Choosing Wisely Canada's

National Meeting

Abstract Book

Choisir avec soin présente le

Congrès annuel

Cahier des resumés

In collaboration with:

Choosing Wisely Canada™

Association médicale canadienne

Canadian Medical Association

CHAIR'S FOREWORD

Dear Choosing Wisely Canada attendees,

Welcome to Choosing Wisely Canada's seventh annual National Meeting. While we find ourselves joining once again virtually and physically apart, our meeting continues to be a celebration and acknowledgement of the Choosing Wisely community's incredible achievements.

This has been a productive year for Choosing Wisely Canada. We have recently refined and expanded our national program offerings to tackle longstanding overuse issues that strain our already stretched systems. We have deepened our efforts to address overuse issues at the sector level—developing programs and tools for hospital, primary, and long-term care settings.

It has also been a year of reflection. In the spirit of continuous improvement, Choosing Wisely Canada has embarked on developing a new strategic plan. Central to our future endeavours is the recognition that overuse is a product of both individual choices and system-level processes that nudge people toward doing more than what is necessary. To make a measurable and lasting impact, we need the contributions of multiple stakeholders, from clinicians and patients to administrators, policymakers and members of the public. Over the next year, we look forward to working with you, our community, to shape Choosing Wisely Canada's strategic directions.

As we come together for this year's National Meeting, I am once again in awe of the unparalleled leadership from the Choosing Wisely community across Canada. Despite all of the uncertainty and immense strains of the pandemic, you've continued to undertake inspiring work in the pursuit of delivering high-quality care. These efforts are captured in this abstract book, which I invite you to explore.

I continue to appreciate your ongoing dedication to Choosing Wisely Canada and look forward to seeing you virtually at the National Meeting.

Yours,

Wendy Levinson, MD OC
Chair, Choosing Wisely Canada & International
Professor of Medicine, University of Toronto

MESSAGE DE LA PRÉSIDENTE

À tous les membres de la communauté Choisir avec soin,

Bienvenue au septième congrès national annuel de Choisir avec soin. Même si l'événement a lieu une fois de plus en mode virtuel et que nous ne pourrons pas être ensemble physiquement, ce congrès demeure une excellente occasion de célébrer et de reconnaître les formidables réalisations de la communauté Choisir avec soin.

Nous avons connu une année productive. Nous avons récemment amélioré et élargi notre programme national pour nous attaquer aux problèmes de surutilisation, qui exercent depuis fort longtemps une pression sur nos systèmes de santé déjà mis à rude épreuve. Nous avons accentué nos efforts pour résoudre ces problèmes dans l'ensemble du secteur, en développant des programmes et des outils pour les milieux hospitaliers, les services de soins primaires et les établissements de soins de longue durée.

Ce fut également une année de réflexion. Dans une optique d'amélioration continue, Choisir avec soin a entrepris l'élaboration d'un nouveau plan stratégique. Pour nos projets, il faut désormais reconnaître que la surutilisation est le résultat à la fois de choix individuels et de mécanismes systémiques qui poussent les gens à aller au-delà de ce qui est nécessaire. Pour obtenir des résultats mesurables et durables, nous avons besoin de la collaboration de nombreuses parties prenantes, des professionnels et professionnelles de la santé et de leur patientèle jusqu'aux personnes chargées de l'administration, en passant par celles qui décident des politiques et les membres du public. Nous sommes impatients de travailler avec vous, membres de notre communauté, pour définir au cours de la prochaine année les orientations stratégiques de Choisir avec soin.

Alors que nous nous rassemblons pour le congrès national de cette année, je suis encore une fois impressionnée par le leadership sans pareil de la communauté Choisir avec soin partout au Canada. Malgré toute l'incertitude et les énormes pressions attribuables à la pandémie, vous avez continué d'entreprendre des initiatives inspirantes dans le but d'offrir des soins de qualité. Ces initiatives sont compilées dans notre recueil de résumés, que je vous invite à explorer.

Je vous remercie de votre dévouement indéfectible envers Choisir avec soin et j'ai hâte de vous voir virtuellement lors du congrès national.

Cordialement,

Wendy Levinson, M.D., O.C.
Présidente, Choisir avec soin, Canada et international
Professeure de médecine, Université de Toronto

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PRE-OPERATIVE TESTING IN ALBERTA: IDENTIFYING FACTORS THAT INFLUENCE TESTING IN LOW-RISK PROCEDURES USING THE THEORETICAL DOMAINS FRAMEWORK

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Andrea M. Patey, Ottawa Hospital Research Institute
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Shawn Dowling, University of Calgary
Jeremy M. Grimshaw, Ottawa Hospital Research Institute, on behalf of the De-Implementing Wisely Research Group

Background:

Despite Choosing Wisely Canada recommendations, low-value pre-operative tests such as chest x-ray and electrocardiographs (ECGs) are often ordered for low-risk patients undergoing low-risk surgeries. The Theoretical Domains Framework (TDF) allows for the identification of theory-informed factors that influence behaviour.

Goal:

To identify the factors influencing current pre-operative testing practices in Alberta using the TDF. Method Sixteen clinicians (seven anesthesiologists, four internists, one nurse, and four surgeons) throughout Alberta were interviewed using semi-structured interviewed based on the TDF. Two researchers independently coded interviews into the TDF domains, and key themes within the domains were identified.

Impact:

The TDF based interviews identified factors influencing current pre-operative testing practices. These findings will inform the design, development, and evaluation of theory-informed interventions to reduce unnecessary testing.

Challenges:

Difficulty engaging clinicians from rural areas limits our understanding of their perspectives and factors influencing test-ordering in those contexts. We also identified vastly different pre-operative processes across Alberta.

Lessons Learned:

Themes indicate that clinicians understand that some pre-operative tests are unnecessary for low-risk patients and would not change patient outcomes (Knowledge), yet they are still ordered to prevent surgery cancellations or possible negative outcomes (Beliefs about consequences). Additional themes included disagreement over which specialty should be responsible for ordering tests (Social-professional role & Identity), difficulty cancelling tests ordered by other clinicians (Beliefs about capabilities, Social influences), and ease of, and automatic test ordering by the system/protocol, nurse history, or by the surgeon, and completed before the pre-operative appointment (Beliefs about capabilities, Environmental context and resources).

CAEP CHOOSING WISELY CANADA RECOMMENDATION REVIEW: CT HEAD IMAGING FOR MINOR HEAD INJURY

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Lucas B. Chartier, University of Toronto
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Background:

In summer 2021, the Canadian Association of Emergency Physicians (CAEP) – Choosing Wisely Canada (CWC) working group began an initiative to review the CAEP-CWC list of Ten Things Physicians and Patients Should Question, starting with item # 1: "Don't order CT head scans in adults and children who have suffered minor head injuries.

Goal:

The goal of this updated review was to explore the available evidence for this recommendation.

Methods and Activities:

The working group screened articles from PubMed, Scopus, EMBASE and Cochrane Library from January 01, 2017, to December 31, 2021. Inclusion criteria were 1) minor head injury, and 2) application of a clinical decision rule (CDR) for CT head on primary assessment. Non-English texts were excluded. Included articles were narratively appraised with full-text screening. Four articles were appraised. One article discusses a novel CDR, CTHEAD, which has a negative predictive value of 95.1% without external validation. One article proposed the use of the CATCH2 CDR without external validation.

Impact:

The CAEP-CWC working group supports the CAEP-CWC Recommendation 1: "Don't order CT head scans in adults and children who have suffered minor head injuries". This updated review noted that strong evidence continues for CT head imaging for patients with minor head injury only for those who fulfill criteria for a validated head injury CDR, such as PECARN and the Canadian CT Head Rule. New evidence demonstrates promise for the CTHEAD and CATCH2 CDRs, though external validation is required.

UNDERSTANDING MEDICATION UTILIZATION AND TREATMENT PATTERNS OF PATIENTS WITH INSOMNIA IN CANADA

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Background:

Insomnia can negatively affect quality of life, increase risks for comorbidities, and incur economic burden. Safety concerns exist regarding the long-term use of insomnia medications and concurrent use of insomnia medications with opioids. This study aims to understand real-world medical utilization, inappropriate medication usage and treatment patterns among insomnia patients in Canada.

Methods:

This Canadian retrospective study utilized patient-level longitudinal claims data from IQVIA Private Drug Plan and Ontario Drug Benefit databases. Four types of inappropriate medication usage were defined: extended duration of benzodiazepine (BZD) and nonbenzodiazepine (Z-drug) prescribing, higher daily doses than prescribing guidelines, overlap of BZD/Z-drugs with opioids, and combination use of insomnia medications. These four categories were reported separately for 2018, 2019 and 2020. A line-of-therapy analysis was conducted to examine treatment patterns. Insomnia patients with insomnia medication prescribed during January 2020 – June 2021 were selected and full treatment history was analyzed.

Results:

In 2019, 597,222 patients met criteria; 63.6% were female and average age was 55. 56.4% of patients had inappropriate medication usage. The annual cost of insomnia medications among included patients was $54.8 million; 54.9% was due to inappropriate medication usage. Data from other years were similar. A total of 240,820 insomnia patients were selected in the lines-of-therapy analysis with an average of 6.4 lines of insomnia treatments; 6.2% of patients received more than 20 lines.

Conclusion:

There is a large burden of inappropriate usage with insomnia medications in Canada, and a clear unmet need for more education, and safer insomnia treatment options.

HEALTH QUALITY COUNCIL OF ALBERTA: PRIMARY HEALTHCARE PANEL REPORTS

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Introduction:

The Health Quality Council of Alberta (HQCA) produces primary healthcare panel reports for primary care physicians. These reports provide information on key measures that can help physicians evaluate their practice.

Methods:

Several administrative data sources are used to assign patients to physicians using the HQCA proxy algorithm and/or to create the measures within the report. The report contains over 24 measures and also has interactive functionality which allows physicians to answer questions about their practice that interest them.

Goal:

The goal of producing these reports is to put information in the hands of physicians so that they can quickly look at key measures about their practice to identify quality improvement opportunities, compare themselves to PCN and AHS zone averages, understand how patients in their panel are utilizing services outside their clinic, and identify gaps in screening and key preventive interventions. Several measures within the report reflect choosing wisely recommendations with the goal of spreading knowledge and sustaining implementation of the included recommendations. Measures included in the report that support Choosing Wisely recommendations are antipsychotic use in older adults, antibiotics for acute sinusitis, cervical cancer screening, and others.

Impact:

By giving physicians personalized data about their practice in combination with context for why the measures are important, the HQCA makes it easy for physicians to identify quality improvement opportunities while learning about system priorities. The combination of data and context allows physicians to identify successes and opportunities for improvement, therefore blending quality improvement, measurement and evaluation, and medical education.

