners in Italy

Presenter: Anna Acampora

"EASY-NET is an Italian research program (project code NET-2016-02364191) aiming at implementing and comparing different Audit & Feedback strategies for various clinical conditions and settings and in different Italian regional context. Within this program, the Italian Lazio Region (Work Package 1), including the city of Rome, is experimenting an A&F intervention targeting mainly General Practitioners for improving healthcare quality for patients affected by COPD and diabetes mellitus type II, taking into account that A&F is yet little known and rarely implemented in the Primary Care setting, in Italy. According to a pre-post intervention study design, we will compare a “control group” (usual A&F activities with free access to performance indicators routinely published by the Department of Epidemiology of the Lazio Region on a public platform) with ad intervention group (reinforced A&F activities). The ongoing experimental implementation is developed within an education & training course involving GP as “trainees” and health management personnel of the Local Health District (LHD) as “tutors” and “representatives”. Pneumologists, diabetologists and epidemiologists also participate with their own expertise in the field. On the whole, multidisciplinary and multi-professional teams are involved. In broad terms, the intervention is articulated in frontal lectures (Clinical Audit, Feedback, indicators and data sources, updated clinical guidelines), and practical work in small groups (defining criteria, indicators, standards, receiving and interpreting feedback, identifying critical indicators, planning and achieving actions for improvement, re-evaluating the performance). Regarding the feedback, each GP receive individual periodic reports with process and outcome indicators calculated on his/her own COPD or diabetes patients, together with reference values (standard value, group mean value, LHD and Local Health Authority mean value). After receiving the feedback, each GP is invited to verify his/her own practice through the professional practice management software. At this time, we have delivered the first part of the education & training program; GPs received the first feedback report and started with the consultation of clinical data from their practice management software. In October they will have completed both this activity and the definition of improvement actions to be implemented in the subsequent months. Beyond a quantitative comparison of changing in indicators between the control group and the intervention group, we are also conducting qualitative evaluation. We developed and administered a Knowledge, Attitudes and Behaviours (KAB) survey to participating GPs before the start of the intervention and we have planned to repeat it at the end. We are also periodically collecting toughs from all the participants about obstacles, difficulties and facilitators for the implementation of this kind of activities. This is an ongoing work. On behalf of the research group, I am interested to present methodology, preliminary results and lections learned.

ABSTRACTS

October 27, 2022

Effectiveness of audit & feedback in improving cancer care quality within a regional oncology network: The ERAS Piemonte studies

Presenter: Eva Pagano

Background

The Piemonte Region (NW of Italy, 4.3 million residents) is conducting Audit and Feedback (A&F) interventions to assess their effectiveness in improving quality in cancer care. An A&F approach was adopted to promote the systematic implementation of the ERAS (Enhanced Recovery After Surgery) perioperative protocol, in the entire regional hospital network, for colorectal cancer surgery and hysterectomy. These studies are part of the EASY-NET Project (NET - 2016 -02364191).

Methods

Two parallel multicenter cluster randomized stepped wedge trials were conducted for comparing the standard perioperative management and the management according to the ERAS protocol. The primary outcome was the length of hospital stay (LOS). The impact of the A&F intervention on clinical practice was measured as the adherence to ERAS items, monitored through a dedicated area in the study web site.

Results

The study included 32 surgical units and 25 gynecology units during the period September 2019 – May 2021. Enrolled patients were 3246 for colorectal cancer and 2060 for hysterectomy. With respect to a baseline adherence to ERAS items of 52% in surgical units and 57.5% in gynecology, we estimated an absolute increase of 15.5% (IC95% 12.8-16.3) and 13.8% (IC95% 12.1-15.5), respectively. Estimated LOS difference between the two study periods was -0.50 days for colorectal cancer (IC95% -0.99; 0.01) and -0.11 days (IC95% -0.30; 0.09) for hysterectomy. Both adherence to ERAS items and reduction of LOS showed a clear trend of improvement over time. A strong association was found between increased adherence to the ERAS items and several clinical outcomes (reduction of LOS and complications), but a direct causal interpretation is uncertain.