UTILIZATION OF ANTIBIOTICS IN THE COMMUNITY IN NEWFOUNDLAND AND LABRADOR

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Krista Mahoney, Choosing Wisely NL

Background:

Each November, Choosing Wisely NL hosts an Antibiotic Awareness Week (ABAW). Multiple media outlets are used to reach out to promote antibiotic awareness in Newfoundland and Labrador. Our research aims to evaluate the effectiveness of antibiotic awareness campaigns in the province of NL.

Methods:

De-identified oral antibiotic prescription data from 2017 - 2019 was obtained through the Newfoundland and Labrador Centre of Health information and Analytics via the Pharmacy Network.

The percentage change in the number of dispensed antibiotic prescriptions compared to before and after the specified dates pre- and post-ABAW were analyzed. Statistical tests were one-tailed with a p-value of <0.05 considered significant.

Results:

The mean percent change was calculated from the seven days and 28-days before versus after ABAW from both years. The seven-day data showed a mean 6.82% (CI 95% -169.20 to 155.56; $p = 0.688$) increase in antibiotics dispensed after ABAW, while the 28-day data demonstrated a mean of 4.99% (CI 95% -97.93 to 87.96; $p = 0.619$) increase in antibiotic prescriptions dispensed after ABAW.

Conclusion:

Overall, the data analyzed did not show a positive trend in reducing the numbers of oral antibiotics in Newfoundland and Labrador. Challenges include the limited timeline analyzed and potential overestimation of the number of individuals who were exposed to the campaign. With the expansion of the data to contain the number of oral antibiotics dispensed over more time and consideration of biases, this analysis could be expanded, and used to improve the overall effectiveness of the ABAW campaign.

ANTIPSYCHOTICS POLYPHARMACY: CAUSES AND INTERVENTIONS

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Caritat Almazán-Saez, Catalan Agency for Health Quality and Assessment

Background:

Following the de-implementation framework of the Essencial initiative “adding value to clinical practice” in Catalonia (Spain), the goal was to explore healthcare professionals’ (HCPs) perceptions on the causes for antipsychotics polypharmacy (APP) and potential interventions to reduce unnecessary treatments.

In July 2021, an Essencial do-not-do recommendation was issued regarding patients with schizophrenia treated with at least three antipsychotic drugs (AP). In our context, the prescription prevalence of this combination was 10.8%. Using an intentional non-probabilistic sampling, we identified 30 mental health centres (MHC) from different regions and healthcare complexity that had either the lowest or the highest adequacy results on APP. An on-line survey with open questions was sent to them. This survey included several issues regarding views on driving forces and specific interventions to avoid APP at local and regional levels.

Seventeen MHC answered (57% response rate), and they identified APP main causes as 1)using AP for insomnia to avoid benzodiazepines (N=12), 2)treatment-resistant patients (N=11) and 3)lack of HP’s knowledge (N=7). Regarding interventions, the most commented were 1)training HP and patients (N=14), 2)fostering clozapine prescription (N=6) and 3)periodic treatment review (N=4).

Overall, the barriers and solutions identified varied in nature, scale, complexity and size. They require tailored and multi-level interventions with different stakeholders’ involvement (HCPs, decision-makers and citizens). To foster APP de-implementation, a qualitative approach to gain deeper and more specific knowledge on barriers and interventions is needed. Nonetheless, this is a relevant task because APP affects patient’s safety, quality of life and it deals with long-term side effects.

DIAGNOSTIC IMAGING FOR LOW BACK PAIN: 2012-2019 LINKED POPULATION TRENDS IN NEW BRUNSWICK

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Goal:

To achieve higher value back pain care ("Do not perform imaging for lower back pain unless red flags are present"), we examined 2012-2019 adult spine imaging trends in New Brunswick (NB).

Methods:

A registry of NB lumbar spine imaging (n=410,000) was transferred to a secure research platform (New Brunswick Institute for Data Training and Research) then linked to additional population datasets. We derived annual age- and sex-standardized rates of imaging per 100,000 population. Red flag conditions were identified by ICD-10 code-related criteria. We investigated imaging rates by gender, presence/absence of red flag conditions, imaging type (X-ray, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI)), hospital admissions, physician visits, rurality and socioeconomic status.

Results:

Provincial rates decreased 20% over the period studied to 7800 per 100,000. Despite the decrease, overall rates remained excessive and were 23%, 26% and 30% higher for females, rural patients, and low-income quintiles compared to men, urban and wealthy populations, respectively. Imaging was associated with increased hospitalizations and physician visits. Plausible red flag conditions accounted for 20% of imaging. X-ray, CT, and MRI represented 70% 15%, and 15% of imaging types respectively and showed geographic variations.

Lessons Learned:

This measurement study showed an overall downward trend in lumbar spine rates in the New Brunswick adult population. However, values still exceeded plausible 'necessary' imaging targets. Rates were highest in lower socioeconomic groups, rural areas, women, and certain geographic areas. Health system decision-makers are acting on the data to systematically work toward higher value care.

A RETROSPECTIVE STUDY TO EVALUATE THE APPROPRIATENESS OF USE OF ECHOGRAPHY AND ADVANCE CARDIAC IMAGING

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Paul Farand, CIUSSS de l'Estrie – CHUS

Introduction:

The objective was to evaluate physician observance of established appropriateness criteria.

Methods:

A retrospective review of cardiac examinations performed at a teaching medical centre was conducted. A total of 450 examinations done as outpatients, performed between March to December 2015, were reviewed (200 echography, 100 stress echography, 100 persantine MIBI, 25 dobutamine echography and 25 stress MIBI). The clinical indications for these investigations were classified according to Appropriate Use Criteria of the ACC Task Force 2009 (AUC) and AUC 2011. Indications for these examinations were also classified according to recommendations by Choosing Wisely Canada (CWC). For cardiac exams classified as having an inappropriate indication, patient records were reviewed to assess whether these investigations did indeed lead to the discovery of a health condition that could influence clinical follow-up.

Results:

17.6% (n=79/450) of all exams reviewed in this study were not appropriate according to AUC. Relate to echography, the highest proportion of inappropriate exams were observed to control cardiac function or valvular function for patients without clinical status modification. Related to stress or coronary perfusion exams, generally exams done following prior test results had higher scores of inappropriateness. Cardiac imaging was appropriate according to CWC in 98.8%. After revising all the inappropriate exams of this study, we found that none of them changed follow-up of patients.

Conclusion:

Based on our study, choosing wisely criteria should be revised because they don't identify many inappropriate exams in comparison with AUC. AUC are also more accurate to identify areas where practice changes could be implemented.

RESOURCE OPTIMIZATION IN THE INTENSIVE CARE UNIT SETTING: A STAFF EDUCATION INITIATIVE

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Julia Hajjar, The Ottawa Hospital Research Institute
Sarah Dickson, The Ottawa Hospital
Laura H. Thompson, The Ottawa Hospital Research Institute

Background:

Ontario intensive care unit (ICU) admissions are triple the cost of general hospitalizations given the complexity of ICU patients. With an aging Canadian population, ICU resource consumption is expected to significantly increase.

Goal:

This project's goal is the creation and implementation of an educational workshop presenting the Choosing Wisely Canada (CWC) Critical Care guidelines to increase ICU staff's knowledge of unnecessary tests, treatments and procedures. The intervention is anticipated to reduce costs associated with ICU health care delivery without sacrificing quality of care.

Activities:

Approximately 75 ICU physicians, nurses and Allied Health professionals will attend one of six "Lunch and Learn" workshops held at the Civic and General campuses of The Ottawa Hospital, and the Montfort Hospital. The sessions will describe and discuss these guidelines.

Methods:

A mixed-methods design will assess intervention effectiveness. Administrative data will measure changes in ICU procedures, case costs and patient outcomes. Changes to metrics will be quantified using pre-/post-analyses. A post-workshop survey will assess how guidelines are anticipated to impact clinical practice. ICU leaders will be interviewed to identify common themes related to intervention implementation.

Challenges:

COVID-19 has severely strained ICU resources. Despite being a challenging time to propose changes to practice, pandemic circumstances present a pivotal opportunity to improve knowledge of unnecessary tests, treatments and procedures.

Impact:

This study will inform how CWC guidelines can be sustainably integrated into this setting to improve ICU efficiencies. This intervention has the potential to result in significant ICU cost savings, without compromising patient care.

SUSTAINED ADHERENCE TO A PROVINCIAL PREOPERATIVE TESTING GUIDELINE: A RETROSPECTIVE MEDICAL RECORD REVIEW

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Thomas Mutter, University of Manitoba
Jay Gorman, University of Manitoba
Sarah Kirby, University of Manitoba
Ashley Struthers, University of Manitoba
Eric Bohm, University of Manitoba
Olga Norrie, University of Manitoba

Background and Goals:

A preoperative testing guideline based on Choosing Wisely Canada recommendations was implemented in Manitoba in 2016, supported by a robust knowledge translation strategy and provincial government funding ($200,000). We report unnecessary testing volumes at 1 and 3 years post-implementation, compared to pre-implementation baseline (2013).

Methods:

At each time point, samples of approximately 235 medical records, stratified by surgical facility and specialty, were randomly selected from all Manitoba residents (≥18 years old) who underwent elective surgery in Winnipeg during a typical week. Ophthalmologic, cardiac and obstetric surgery were excluded (guideline does not apply). Nurse and physician auditors identified unnecessary tests by comparing test results submitted with preoperative documentation to guideline recommendations. Analysis of covariance was used to compare the mean number of unnecessary tests per patient between time points, reported as mean [95% confidence interval], and adjusted for age, sex, surgery type (major versus minor) and surgical specialty.

Impact:

The adjusted mean number of unnecessary tests per patient at 3 years (1.68 [1.32 to 2.04]) and 1 year (1.87 [1.48 to 2.26]) post-implementation were comparable ($p > 0.05$), and both were significantly reduced ($p < 0.001$) compared to baseline (2.94 [2.58 to 3.39]). Yet, even at 3 years post-implementation, approximately 48% of the audited tests were unnecessary.

Lessons Learned and Challenges:

Investment in a province wide, multidisciplinary initiative was associated with sustained reductions in unnecessary preoperative testing. Though unnecessary testing remains prevalent, improved guideline adherence is estimated to save more than $40,000/year/100,000 population in direct laboratory costs alone.

CHOOSING WISELY CANADA AND EMERGENCY MEDICINE: SEVEN-YEAR REVIEW

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Goal:

In summer 2021, seven years after Choosing Wisely Canada's (CWC) official launch, the Canadian Association of Emergency Physicians (CAEP)-CWC working group started an initiative to review CWC-CAEP's progress to date. The goal was to review and discuss existing, ongoing, and anticipated challenges and opportunities for CWC in emergency medicine.