Conclusions

ERAS implementation, supported by an A&F approach, was highly effective in improving adherence to ERAS items in most of the centers. These effects had a weaker impact on clinical outcomes. Results suggest that implementing complex innovative procedures and obtaining meaningful improvements in clinical outcomes require a longer time and prolonged monitoring. This is a positive experience of involvement of an entire regional hospital network, with positive results in terms of quality of care improvement obtained despite the disruptive impact of COVID-19 pandemia on hospitals.

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October 27, 2022

Moving from 'what' to 'how': Understanding how physicians engage with audit and feedback

Presenter: Laura Desveaux

This session will build on our understanding of the WHAT of A&F best practices (i.e., the nature of the desired action and feedback design and display) to understand how physicians are currently interacting with practice-level audit and feedback in Ontario. These insights provide the foundational context for HOW we deliver A&F interventions by understanding barriers to feedback use and exploring potential active ingredients of social interaction that lead to practice change.

Boundary conditions for audit and feedback

Presenter: Eilidh Duncan

Like other quality improvement interventions, there is the potential for harms and unintended consequences from delivering audit and feedback. Establishing the limits of its use is an important step in ensuring that audit and feedback leads to more benefits than harms. There are existing best practices recommendations and theoretical propositions for optimising the effectiveness of audit and feedback interventions. However, there is uncertainty over which contexts and circumstances audit and feedback should not be started at all or where it should be discontinued. This talk will explore this topic and consider whether we can establish consensus on the boundary conditions to the use of audit and feedback.

Systematic review and narrative synthesis of computerized audit and feedback systems in healthcare

Presenter: Jung-Yin Tsang

A&F is increasingly being delivered through electronic or computerized systems often known as “dashboards”, carrying greater potential and flexibility through visualization, automation and personalisation. This talk will summarize the findings from the largest review of studies focusing on computerized A&F systems to date. It presents a more nuanced understanding of generic A&F best practices that are particularly applicable to computerized interventions. It also outlines some lessons through the application of our empirical work on developing the clinical performance feedback intervention theory (CP-FIT).

ABSTRACTS

October 27, 2022

Feedback in an ambulance service setting: Developing an initial programme theory

Presenter: Caitlin Wilson

Background: Evidence exists for the effectiveness of audit and feedback in changing professional behaviour and improving clinical performance across a range of healthcare settings, but this has not yet been explored within the prehospital context (Ivers et al., 2012). The prehospital setting is characterised by complexity, uncertainty and extreme stressors, impacting upon the use of guidelines and requiring emergency medical service (EMS) personnel to improvise and adapt their decision making. Prehospital feedback might therefore benefit from interventions that go beyond aggregated protocol adherence data, however programme theory exploring potential feedback types, mechanisms and effects has not been established in the prehospital setting.

Methods: Drawing upon research in implementation science and organisational psychology, we present a synthesis of findings from multiple PhD studies supporting initial programme theory for this area. Study 1 comprised a systematic review with meta-analysis and narrative synthesis and Study 2 qualitative interviews with EMS personnel. Study 3 (Realist evaluation of current practice) consists of a national cross-sectional survey to identify active and historic feedback initiatives in UK ambulance services, followed by 4 in-depth case studies of these initiatives. Study 4 (Mixed-methods diary study) aims to advance our knowledge of the mechanisms and moderators of prehospital feedback.

Results: Our systematic review (Study 1) found that prehospital feedback types (including: audit & feedback, patient outcome feedback, peer-to-peer feedback, post-event debriefing and incident-prompted feedback) had a moderate positive effect on quality of patient care and professional development (d=0.54 [95% CI 0.38, 0.69]. Analysis of qualitative interviews (Study 2) facilitated development of a typology and logic model for prehospital feedback, which along with the feedback types from the review informed our development of programme theory for the realist evaluation. The initial programme theory therefore represents a synthesis of EMS personnel's perspectives, existing research evidence and theoretical propositions drawn from a range of theories, including: Clinical Performance Feedback Intervention Theory (CP-FIT) (Brown et al., 2019), the Theoretical Domains Framework (TDF) (Michie et al., 2005), the Implementation Outcomes Evaluation Framework (Proctor et al., 2011) and feedback-seeking behaviour theory (Anseel et al., 2007, 2015).The initial programme theory developed for the realist evaluation (Study 3) is depicted visually in Figure 1.

Conclusions: Our findings suggest that prehospital feedback interventions can improve patient care and professional development. Viewed in the context of prior work in the audit and feedback literature, prehospital feedback is still in its infancy and future research should draw upon existing theory to support more sophisticated prehospital feedback designs as well as tailoring any established intervention models to the unique challenges of this service setting and its staff. We have demonstrated that theories from implementation science and behaviour change can usefully be applied to support intervention design elements and identify propositions for context-mechanism-outcome interactions. EMS professionals have a strong desire for increased feedback and our programme theory will usefully inform future research and development into prehospital feedback.

ABSTRACTS

October 28, 2022

Effect of audit and feedback on rates of musculoskeletal diagnostic imaging requests by Australian general practitioners: A factorial cluster randomised controlled trial

Presenter: Denise O'Connor

A factorial cluster randomised controlled trial involving 3,819 high-requesting GPs from 2,271 general practices across Australia. Practices with at least one high-requesting GP were randomised to either no intervention control or individualised written audit and feedback. Potential effect modifiers evaluated in the trial were (a) frequency of feedback (one vs. two occasions) and (b) enhanced visual display (yes/no). The trial was performed from 2019 to 2021.

Simple feedback in a complex process – is it enough?

Presenter: Seán MacBride-Stewart

Potentially inappropriate prescribing (PIP) of asthma bronchodilator inhalers is associated with increased morbidity and mortality. In this presentation we will discuss current ongoing research including a published study to evaluate the effectiveness of feedback on the PIP of bronchodilator inhalers using a pragmatic cluster randomised trial. In this trial, 235 of 244 (96.3%) of GP practices in one Scottish health board were randomly allocated to individualised feedback (including visualised medication histories for each patient and action-oriented messages) on PIP of bronchodilator inhalers from prescription data while controls were sent feedback on an unrelated subject. The primary outcome was the change in the mean number of patients per practice with PIP of bronchodilator inhalers from the baseline period until the post-feedback period, identified through a composite of five individual measures using prescription data. Post-feedback period, the mean number of patients with PIP of bronchodilator inhalers fell in the 118 practices that were sent feedback from 21.8 per practice to 17.7 per practice. Numbers fell marginally in the 115 control practices, from 20.5 per practice to 20.2 per practice, with a statistically significant difference between the two groups. There were 3.7 fewer patients per practice with PIP of bronchodilator inhalers in the intervention practices versus the control practices (95% confidence interval = −5.3 to −2.0). Individualised feedback of PIP of asthma bronchodilators that included background information, visualised medication histories for each patient, and action-oriented messages was effective at reducing the number of patients exposed to excess or unsafe prescribing of bronchodilator inhalers.

ABSTRACTS

October 28, 2022

Campaign to Lower AntiMicrobial Prescribing (LAMP) in general practice – an enhanced feedback intervention

Presenter: Tasneem Khan

BACKGROUND

Antimicrobial resistance (AMR) is a global emergency; a continued rise in AMR means that over the next 35 years 300 million people worldwide could be expected to die prematurely due to drug resistance (1,2). The largest proportion of antibiotics in the UK are prescribed in primary care, with considerable variation in prescribing and divergence from recommended guidelines (3). We evaluated the impact of an enhanced feedback intervention on antibiotic prescribing in primary care.