Activities:

The CAEP-CWC working group reviewed CWC Recommendations pertaining emergency medicine. The working group took note of projects with positive impact regarding process changes as a result of various CWC campaigns. The CAEP-CWC working group also explored the challenges of heightened patient expectations, medicolegal concerns, flow and overcrowding issues, and downstream testing and treatment consequences seven years after CWC's inception.

This presentation aims to summarize the achievements of CAEP CWC, discuss what CWC has not yet delivered, and propose potential solutions and directions for the future.

A PREDICTION RULE FOR JAK2 MUTATION TESTING IN SUSPECTED POLYCYTHEMIA VERA

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Michael A Levy, Western University
Alan Stuart, Western University
Hanxin Lin, Western University
Mike Kadour, Western University
Bekim Sadikovic, Western University
Alejandro Lazo-Langner, Western University
Ian Chin-Yee, Western University

Background:

The widespread availability of molecular testing for JAK2 mutations in patients referred for elevated hemoglobin has facilitated the diagnosis of polycythemia vera (PV) but also raises concerns of test overuse. In this study, we developed and validated a simple rule to predict JAK2-positivity based on complete blood count parameters in a cohort of patients referred for elevated hemoglobin levels. Variables included in the model were erythrocytes >6.45×1012/L, platelets >350×109/L, and neutrophils >6.2×109/L; absence of any of these criteria was effective at ruling out JAK2-positivity with sensitivities 94.7% and 100%, and a negative predictive value of 98.8% and 100% in the derivation and validation cohorts, respectively, with an overall low false negative rate of 0.4%.

The rule was validated for three different methods of JAK2 testing. If implemented, this rule could help support Choosing Wisely initiatives in hematology aimed at improving utilization of molecular testing, potentially avoiding over 50% of JAK2 tests.

EPIDEMIOLOGY OF KNEE ARTHROSCOPY FOR OSTEOARTHRITIS IN CANADA – ROOM FOR IMPROVEMENT

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Xi-Kuan Chen, Canadian Institute for Health Information
Alexey Dudevich, Canadian Institute for Health Information
Wendy Levinson, University of Toronto

Background:

Knee arthroscopy with debridement is commonly performed to treat osteoarthritis. However, robust evidence does not demonstrate its benefit in older adults (≥60 years). Current Canadian guidelines advise against the procedure. We sought to understand the volume and variations in knee arthroscopy across Canada, and the characteristics of surgeons performing them.

Data were derived from National Ambulatory Care Reporting System (NACRS), the Discharge Abstract Database (DAD) and the National Physician Database from 2011-12 to 2019-20. The study included all elective knee arthroscopies in 9 provinces and 3 territories of Canada. Trends over time at national and provincial levels were analyzed using regression. Surgeons were classified by decade of graduation from medical school categorized as “high proportion inappropriate” or “low proportion inappropriate” based on their arthroscopy practices.

Overall, in 2019, 25% of arthroscopies are performed in patients ≥60 years (“older patients”). Between 2011 and 2019, arthroscopies decreased by 37% overall and 39% in those ≥60 years ($p<0.0001$). There was a significant association between surgeons’ graduation year and their appropriateness category; 54%who graduated prior to 1990 were “high proportion inappropriate”, compared to 30.1% of surgeons who graduated in 2010 or later($p<0.0001$). The estimated cost of procedures in 2019-20 in patients ≥60 was 12.4 million dollars.

Knee arthroscopy continues to be a common procedure in older patients despite the lack of benefit. Lower rates in some provinces suggest potential opportunities for improvement. Decreasing the use of this low value procedure may allow resources to be invested in higher value care for the population.

COMPARISON OF DIAGNOSTIC IMAGING RATES BETWEEN WORKPLACE AND NON-WORKPLACE INJURIES IN THE EMERGENCY DEPARTMENT

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Amrit Sampalli, Dalhousie University
Manoj Vohra, Workers' Compensation Board of Nova Scotia
Samuel Campbell, Dalhousie University

Background:

In Canada, injuries represent 21% of Emergency Department (ED) visits, with 20% of adult ED injuries involving workers compensation. Faced with occupational injuries, physicians may feel pressured to provide urgent imaging to expedite return to work. The Choosing Wisely Canada (CWC) campaign may promote the reduction of unnecessary testing in this patient population. We conducted a quality review to determine imaging rates among injuries suffered at work and outside work, and additionally to determine if there was an overall reduction in testing rates over the decade.

Emergency Department Information System (EDIS) information was collected on a total of 282,860 ED visits patients 16 years of age and over with acute injuries. Imaging ordered in EDs across Nova Scotia from July 1, 2009, to June 30, 2019, were analyzed. Patients presenting under the Workers' Compensation Board of Nova Scotia (WCB) and those covered by the Department of Health and Wellness (DOHW) were compared. Imaging rates were trended over the ten-year period. Imaging rates were higher in the WCB group (55.3% of visits) than the DOHW group (43.1% of visits). Our analysis revealed a decrease of over 10% in mean imaging rates for both WBC and DOHW between 2009-2014 and 2014-2019.

Campaigns promoting value-added care may have impacted imaging rates during the ten-year study period, explaining the decline in ED imaging for all injuries. While this 10% decrease in overall imaging is encouraging, there is further need for education on resource stewardship especially for patients presenting to the ED with workplace injuries.

LARGE REDUCTION IN USE OF ANTIBIOTICS DURING COVID-19 IN NEWFOUNDLAND AND LABRADOR (NL)

Robert Wilson, Quality of Care NL/Choosing Wisely NL
Pat Parfrey, Quality of Care NL/Choosing Wisely NL
Victor Abodunrin, Quality of Care NL/Choosing Wisely NL

Goal:

To evaluate the effect of the COVID-19 pandemic on antibiotic utilization in NL.

Background:

The COVID-19 pandemic has caused major changes in utilization of healthcare services and resources due to public health guidelines. Simultaneously, this may have resulted in a large reduction of unnecessary care and treatments including the prescribing of antibiotics.

Methods:

Prescriptions provided was recorded by the NL Pharmacy Network, and data from the community was obtained from the NL Centre for Health Information from 1 Jul 2017- 31 Jul 2021. The COVID-19 pandemic started in the province on Mar 16, 2020 and continued beyond Jul 2021.

Results:

From Jul 2019-Mar 2020, the number of prescriptions amounted to 300,538, a monthly average of 33,393 pre-COVID-19. The number of antibiotic prescriptions immediately decreased with the advent of COVID-19 and this decrease persisted for the first 16 months during COVID-19. During COVID-19 from Apr 2020-Aug 2021, the total number of prescriptions was 406,525, a monthly average of 25,408. During the first year of COVID-19, the rate of antibiotics prescriptions decreased by 30%, and in the next 4 months the rate decreased further by 2.4% compared to the previous 12 month.

Conclusions:

The onset of COVID-19 was associated with an immediate large reduction in antibiotic use that continued for 16 months. At the same time, visits to doctors decreased by over 50% and replaced by virtual communication. Masking and social distancing/isolation likely lead to reduced viral infection and fewer presentations to a family clinician. However, these viral infections do not require antibiotics and reveal a rate of prescriptions possible when viral infections return.

ANTIMICROBIAL DISPENSATIONS FOR UNCOMPLICATED URINARY TRACT INFECTIONS IN WOMEN RESIDING IN LONG TERM CARE HOMES

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Samuel Stewart, Dalhousie University
Hala Tamim, York University
Ingrid Sketris, Dalhousie University
Emily Black, Dalhousie University

Background:

The Choosing Wisely Canada recommendations for management of bacteriuria in long-term care (LTC) suggest antibiotics only for symptomatic individuals who meet minimum criteria. Guidelines suggest reserving fluoroquinolone antibiotics as an alternative option for uncomplicated urinary tract infections (uUTI) due to adverse effects and risk of antimicrobial resistance.

Goal:

To describe antibiotic dispensation for uUTI amongst women residing in LTC.

Methods:

A retrospective cohort study using administrative data (January 2005-March 2020). Subjects included LTC dwelling women ≥ 65 years dispensed an antibiotic for a uUTI in Nova Scotia. Change in number of antibiotics dispensed over time was tested using a simple linear regression.

Activities:

15,276 uUTI events were reported in 7,078 women. Total yearly antibiotic dispensations for uUTI events declined significantly during the study period from 1,387 in 2005 to 402 in 2019; an average reduction of 66 prescriptions per year ($p<0.001$). Most dispensed antibiotics were trimethoprim-sulfamethoxazole (25.8%), nitrofurantoin (25.5%), and ciprofloxacin (18.6%). Most women (79.2%) prescribed ciprofloxacin for a uUTI were dispensed at least a 6-day supply.

Impact:

Antibiotic dispensations to female LTC residents for uUTI decreased from 2005 to 2019. Fluoroquinolone use declined during the study period however, ciprofloxacin continues to be prescribed for prolonged durations.

Challenges:

Rate of asymptomatic bacteriuria in our study population is unknown, and data accessed provides no clinical context.

Lessons Learned:

Guidance recommending no treatment of asymptomatic bacteriuria in LTC settings may have impacted antibiotic dispensations. Continued efforts are needed to reduce prolonged fluoroquinolone use for uUTIs in LTC home residents.

TO TRANSFUSE OR NOT TO TRANSFUSE: CHOOSING BLOOD TRANSFUSIONS WISELY IN YOUNG CHILDREN HOSPITALIZED WITH IRON DEFICIENCY ANEMIA

RD Sun, University of Toronto
A Puran, University of Toronto
M Al Nuaimi, University of Toronto
L Alriyami, L Kinlin, University of Toronto
C Borkhoff, University of Toronto
M Kirby-Allen, University of Toronto
PC Parkin, University of Toronto

Background:

Choosing Wisely Canada provides guidance on blood transfusions for adults; however, there are no recommendations for transfusion in children. Nutritional iron deficiency anemia (IDA) peaks in prevalence at 6-36 months of age. Children with severe IDA often present to emergency departments and may be hospitalized, but little is known about management.

Objective:

To describe the rate of blood transfusion and characteristics of young children hospitalized with IDA.

Methods:

Data from a cohort of children, 6-36 months, hospitalized with IDA (2001-2020) was abstracted from health records using a standardized data collection form. Descriptive statistics were used.

Results:

Of 79 children hospitalized with nutritional IDA (mean age 18.5 months), 34 (43%) received a blood transfusion. Of those receiving a transfusion, the initial mean hemoglobin was 32 g/L (range 17-56 g/L). Volume of blood transfusion was: 5 mL/kg (n=23, 29%), 10 mL/kg (n=8, 10%), and >10 mL/kg (n=3, 4%). Two children experienced adverse reactions: allergic reaction; non-hemolytic transfusion reaction. Characteristics of the entire cohort (n=79) were: female (n=51, 65%); previously healthy (n=69, 87%); received iron therapy prior to hospitalization (n=6, 8%); tachycardia on presentation (n=47, 59%); initial laboratory results (mean, range): hemoglobin (40 g/L, range 15-85 g/L), MCV (51 fL), platelet count (574 x109/L), ferritin (3 ug/L).

Conclusion:

Preliminary results suggest that rates of blood transfusion among young children hospitalized with IDA are high. We plan further analyses to examine factors associated with transfusion and to develop a Choosing Blood Transfusion Wisely guideline for children.

DEPRESCRIBING AND LONG-TERM CARE RESIDENT EMPOWERMENT IN MEDICATION MANAGEMENT: A MIXED-METHODS STUDY

Émilie Bortolussi-Courval, McGill University
Emily Gibson McDonald, McGill University

Goal:

This mixed-methods study in Ontario evaluated the deprescribing rate of PIMs before and after using an electronic deprescribing software, MedSafer, compared to a control unit.

Background:

Polypharmacy is prevalent in long-term care homes (LTCH) and increases the risk of adverse drug events. Evidence-based deprescribing interventions that are applicable in the LTCH environment are needed.

Methods/Activities:

Chart reviews collected resident health data. The number of medications was compared before and after having used MedSafer, with the control unit. Patient information regarding deprescribing was translated into Simple Chinese for the residents in this Chinese LTCH.

Impact:

Residents in the control and intervention groups were similar in age and sex. The control unit had an average of 9 medications prescribed per resident, and the intervention unit had 11 per resident. Initially, 9 potentially inappropriate medications (PIMs) for 4 residents were prescribed in the control, and 85 PIMs for 30 residents for the intervention (average of 2.5 PIMs/resident) group. Following MedSafer-facilitated deprescribing, 36 PIMs were removed, leading to an absolute reduction of 1.3 PIMs per resident. The control unit's medications were unchanged.

Challenges:

Residents consulted deprescribing information in their native Chinese language to empower them in collaborating in their healthcare plan and beneficial medications.

Lessons Learned:

Most PIMs that were stopped were cough syrup, anticholinergics and antimuscarinics, multiple daily doses of calcium, PPIs, antipsychotics, and combination anticoagulants. MedSafer significantly decreased PIMs when used in a long-term care home.

MEDICAL EDUCATION

LA FORMATION MÉDICALE

CODEINE: IS IT A WEAK OPIOID WITH WEAK EVIDENCE?

Colleen Donder, Canadian Agency for Drugs and Technologies in Health
Krista Kaminski, Canadian Agency for Drugs and Technologies in Health
Yan Li, Canadian Agency for Drugs and Technologies in Health
Charlene Argáez, Canadian Agency for Drugs and Technologies in Health
Dave K. Marchand, Canadian Agency for Drugs and Technologies in Health
Shannon Hill, Canadian Agency for Drugs and Technologies in Health
Sara D. Khangura, Canadian Agency for Drugs and Technologies in Health
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Ke Xin Li, Canadian Agency for Drugs and Technologies in Health
Suzanne McCormack, Canadian Agency for Drugs and Technologies in Health
Calvin Young, Canadian Agency for Drugs and Technologies in Health
Hannah Loshak, Canadian Agency for Drugs and Technologies in Health

Background:

Canada is currently battling an opioid epidemic, being the second-highest consumer of opioids worldwide and experiencing a substantial increase in overdose-related deaths. The overprescribing of opioids and the diversion of non-consumed supplies has created a need to optimize opioid prescribing.

Codeine is a weak opioid that produces pain relief as it is metabolized by the liver into various metabolites, including morphine. How fast the liver metabolizes codeine varies in the general population, with individual differences being unpredictable. Patients who are poor metabolizers of codeine typically experience suboptimal pain control, while ultra-rapid metabolizers achieve higher pain control but are also at a higher risk of adverse events. Given this and the potential for problematic use, the use of codeine for the management of pain has come under question.

CADTH conducted limited literature searches to review the evidence on the clinical effectiveness of codeine for the management of pain in various patient populations. For these reviews, codeine could be used with or without acetaminophen and/or ibuprofen and numerous comparators were considered. The pain populations reviewed were:

- Pain related to osteoarthritis of the knee and hip
- Acute extremity pain
- Pain related to caesarean section Acute dental pain or acute pain related to dental procedures
- Acute pain for urological or general surgery patients
- Pediatric patients with acute pain
- Acute pain in patients undergoing orthopedic surgery
- Low dose codeine for the treatment of pain

The proposed oral presentation will review the evidence CADTH identified on the use of codeine for various patient populations. The presentation will be interactive in nature, using a platform, such as Slido or the Zoom polling function, to question the audience about the CADTH evidence identified. The aim of this presentation is to have attendees think critically about the role of codeine for pain management for various pain conditions.

A synopsis of the evidence on codeine for the treatment of pain is available at: https://www.cadth.ca/codeine-pain-synopsis-evidence.

COLLABORATING ON CLINICIAN EDUCATION TO REDUCE HARMS ASSOCIATED WITH OPIOID PRESCRIBING IN NEW BRUNSWICK

Julie Atkinson, New Brunswick Medical Society
Stephanie Smith, Canadian Agency for Drugs and Technologies in Health

Background:

Canada has been facing an opioid crisis. Evidence confirms that opioids continue to be prescribed too frequently, too liberally than medically necessary and in contexts not supported by evidence - which can inadvertently lead to drug abuse and diversion of opioids into the community.

Goal:

To support greater education and better prescribing and monitoring practices of opioids among all clinicians.

Activities:

New Brunswick established an Opioid Prescribing Task Force that has involved extensive engagement and collaboration across stakeholders, including physicians, pharmacists, nurse practitioners, government, and CADTH. Accredited continuing medical education sessions were developed addressing treatment guidelines and approaches to pain management. An online module, focused on acute pain, was implemented in 2019 with a second module on chronic pain launching in April. Opioid Dependence Management was added to the list of specialties available for primary care providers to access for advice via the provincial eConsult program. In 2021, 'Let's Talk Opioids' website launched via social media including patient and physician resources.

Impact:

In-person sessions reached over 350 clinicians, including physicians, pharmacists and nurse practitioners. As of December 2021, 55 physicians had accessed the initial online module. eConsult had 2609 consults over the past four years. Since launching in June 2021, the webpage had 457 visitors and 1464 page views. Evaluations to-date have confirmed the education efforts to be relevant, practical, and influencing practice change.

Lessons Learned:

Medical education requires many channels to reach the 1800 NB physicians, however extensive promotion and championing of new platforms is required.

CHOOSING WISELY CANADA ® IN THE 2022 MEDICAL RESIDENT PROGRAM IN INTERNAL MEDICINE AT SAN MARTIN DE PORRES UNIVERSITY LIMA PERU

Jorge Solari, Universidad de San Martin de Porres, Unidad de Post Grado
Orlando Herrera, Universidad de San Martin de Porres, Unidad de Post Grado
Hector Lamilla, Universidad de San Martin de Porres, Unidad de Post Grado
Jorge Paz, Universidad de San Martin de Porres, Unidad de Post Grado
Elizabeh Peralta, Universidad de San Martin de Porres, Unidad de Post Grado
Humberto Poma, Universidad de San Martin de Porres, Unidad de Post Grado
Elmer Huamanchumo, Universidad de San Martin de Porres, Unidad de Post Grado
Victor Capcha, Universidad de San Martin de Porres, Unidad de Post Grado
Percy Morales, Universidad de San Martin de Porres, Unidad de Post Grado

Background:

Lima, the capital of Peru, most hospitals have problems of rationality in the use of medications, for example the indiscriminate use of antibiotics, excessive use of non-steroidal anti-inflammatory drugs, pump inhibitors of protons, among others with negative effects on health, quality of care, patient safety and economy of health systems and of the patients themselves. Similarly, problems are found in the rationality of the orders for some laboratory tests and images (eg CT scans and MRIs).

The Internal Medicine Specialty Committee of the San Martin de Porres University of Lima-Peru in its 2022 medical residency program with 52 medical residents in the 9 teaching centres (Edgardo Rebagliati Hospital, Guillermo Almenara Hospital, Alberto Sabogal Hospital, María Auxiliadora Hospital, Sergio Bernales Hospital, Carlos Lanfranco Hospital, San José Hospital and Hospital de la Policia and Militar Hospital), aware of the need to educate our doctors about rationality in making medical decisions, rationality in formulation of work plans (laboratory, images, and procedures) and the formulation of treatment schemes, in which the real need for them, efficacy, safety profile, costs, scientific evidence of value as well as preference are considered of patients, the Specialty Committee has decided to incorporate the philosophy, concepts and practices of the Canadian Choosing Wisely initiative into its educational task, with the authorization of Choosing Wisely Canada.

CREATION OF INTERACTIVE CASES INCORPORATING CHOOSING WISELY PRINCIPLES FOR MEDICAL LEARNERS

Lina Shoppoff, University of Ottawa
Harriet Yan, University of Ottawa
Clare Liddy, University of Ottawa
Douglas Archibald, University of Ottawa
Jeffrey Puncher, University of Ottawa

Background:

The Department of Family Medicine of the University of Ottawa has created eight interactive modules inspired by Choosing Wisely Canada principles in the format of the Choose Your Own Adventure books.

Activity:

Through a virtual experience, the participant assumes the role of the protagonist and makes choices that determine the patient's outcome. Learners will quickly realize that sometimes, less is more in medicine and they will see the long-term impact of their decisions on the patient.

Goal:

Our goal is to provide learners with a fun and immersive way to learn about key Choosing Wisely principles relating to family medicine while demonstrating to them the impact of their decisions.

Impact:

By introducing these modules into curricula, all medical students at the University of Ottawa will become familiar with the importance of reducing unnecessary tests and treatments as well as how to implement Choosing Wisely recommendations into their future practice.

Challenges:

Challenges have included creating realistic scenarios based on the recommendations and optimizing the programming to ensure changes can be made promptly and easily in the future. Choosing Wisely recommendations can fluctuate depending on the evidence and we wanted to be able to tweak the cases based on future recommendations.

Lessons Learned:

Many lessons have been learnt from this endeavour. In medical training, the focus is frequently to teach learners about investigations and treatments and not necessarily to explain that these measures can have negative consequences on patients.

Next steps will involve publishing and publicizing the cases. We will then have students evaluate the initiative and possibly create new cases.