METHODS

Lowering AntiMicrobial Prescribing (LAMP) is an ongoing campaign set up in 2019 across 307 GP practices in West Yorkshire and Humber. All practices receive bimonthly, individualised evidence-based feedback reports monitoring antibiotic prescribing indicators. Anonymised, aggregated data is extracted from the electronic health systems. Feedback includes antibiotic prescribing rates compared against other practices within the region, as well as evidence updates and suggested action plans.

FINDINGS

There was no change in overall antibiotic prescribing after one year. Individual indicators for respiratory tract infections (RTIs) and patients aged 70+ prescribed trimethoprim for urinary tract infections (UTIs) fell by 4.4% and 11.6% respectively. Overall antibiotic prescribing fell by 24.1% in the second year with greater reductions in individual indicators: by 82.1% for RTIs and 28.8% for UTI repeat prescriptions. Data from the third year of LAMP will be available for presentation in July 2022.

DISCUSSION

We observed a reduction in several antibiotic prescribing indicators. Year 2 findings must be interpreted in the context of the Covid-19 pandemic and its effect on consulting and prescribing behaviours. What appears to be a reduction in antibiotic prescribing is confounded by a reduction in the overall number of consultations. Conversely, the threshold for antibiotic prescribing may be lower when consulting remotely (4). Our experience highlights the value of rigorous controlled studies in assessing the impact of feedback.

Feedback is a relatively low-cost and scalable intervention to tackle AMR, and evidence supports its use in improving professional practice (5). Drawing upon theory to deliver evidence-based A&F has shown to improve its effectiveness (6), yet the limitations imposed by the pandemic on A&F delivery are yet to be evaluated.

LAMP encourages reflection on antibiotic prescribing, with a reminder that antimicrobial stewardship remains a national priority. There is an opportunity to capitalise on the reduction in prescribing seen during the pandemic.

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October 28, 2022

Automated audit & feedback as a tool to implement antibiotic stewardship in primary care using the Intego database

Presenters: Jan Verbakel, Bert Vaes, Steve Van den Bulck

In Flemish (Belgian) primary care, the electronic health record (EHR) is an important instrument to support the quality of care. Built-in (automated) A&F interventions could support GPs in managing their population at the individual and practice level. Intego is a large primary care registry that routinely collects data from more than 400 GPs, which can be used as a testing ground to develop and investigate different A&F interventions.

To illustrate this, methods to develop and implement an automated A&F intervention to encourage antibiotic stewardship in Belgian primary care will be described. Quality indicators that can be extracted directly from the GP's EHR lay the groundwork for the automated audit and different elements of feedback will be provided.

An introduction to the Joint Programming Initiative on Antimicrobial Resistance - Primary Care Antibiotic Audit and Feedback Network (JPIAMR-PAAN)

Presenter: Kevin Schwartz

Antibiotic audit and feedback has been trialed with varying success in the primary care sector. The JPIAMR Primary Care Antibiotic Audit and feedback Network (PAAN) was assembled including over 30 experts from 11 countries with expertise in antimicrobial stewardship, primary care, and implementation science with the overarching goal of optimizing audit and feedback in this sector. The JPIAMR-PAAN objectives are to conduct a systematic review and meta-analysis, publish best practice recommendations, and identify research priorities to continue to advance this field forward. This presentation will provide an overview of the network and its preliminary accomplishments.

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Panel Session: Audit and Feedback - Looking back and looking forward

Chair: Robbie Foy

Panel: Sarah Alderson, David Kaplan, Timothy Tuti

For this panel session, the audience will provide responses to the following questions:

- For researchers: What is the main research breakthrough in A&F in the last 10 years that we want to share with audit users and providers?
- For audit providers, users and policy makers: What do you most want to know from research within the next 10 years?

The panel presenters will discuss their thoughts about the questions and the answers provided.