CANADIAN MEDICAL STUDENT PERCEPTIONS OF CHOOSING WISELY CANADA

Bright Huo, Dalhousie University
Yousef Bolous, Dalhousie University
Diane Ramsay, Dalhousie University
Emma McDermott, Dalhousie University
Navjot Sandila, Research Methods University
Tamara Selman, Dalhousie University
Samuel Campbell, Dalhousie University

Background:

Studies suggest that physician application of appropriate resource stewardship (RS) is inconsistent. To initiate lasting change, medical student investment in RS is essential. The extent to which medical students are engaged in RS and the influence of any hidden curriculum related to test and treatment selection has yet to be evaluated in the Canadian context. This study investigated medical student perceptions of the Choosing Wisely Canada (CWC) recommendations.

Method:

In 2021, a bilingual questionnaire was distributed to all Canadian medical students over four weeks. Chi-square and student's T-tests were used to analyze student-rated Likert responses describing their attitudes toward the importance of the CWC campaign, the amount of CWC represented in undergraduate medical education, the application of CWC recommendations in medicine, and the barriers which exist to student advocacy for CWC in practice.

Results:

A total of 3,162 (26.9%) eligible Canadian medical students completed the survey and most students endorsed that the CWC campaign is an important initiative [mean = 12.4/15.0 (SD = 1.98)]. Few students felt that their institution had sufficiently integrated CWC into the pre-clerkship (n = 1,406/3,162, 44.5%) and clerkship (n = 735/1,157, 63.5%) curricula. Overall, 1,837/3,162 (58.1%) students felt that it is reasonable to expect physicians to apply CWC recommendations given the workplace culture in medicine. Only 1,049/3,162 (33.2%) students were comfortable addressing resource misuse with their preceptor. The most common barriers were the assumption that their preceptor was more knowledgeable (n = 2,581/3,162, 81.6%), concern over evaluations (1,973/3,162, 62.4%), and concern for their reputation as students (933/3,162, 29.5%).

Conclusions:

Canadian medical students recognize the importance of CWC. However, many trainees feel that the workplace culture in medicine does not support the application of CWC recommendations. A power imbalance exists that prevents students from advocating for RS in practice.

LEARNING DERMATOLOGY SKILLS THROUGH ANIMATED VIGNETTES: AN EFFECTIVE EDUCATIONAL INTERVENTION FOR DISSEMINATION OF NATIONAL GUIDELINES

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Seungwon (Sara) Choi, University of British Columbia
Bei Yuan (Ethan) Zhang, University of British Columbia
Sabrina Nurmohamed, University of British Columbia

Background:

Choosing Wisely is a global initiative to improve outcomes in patient care by reducing unnecessary tests and treatments. The Canadian Dermatology Association developed five recommendations for Choosing Wisely Canada (CWC) to guide diagnosis and management of common dermatology conditions. Traditional models of dermatology education (i.e., didactic teaching, clinical rotations) are increasingly being complemented by novel educational tools, such as problem-based learning. We assessed the impact and reception of animated case-based videos of CWC recommendations for a medical student audience.

Methods:

Five 10-minute animated educational videos with a case-based approach were created for a pan-Canadian audience. Medical students reviewed the videos and were surveyed (using a five-point Likert scale) on video format and content and impact on their dermatology knowledge and resource stewardship.

Results:

53 students from 8 Canadian medical schools received an average of 6 hours of educational information. For 47%, the dermatologic content had not been encountered previously. Post-intervention, 94% of participants agreed or strongly agreed that the video format fit their learning style (Likert scale 4.3±0.6). 98% of participants better understood the rationale behind the recommendations (4.4±0.6) and 96% reported the videos enhanced their dermatology knowledge (4.6±0.6). The videos stimulated an interest in resource stewardship among 70% of participants. The major barriers of following the recommendations in clinical practice included: opinions from supervisors, unfamiliarity with recommendations, and impacting relationship with supervisors.

Conclusion:

Case-based animated educational videos are an effective means to develop practical dermatology knowledge and convey guidelines in an engaging way at the medical student level.

PATIENT ENGAGEMENT

LA MOBILISATION DES PATIENTS

SPEAKING WISELY: REDUCING BACK PAIN RELATED NOCEBO EFFECTS IN PRIMARY CARE

Mark Kubert, Grand River Hospital

Background:

Back pain is one of the biggest causes of disability worldwide. Despite advances in pain science, back pain is still poorly managed. The majority of back pain is non-specific and self limiting in nature. Current back pain assessment, diagnosis, and management is primarily focussed on mechanics - deciphering which muscle, joint, disc, or nerve is at fault, and applying a plan of management to “correct” said fault. It is this biomechanically focussed approach which is most often imparted to the patient, ignoring the relevance (or lack thereof) of these findings, and negating important psycho-social factors which can be equally important in precipitating and perpetuating pain. Subsequently this reductionistic approach can be detrimental, creating a nocebo with the patient focussed solely on biomechanical factors which may have little relevance to their pain. Further, it does not take into account the multi-factorial nature of pain, often leaving the patient at a loss when imaging does not support the clinical diagnosis.

The Speaking Wisely proposal aims to improve back pain information imparted to patients by primary care providers, updating their knowledge of current concepts in back pain science, and helping them to deliver back pain findings in a supportive, patient-empowering manner. Let’s reduce the nocebo effect of “You have DEGENERATIVE DISC DISEASE” to “You have normal age-related changes in your spine”. This can be accomplished through the development and delivery of a 20–30-minute online module.

The words we speak cost nothing; but they can mean everything.

PARTNERING WITH PATIENTS AND PROVIDERS TO RAISE AWARENESS OF LOW-RISK UNNECESSARY TESTS AND TREATMENTS

Sarah Porter, Island Health
Adele Harrison, Island Health
Choosing Wisely at Island Health Public Awareness Campaign Working Group

Goal:

To identify and address barriers to implementing CWC recommendations in community and facility-based practice.

Activities:

In 2020 and 2021, a virtual Island-wide CWC symposium event was held. 50+ participating facility- and community- based physicians identified patient requests for tests as a barrier to incorporating CWC into daily practice. A presentation to involve the regional Patient Advisory Council explored the patient perspective on the six drivers of unnecessary tests and treatments. Council members recommended focusing on how limited provider time and overwhelming amounts of information leads to confusion about necessary interventions and dissatisfaction with the provider-patient encounter.

Impact:

An island-wide patient-centred public awareness campaign including select imaging and prescribing CWC recommendations was identified as an enabler for positive provider-patient conversations about tests or treatment.

Challenges:

To address variation in patient and provider experience, ensure a patient-centred approach and confirm selected recommendations have meaning to patients and providers we formed a working group of five patient partners, five providers, and a project lead. The group will choose 12 CWC recommendations to include in the campaign and are involved with multiple stakeholders representing physicians, patients, and Island Health to develop the final product.

Lessons Learned:

Early and broad engagement including both patients and providers is essential to ensure ongoing collaboration and support for the initiative. Physicians and patients are enthusiastic about CWC recommendations as a tool to promote patient and provider conversation. Social media posts and posters in provider offices using accessible language will provide a trusted resource for patient education.

ACCEPTABILITY OF AUTOMATIC REFERRALS TO SUPPORTIVE AND PALLIATIVE CARE BY PATIENTS LIVING WITH ADVANCED LUNG CANCER: A CO-DESIGN PROCESS

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Jessica Simon, University of Calgary
Patricia Biondo, University of Calgary
Desiree Hao, University of Calgary
Aliyah Pabani, University of Calgary
Emi Bossio, Alberta Health Services
Janet Bennett, Alberta Health Services
Karen Leaman, Alberta Health Services
Jane Nieuwenhuis, Alberta Health Services
Tim Monds, Alberta Health Services
Ralph Cross, Alberta Health Services
Aynharan Sinnarajah, University of Calgary

Background:

People diagnosed with stage IV non-small lung cancer (NSCLC) experience high symptom burden and distress. However, provider barriers can challenge timely referrals to palliative care (PC). A proposed solution is to trigger automatic referrals to PC by pre-determined clinical criteria. This study sought to co-design with patients and providers the processes needed for automatic PC referral for patients newly diagnosed stage IV NSCLC.

Step 1-Interviews with NSCLC patients sought their perspectives on the acceptability of automatically triggered phone contact by a specialist PC provider. Step 2-Patient and family advisors, oncology and PC healthcare providers, and researchers joined a co-design working group to develop the operational and communication processes and resources needed for an automatic referral process.

An automatic referral process and being phoned directly by a PC provider offering a consult was perceived to be acceptable. Patients emphasized the need for timely support and access to peer/community resources. The co-design working group identified the eligibility criteria for identifying newly diagnosed stage IV lung cancer patients, co-developed a telephone script for specialist PC providers, a patient handout about supportive care, and handout on supportive care resources. Additionally, interview and survey guides for evaluating the implemented automatic process were refined.

A co-design process ensures stakeholders are involved in program development and implementation from the beginning, to make outputs acceptable for advanced cancer patients. This intervention has now been implemented and evaluation is ongoing. An automatic phone call offering PC consultation may improve timely access and avoid potential referrer biases.

MEDICATION ASSESSMENT CENTRE INTERPROFESSIONAL OPIOID PAIN SERVICE (MAC IOPS): A NOVEL APPROACH TO CHRONIC PAIN MANAGEMENT

Katelyn Halpape, University of Saskatchewan
Radhika Marwah, University of Saskatchewan
Derek Jorgenson, University of Saskatchewan

Goal:

The aim of this project is to develop, implement, and evaluate an evidence-based interprofessional chronic pain program in Saskatchewan: the MAC iOPS.

Activities:

The MAC iOPS is a primary care chronic pain program. The clinical team includes a chronic pain physician, pharmacists, social workers, and a physical therapist. The MAC iOPS does not prescribe medications and instead supports patients' pre-existing care providers.

The MAC iOPS is patient centered and employs non-judgmental listening and motivational interviewing. Patient engagement is key to enable screening for opioid use disorder and to involve patients in treatment decisions.

The MAC iOPS aims to improve care quality and to save healthcare system dollars through proactive chronic pain care provision which includes deprescribing, appropriate use of medications, and non-pharmacological treatments.

Collaboration, capacity building, and patient advocacy are all foundational to the MAC iOPS. The MAC iOPS provides educational opportunities for multi-disciplinary health learners and professionals.

Impact:

The MAC iOPS has improved self-reported health status of many chronic pain patients. The MAC iOPS has also assisted with reducing risk of harms from opioids. This service has increased health professional confidence in prescribing opioids and managing chronic pain.

Challenges:

Ongoing challenges include: 1) the amount of time required to provide comprehensive chronic pain management, 2) funding, and 3) limited opioid agonist therapy prescribers in Saskatchewan.

Lessons Learned:

Effective chronic pain management requires an interprofessional team approach. Each patient case presents something new and requires a flexible and adaptable approach to provide optimal, individualized care.

CARING TIME IS CURING TIME: SLOW CLINICAL STORIES FOR A MEASURED MEDICINE

Paola Arcadi, Choosing Wisely Italy
Marco Bobbio, Choosing Wisely Italy
Michela Chiarlo, Choosing Wisely Italy
Sandra Vernero, Choosing Wisely Italy

Background:

I just have to sit on the side of her bed and ask: “What troubles you the most? I’ll listen and help as much as I can”. It’s the world spell. Andreina calms down and replies: “I’d like to walk”. Is this curing?

Build a relationship is constitutive for healthcare professionals, the relationship comes first and walks along the healing process, and healthcare without caring is just curing.

Caring requires appropriate time to carefully listen and pondering actions, but time is seldom available in our fast-acting-always-on-the-move environment which pushes us to perform and produce.

Re-evaluating listening and relationship time lays the foundation of a measured, respectful and wise medicine, a slow medicine, given that “less is more”, but can also take much more time.

I ask him if something is needed and he replies “I need someone to stay with me […], tell me a story”. His roommate joins in: “I want a story too”.

A “slow” caring relationship is made of this kind of gestures.

Slow Medicine collected stories describing clinical cases positively resolved avoiding tests and interventions, choosing a less aggressive strategy. In one year, we collected published stories of physicians, patients, nurses, and caregivers, dealing with the benefits of avoiding low value care, following the Choosing Wisely recommendations, describing the patient’s improvements from a slow approach. “Caring is curing” is not just a slogan, but an approach which casts therapeutic alliances, mutual trust in both patients and healthcare professionals.

RESPECTFULNESS: SLOW CLINICAL STORIES ENGAGING PATIENTS TO CHOOSE THEIR PREFERRED INTERVENTION

Michela Chiarlo, Choosing Wisely Italy
Paola Arcadi, Choosing Wisely Italy
Marco Bobbio, Choosing Wisely Italy
Sandra Vernero, Choosing Wisely Italy

Background:

Slow Medicine observed that the literature flourished in the last decade related to the concept of 'less is more', is almost invariably represented by clinical cases describing the excesses of an aggressive, redundant, non-personalized, and non-respectful medicine. Most articles deal with 'more is worse' cases followed by downstream negative consequences of medical overuse. Therefore, Slow Medicine launched the project of collecting stories describing clinical cases positively resolved avoiding tests and interventions, eliminating drugs, choosing a less aggressive strategy.

In one year, we received stories written by physicians, patients, nurses, caregivers, and other health professionals dealing with the benefits of avoiding low value care, following the Choosing Wisely recommendations, describing the patient's improvements from drugs deprescribing. Most cases arise from the key question asked to patients: ""What can I do for you?"". The answers open unpredictable worlds: Sonia wants a transfusion to return home soon to take care of her husband, Marta would like to be operated on her knee without interrupting breastfeeding, Giacomo prefers to postpone chemotherapy after the grape harvesting. Miranda told me that she prefers to avoid stenotic valve replacement. 'It's not against you, doctor, I know you're young and prepared, but I'm old and I don't feel like doing this operation. Don't feel bad about it"". She peacefully lived for years with her stenotic valve. We learned through real cases how to get mutual satisfaction by joining general evidence and personal experience into a respectful and wise choice.

FIRST TRY NON-OPIOIDS! MANAGING PAIN AFTER WISDOM TEETH REMOVAL: AN INTER-PROFESSIONAL COLLABORATION

Alice Watt, ISMP Canada
Amy Ma, Choosing Wisely Canada
Susan Sutherland, University of Toronto

Background:

A significant proportion of Canadians receive their first prescription for opioids from dentists. In a large population-based study in Ontario, dental prescriptions for first-time opioid use were the highest (23.2%) for all clinical indications studied, including other post-surgical pain, trauma, musculoskeletal pain and cancer pain/palliative care. US data shows those who received opioid prescriptions after wisdom tooth extraction were more likely to be using opioids 3 months, and 1 year later, as compared to their peers who did not get an opioid.

Goals:

1. Raise awareness of the risks associated with opioids for adolescents managing pain after wisdom teeth removal.
2. Identify best practices for managing pain after wisdom teeth removal and develop a patient handout that encourages patients to ask questions about managing their pain after wisdom teeth removal.

Activities:

The Institute for Safe Medication Practices (ISMP) Canada collaborated with The Canadian Association of Hospital Dentists (CAHD), Choosing Wisely Canada, Patients for Patient Safety Canada and Canadian Patient Safety Institute to create a patient/family handout “Managing pain after wisdom teeth removal: Your questions answered” for patients who have been prescribed an opioid after third molar surgery.

Challenges and Lessons Learned:

During the pandemic, it was a challenge to disseminate the patient handout to patients, dentists, and dental surgeons. Co-designing the handout with patients and families who have lived experience from the start, we learned, is best way to create a compelling message that resonates with patients. We hope to continue our efforts to raise awareness of appropriate opioid stewardship after wisdom teeth removal.

https://www.ismp-canada.org/download/OpioidStewardship/WisdomTeethRemoval-ON-EN.pdf

PEER'S SIMPLIFIED CHRONIC PAIN GUIDELINE FOR PRIMARY CARE

Samantha Moe, The College of Family Physicians of Canada
Danielle Perry, The College of Family Physicians of Canada
Jennifer Young, The College of Family Physicians of Canada

Background:

PEER's Simplified Chronic Pain Guideline targets the realities of managing chronic pain in family physician and primary care offices. Consistent with Opioid Wisely recommendations, the guideline recommends that opioids be avoided in most patients with osteoarthritis, neuropathic pain or chronic pain back since the associated harms exceed benefit. In this session, we will describe the potential benefits of various treatments for these pain conditions, as well as unhelpful but commonly used modalities. We will also provide easy-to-use "bedside" resources that communicate the pitfalls with opioids and identify evidence-based management strategies. They are designed for patients and clinicians to use together to help patients make the best therapeutic choices for pain management.

QUALITY IMPROVEMENT

L'AMÉLIORATION DE LA QUALITÉ

TRANSFUSION AUDIT AND FEEDBACK INITIATIVE

Eddye Kirk, Saskatchewan Health Authority
Ryan Lett, Saskatchewan Health Authority
Tom Martin, Saskatchewan Health Authority

Goals:

- Develop, implement, and evaluate a standardized audit and feedback process for appropriate red blood cell transfusion
- Decrease variation in clinical practices among specialty providers
- Provide peer to peer comparisons to promote visual awareness of transfusion triggers

Activities:
The audit and feedback reports are developed using data received from the Regina Lab Information System. Transfusions are categorized into colour-coded categories based on the patients' pre-transfusion (HgB) levels: green (HgB<70g/L), yellow (70g/L≤HgB<80g/L), red (HgB≥80g/L) or blue (no pre-HgB recorded). Departmental graphs and tables are generated and distributed quarterly to providers. These reports give an overview of transfusions ordered by department, physician, and episode; providing an opportunity for providers to reflect on the appropriateness of their ordering practices.

Impact:
Engagement is high among providers with interest in performance, and a desire to adhere to the recommendations and improve practice.

Challenges:
The process of sorting, analyzing and interpreting data is time consuming in order to provide accurate details of the transfusion. Current data systems cannot capture the ordering physician accurately, therefore, independent chart reviews are required in some scenarios. We have received positive and constructive feedback from a number of providers, however with the current system, we are unable to see whether or not all providers have accessed the reports.

DECREASING OVERUTILIZATION OF BLIND LABORATORY EVALUATIONS AND TESTS (DOUBLE-T) IN THE INTENSIVE CARE UNIT

Eoin McFadden, University of Saskatchewan
Jonathan F. Mailman, Vancouver Island Health Authority
Jennifer Baird, Saskatchewan Health Authority
Jason Vanstone, Saskatchewan Health Authority
Michelle Degelman, Saskatchewan Health Authority

Goal:
To reduce utilization of unnecessary laboratory tests in three intensive care units (one medical, one surgical, and one mixed unit) in Regina, Saskatchewan.

Activities:
Prior to implementation, daily and routine laboratory testing was ordered by the house staff in the evening, largely independent from intensivist input during daily multi-disciplinary team rounds. The intervention moved testing orders to occur during team rounds specifically by the intensivist utilizing a pre-formatted sticker. The sticker, applied to the written orders in the paper chart, was utilized daily to signify the intensivist had assessed the necessary laboratory and imaging testing for each patient.

Impact:
Demonstrating a 21% reduction in total laboratory tests ordered following the implementation of the sticker project (from an average 396 tests/1000 patient days pre-intervention to 316 tests/1000 patient days; $p < 0.0001$), reductions were robust within individual groups of laboratory tests and chest x-rays. There was no difference in mortality or length of stay pre- versus post-intervention.

Challenges:
Initial challenge of behavioral change to both utilize the stickers by the intensivist and to move the responsibility away from the house staff in this new ordering system. Addition of a “No Test” option communicated the assessment and decision.

Lessons Learned:
This initiative has created a safe and sustained reduction in unnecessary laboratory use in three intensive care units, utilizing a physical sticker to initiate a lasting cultural change. This work provides evidence that this is an effective method to address the issue of laboratory test overuse in hospitals.

REDUCING IVF CYCLE MONITORING TO MAINTAIN SOCIAL DISTANCING PRACTISES DURING THE COVID-19 PANDEMIC

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Objective:
To significantly reduce the number of in-person visits during an in vitro fertilization (IVF) cycle without compromising cycle outcomes, patient safety, or patient satisfaction.

Design:
Multi-modal Quality Improvement (QI) Initiative

Intervention:
The primary intervention implemented in our study was a change in our IVF monitoring protocol. Default settings in our electronic medical record order sets were changed, and education sessions were held for clinic staff. Baseline data was collected from 2019 for comparison. A patient satisfaction survey using a 5-point likert scale was created and sent to every patient undergoing IVF.

Main Outcome Measures:
The number of in person visits during an IVF cycle were counted for each patient undergoing treatment from June 2020 to August 2020. This was compared to the number of in person visits during the same time frame in 2019. Balancing measures included patient satisfaction, pregnancy rates, risk and incidence of ovarian hyperstimulation syndrome (OHSS), incidence of cycle cancellation, and number of eggs retrieved per cycle.

Results:

A significant reduction in the number of in person visits (8 vs 4, $p<0.001$) during an IVF treatment cycle was observed post-intervention compared with the previous year. There was no significant difference in pregnancy rates, risk or incidence of OHSS, cycle cancellation, or number of eggs retrieved per cycle. Patient surveys were reassuring that the intervention did not change patient experience or satisfaction.

Conclusions:

IVF Monitoring Protocol changes aimed at reducing the number of in person visits allowed our team to continue to provide ongoing care for patients during the Covid-19 pandemic without compromising IVF outcomes or patient satisfaction.

PERIOPERATIVE OPIOID STEWARDSHIP PROGRAM OF RESEARCH (PROSPR): REDUCING OPIOID PRESCRIBING AT DISCHARGE

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Andrew Howard, The Hospital for Sick Children
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Introduction:
Canada is the second-highest prescriber of opioids per capita in the world. At the Hospital for Sick Children, we previously identified 67% of opioids prescribed at pediatric surgical discharge, (83% to Supracondylar Fractures (SCF)) remain unused at home.

Goal:
Our collaborative multi-phased quality improvement research aimed at developing a translatable opioid stewardship program; reducing the amount dispensed and retained in the home post SCF repair by 50%.

Methods:
In a 12-month period, implementation of electronic health record (EHR)-mediated standardized prescribing order-sets for supracondylar fracture repairs (SCF) limiting morphine prescribing with regular adjunct use.

Impact and Lessons Learned:
Decreased amount of morphine prescribed at discharge by 58%. No patient experienced inadequate analgesia. Only 6% of patients consumed all opioids dispensed; there is room for further improvement.

- Improved compliance with standardized order sets by recruiting orthopedic team champions. Maximum compliance reached 87% but decreased to <70% with the arrival of new trainees. 2-minute educational videos will be recirculated with leadership oversight whenever compliance fall < 90%.
- Increased parental compliance with the use of simple analgesics to a sustainable rate of > 80%.
- Follow-up prior to Fracture Clinic enabled 77% of families to return unused opioids.

Future Directions:
Qualitative analysis reports communication barriers, and time pressure at discharge as opportunities for improvement

- Development of multi-lingual visual aids and discharge materials translated into 10 languges.
- Early intervention to discuss at-home pain management guided by visual aids and discharge materials, earlier in-patient admission and reinforced on day of discharge to confer improved parent comprehension.

ANA ORDERING PRACTICES IN THE INPATIENT SETTING

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Background:

Up to 81% of referrals in the outpatient setting may not have appropriate indications for ANA testing. Other centers have implemented laboratory algorithms empowering the laboratory to cancel ANA testing not meeting a predetermined set of evidence-based criteria.

Goal:

This study will look at what proportion of ANA tests ordered in Saskatoon Health Authority hospitals follows evidence-based guidelines.

Methods:

We performed a retrospective chart review of 104 charts for inpatients with an ANA test ordered June 2017 - June 2018 in Saskatoon hospitals. Inclusion criteria included adults (>18 years of age) with serum ANA ordered. We excluded cases if ANA was ordered as part of autoimmune hepatitis work-up, part of neurological screen in the setting of TIA or stroke, patients with end-stage renal disease, and patients with nephrotic-range proteinuria. Primary outcome was whether ordering ANA test followed the Choosing Wisely recommendations and the British Columbia guidelines. Basic descriptive statistics and Pearson correlations were done with SPSS 26.

Results:

Findings showed 66% of ANA tests ordered were not indicated based on the 2015 Choosing Wisely guidelines. Nearly half of patients with ANA tests ordered presented with no symptoms or signs of connective tissue disease or SLE. All tests classified as indicated had a strongly positive ANA titer. Documented physical examination suggesting connective tissue disease was positively correlated with ANA subserologies. ANA associated with arthritis, pericarditis, and photosensitive rash tended to change management.

Lessons Learned:

Serum ANA ordering practices in the inpatient setting have room to improve to match the guidelines.

GUIDELINE FOR THE DE-IMPLEMENTATION OF LOW-VALUE PRACTICES

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Background:

The Essencial initiative “adding value to clinical practice” has developed more than 90 do-not-do recommendations since 2013. Last year, following a redesign process, it was identified a need to develop a guideline for the de-implementation of low value clinical practices (LVCP). The aim of this guideline is to become a cornerstone pragmatic tool for healthcare professionals (HCPs).

The starting point was a literature review, followed by an identification of successful experiences in the territory. HCPs from different healthcare settings shared their experience and lessons learned through “design-thinking” methodologies. Nine leaders were invited to share their know-how and an in-depth exploration was performed through co-creation groups. A first draft of the guideline was shared with them for feedback and validation.

As a result, common key elements were identified and convened into a pathway that included: 1) creating a team and finding structural support, 2) defining and sharing the strategy, 3) creating a plan for the de-implementation, 4) carrying out the de-implementation and 5) reflecting, communicating and escalating the de-implementation process. In December 2021, the guideline was released on a webinar with 270 attendees.

Participatory processes demand extra efforts in time, organization, and resources. This sometimes can be perceived as unworthy. However, it adds extra value by including bottom-up approaches and real experiences. This is due to the transfer of the lessons learned and optimal experiences. Although this is a tool that can easily be adapted to different scenarios, the different organizations and HCPs must commit to its implementation to improve quality of care and safety.

REDUCING PLEURAL FLUID FLOW CYTOMETRY TESTING – SHARED DECISION MAKING BETWEEN THE CLINIC AND LABORATORY

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Inderdeep Dhaliwal, Western University
Ian Chin-Yee, Western University

Background:
Pleural fluid flow cytometry is commonly ordered in the investigation of pleural effusions, with evidence suggesting it may be overutilized. The goals of this study were to determine the pleural fluid flow cytometry positivity rate at our institution and develop a screening algorithm to reduce low-yield testing.

Methods:
We reviewed 100 pleural fluid flow cytometry orders between January-July 2020 and the electronic patient record. We developed and back-tested an algorithm with two components: 1) clinical criteria: flow cytometry indicated for active or suspected hematologic malignancy and not indicated in patients with active solid tumor malignancy or palliative thoracentesis, and 2) presence of any of the following would rule out the need for flow cytometry: fluid cell count <0.3x10^9/L, fluid glucose <0.2 mmol/L, transudative effusion by Light's criteria, or recent negative pleural fluid flow cytometry.

Results:
We identified fourteen flow-positive tests, of which four were new diagnoses. Back-testing this algorithm showed a sensitivity of 100% in identifying flow-positive pleural samples and would have led to a 41% reduction in flow cytometry testing.

Conclusion:
Our algorithm is a novel example of Shared Decision Making between laboratory and clinician, acknowledging both clinical uncertainty at the bedside and expertise in the laboratory allowing for canceling specialized testing if deemed unnecessary by objective criteria. We plan to prospectively evaluate the screening algorithm within our institution and study outcomes of our intervention on number of monthly pleural fluid flow cytometry orders and cost avoidance.

CHOOSING WISELY: PEDIATRIC SPORT AND EXERCISE MEDICINE LIST OF ITEMS THAT PHYSICIANS AND PATIENTS SHOULD QUESTION

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Objectives:

Our goal was to develop a list of tests/interventions frequently used for pediatric sport and exercise medicine (SEM) issues that may be unnecessary based on existing evidence.

Methods:

A small working group created by the Canadian Academy of Sport and Exercise Medicine (CASEM) developed a list of pediatric-specific SEM recommendations based on existing research, experience, and common practice patterns. This list was sent to the Pediatric Interest Group of CASEM, as well as a pediatric orthopedic surgeon and a pediatric MSK radiologist at McMaster University. Following revisions based on the feedback, a national survey was conducted with CASEM's membership to solicit feedback for each recommendation. Further revisions were made by the working group and the list was sent to CASEM's publication committee and the CASEM Board for final approval. The list was accepted by Choosing Wisely Canada (CWC) following their internal review process.

Results:

An initial list of 9 items was generated. The list was narrowed to 8 items following initial review by the Pediatric Interest Group and CWC. The list was sent by electronic survey to the general CASEM membership. There were 121 respondents (response rate of 11.9%). There was greater than 80% agreement with all 8 items. The final 8 items included: imaging recommendations for Osgood Schlatter's disease, shoulder and knee injuries, back pain, scoliosis, spondylolysis, distal radial buckle fractures, minor head injury/concussion, and management of chronic pain syndromes.

Conclusions:

Several areas have been identified for quality improvement in the care of children presenting with SEM concerns.

AVOIDING UNNECESSARY CD4 TESTS: ARE WE CHOOSING WISELY?

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Background:
The utility of CD4 lymphocytes counts as biomarker for prognosis, need for prophylaxis and response to therapy in HIV-infected people was well established early in the HIV/AIDS epidemic. Viral load testing, however, provides a better indicator of a patient's response to therapy, largely replacing CD4 counts in management of these patients. The HIV Medicine Association Choosing Wisely recommend that ""CD4 monitoring is not necessary for patients who have stable viral suppression". The Association of Medical Microbiology and Infectious Disease Canada suggests not repeating CD4 if the CD4 is above 500 with suppressed viral loads for 2 years. This Quality Improvement project examined the use of CD4 monitoring in the HIV clinic at our centre with the goal of determining whether our ordering practices met the CWC guidelines of avoiding unnecessary testing.

Methods:
We performed a retrospective review of the electronic medical records over a 4-week period of CD4 ordering practices in the HIV clinic at St Joseph's Hospital, a specialized clinic with approximately 700 patients in Southwestern Ontario.

Results:
A total of 60 records were reviewed. 40/60(66.67%) of CD4 orders were deemed to be unnecessary based on current guidelines. Chart review did not identify any specific extenuating clinical indication for ordering the CD4 counts in these cases, and most orders appeared to be entered as part of ""routine"" predetermined electronic orders. The estimated fixed materials (antibodies and lysing reagents only) costs to perform CD4 testing was CA$44.08 per test. A 66% reduction in twice yearly testing for 700 patients would translate into yearly savings of approximately $40,000.

Discussion:
We identified that an estimated 67% of current CD4 testing at our centre falls outside of current guidelines. Based on these results, we have undertaken a quality improvement project with the AIM of reducing superfluous CD4 testing from 67% to 40% by May 2022. A root cause analysis is ongoing and will guide planned interventions to improve ordering practices.

DE-IMPLEMENTATION OF LOW-VALUE ALBUMIN FLUID RESUSCITATION IN CRITICAL CARE – CUSTOMIZED KT DURING A PANDEMIC

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Background:

Intravenous albumin is commonly prescribed to patients where rigorous science indicates no benefit. The objective of this study was to reduce low-value albumin use among adults admitted to ICUs in Alberta, Canada.

Methods:

This was a registry-based stepped wedge quality improvement trial implemented in Alberta ICUs. Clusters of two ICUs began using the intervention every two months until all 16 ICUs were using the intervention. The intervention consisted of: 1) identifying clinical champions; 2) targeted education; 3) changes to the way albumin was ordered; and 4) bi-monthly audit and feedback. Data was obtained from eCritical, the provincial data registry for all ICUs. The primary outcome was the proportion of patients without an evidence-based indication for albumin who received at least one unit of albumin during ICU admission.

Impact:

Intervention implementation began in November 2019 and was complete by January 2021. COVID-19 interrupted implementation by six months between March and August 2020, and delayed audit and feedback by another 6 months in 2021. The proportion of patients meeting primary outcome criteria decreased from 12.9% at baseline to 9.0% as of October 2021 (relative decrease 30.2%). All but one participating ICU decreased albumin utilization compared to baseline (median relative reduction 24.4%; interquartile range: 4.7% - 39.0%). This resulted in 572 patients avoiding unnecessary exposure to a blood product.

Lessons Learned and Challenges:

A multifaceted quality improvement intervention reduced low-value albumin use among patients admitted to adult ICUs in Alberta. Pandemic-related strain hampered timelines associated with planned non-pandemic quality improvement work.

THE GREY AREA: UNDERSTANDING ANTIBIOTIC PRESCRIBING FOR PATIENTS PRESENTING WITH UPPER RESPIRATORY TRACT INFECTION SYMPTOMS AMONG FAMILY PHYSICIANS

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Celia Laur, Women's College Hospital
Laura Desveaux, Trillium Health
Kevin Schwartz, Public Health Ontario
Noah Ivers, Women's College Hospital

Background:

The goal of this work was to understand what impacts antibiotic prescribing by family physicians for patients presenting with upper respiratory tract infection (URTI) symptoms in order to inform the design of future initiatives. Interviews were conducted with family physicians in Ontario who were identified as high (>80th percentile) or medium (40-60th percentile) antibiotic prescribers and early (>10 years since graduating medical school) or late-career stage (25+ years) as identified in the validated IQVIA Xponent database. Interviews were analyzed using the Theoretical Domains Framework, a comprehensive, theory-informed framework to classify determinants of specific behaviours. Using case examples, we explored how physicians decide to start an antibiotic (initiation), which one to choose (selection), and how long to prescribe (duration). Each decision was informed by balancing internal (knowledge, skills, belief about capabilities) and external (access to resources, social influence, belief about consequences) factors. For example, physicians believed they had adequate knowledge about initiation and selection of antibiotics, however, some physicians, particularly high prescribers and those practicing for 25+ years, had gaps in knowledge regarding new evidence for duration. Prescribing decisions were also impacted by environmental context and resources. To address these barriers, physicians suggested clinic and system level strategies that may help address these barriers.

Choosing Wisely materials (posters and viral prescription pad) were described as trusted evidence that informed their communication strategies and helped to overcome some individual and clinic-level barriers. Results of this study are impacting the design of antibiotic prescribing interventions, including an audit and feedback initiative being implemented across Ontario.

LESS IS BEST: PROVINCIAL SPREAD OF BRONCHIOLITIS APPROPRIATE CARE IN ALBERTA

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David Johnson, Alberta Health Services
Lindsay Long, Alberta Health Services
Nathan Solbak, Physician Learning Program
Erin Thompson, Alberta Health Services

Background:

The project focuses on reducing unnecessary tests and treatments for infants under the age of one with bronchiolitis in emergency department (ED) and inpatient settings across the province (16 sites total). The primary goal is a 25% absolute reduction in chest x-rays performed in both ED and inpatient settings by project completion in spring 2025. Secondary outcomes include 5% of all patients in the target population will receive a prescription of bronchodilators, corticosteroids, and antibiotics at discharge.

Site implementation has two phases: September 2021 (6 sites) and September 2022 (10 sites). Implementation strategies include audit & feedback sessions and tailored site-specific implementation plans which includes educational posters, use of electronic order sets through Connect Care (provincial clinical information system), family educational materials, and ongoing data reporting. Provincial results from the first launch are not available yet but several sites have baseline and first implementation season run charts.

During the first phase of implementation, obtaining consistent data across the province with current data systems was a challenge. Site readiness has been impacted by delays in Connect Care rollout and pressures due to the pandemic.

Sites with successful implementation and engagement with their teams had site champions to promote project uptake and address contextual factors and barriers at their facility that might impede practice change. Flexibility was required to reschedule launch dates and adjust to site needs. The COVID-19 pandemic has impacted bronchiolitis case numbers, differential diagnoses of bronchiolitis, and patient management. Timely education on bronchiolitis diagnosis and management has benefited sites.

EVERY TUBE COUNTS: REDUCING EXTRA TUBES DRAWN IN THE EMERGENCY DEPARTMENT

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Background:

Due to the ongoing COVID-19 pandemic and global supply disruption, there is a critical and unpredictable supply shortage for all blood collection devices and tubes. This is a national issue that is intermittingly affecting different product lines and is expected to last throughout the year. We identified the common practice of drawing extra tubes just in case additional tests are required to avoid the need for repeat venipuncture. This study examined the extent of tube wastage within our hospital system.

Methods:

We quantified the number of extra tubes drawn and locations where this was common practice at London Health Sciences Centre and St Joseph's Health Centre. We estimated extra tubes and add on test by 4 weeks audit in specimen receiving areas as well as by electronic orders placed.

Results:

Approximately 52 extra tubes were drawn daily and about 5% were used for add-on testing. This practice was most common in the Emergency Department (ED). This translates into approximately 18,980 extra tubes a year or 18 000 tubes discarded.

Discussion:

Drawing an "extra" tube of blood is common practice in the ED and in less than 5% of patients are these tubes used for add on testing. Reducing this practice would reduce tube wastage and blood loss contributing to nosocomial anemia. A change in this practice may help to conserve blood tubes and lab resources during time of shortage. An educational intervention jointly launched by Laboratory Medicine and ED entitled "Every Tube Counts" is planned.

VIRTUAL NURSE PRACTITIONER CHRONIC DISEASE PROGRAM

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Susan Anderson, Government of Nunavut

Goals:
Improving access to evidence based chronic disease management in patients in rural and remote communities in Nunavut along with a secondary focus on disease and illness prevention.

Activities:
Develop a sustainable Virtual NP Program delivering care over tele-medicine. Currently nine communities are enrolled in the program with the intention to expand to all communities across Nunavut. Patient will be rostered to the program to ensure consistent follow up.

Impact:

Immediate outcome: a) Improved access to primary and secondary care related to the patient's chronic disease b) Improved chronic disease biomarkers and performance measures c) Up to date screening guidelines based on personalized risk factors d) Improved patient reported outcome measures.

Intermediate outcomes: a) Decline in health centre acute episodic encounters related to complications and sequela of uncontrolled chronic disease b) Decline in medivacs and admissions.

Ultimate outcomes: a) Improved Nunavummiut health b) Improved territorial health care cost as a result of a healthier population c) Improved territorial health care cost as a result of early disease detection

Challenges:
Challenges identified include:

- COVID-19 pandemic and Nursing shortage: This program requires assistance from nursing staff to facilitate physical assessments along with action any in community orders.
- Lessons Learned: it is essential for the program to be flexible and be able to pivot the mode of health care delivery.
- Evaluation: A preliminary evaluation was complete and data collection remains ongoing. Metrics include: 1) PREMS 2) PROMS 3) NP surveys 4) Random chart audits

STOPPING ROUTINE URINE SCREENING FOR STROKE REHABILITATION INPATIENT ADMISSIONS

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Goal:

Urine testing on asymptomatic patients is not aligned with Choosing Wisely recommendations; however, stroke survivors have trouble communicating symptoms, and urinary tract infections (UTI) are a recognized post-stroke complication. All stroke inpatients at a tertiary rehabilitation hospital undergo urine testing on admission. We led a quality improvement (QI) project on one stroke rehabilitation unit aimed to reduce routine urine testing from 100% to 0%.

Activities:

Baseline audit representing 2 weeks identified 27 of 28 patients had admission urine tests, however, no patient required UTI treatment despite 3 positive culture results. Estimated cost of testing was $675. QI tools identified that a standardized paper-based admission form facilitated automatic urine testing. Over four-weeks, intervention strategies included education, clinicians crossing off urine orders, and unit-clerks flagging unaddressed orders for reassessment. A chart audit after 4 weeks and prescriber survey after 6 months assessed impact.

Impact:

Post intervention audit (n=23) revealed 1 patient had negative urine tests completed on admission, 22 orders were crossed out, 1 sticker was applied, and estimated cost of urine testing declined from $675 to $25. Six urine tests were completed, and 2 patients were treated for UTI after admission. Post 6-months, unit clerks crossed out the order on the standardized form, and no patient had routine admission urine testing.

Lessons Learned:

There was no clinical benefit in screening for UTIs in all stroke survivors transferred to tertiary stroke rehabilitation. This project serves as a practical example of how to de-adopt an ordering practice promoted by standardized order forms.

REDUCING UNNECESSARY COAGULATION TESTING IN THE EMERGENCY DEPARTMENT– BUILDING BEYOND THE UNBUNDLING

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Estee Benade, Island Health

Background:
Island Health joined the "Becoming a Choosing Wisely Hospital" campaign in 2019. Reducing unnecessary variation in care was identified as a key focus in our organizational strategic plan. Unbundling of the aPTT/PT-INR as one of our first projects, aimed to reduce unnecessary coagulation testing. These efforts resulted in a significant reduction in aPTT/PT-INR bundling at several of our facilities, however absolute test volumes remained high for PT-INR with significant variation across sites.

Some sites observed a reduced bundling rate but increase in absolute test numbers. A widespread education campaign was launched which included information on indications for coagulation testing as well as notification of critical supply shortages. In addition, changes were made to order sets to facilitate improvement in coagulating testing requests. A combination of centralized standard setting and local implementation was used. Understanding the data and choosing the correct measures were essential in order to make the correct targeted changes in order to achieve our goal.

With these changes, a reduction in PT-INR testing was achieved. Ongoing monitoring and sharing of data is underway. Engagement of physician champions, leadership by subject matter experts and organizational support has supported a sustained reduction in inappropriate coagulation testing.

STOP THE SPOT URINE PROTEIN ELECTROPHORESIS

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Background:
A well validated screen for plasma cell dyscrasias is the combination of serum protein electrophoresis (SPEP) and serum free light chain (SFLC) testing. Urine protein electrophoresis (UPEP) has been used historically prior to the availability of SFLC testing and is still an acceptable test when performed on a 24-hour urine collection. UPEP on a random urine sample, however, is not a recommended test and likely has lower sensitivity.

Methods:
UPEP orders in the laboratory database at London Health Sciences Centre over a 6-month period from July 27, 2021, to January 27, 2022, were reviewed to assess the need for improved utilization.

Results:
UPEP was ordered on 217 random or "spot" urine specimens, with the majority (>90%) ordered by internal medicine trainees. In 121 cases (56%), a simultaneous SFLC order accompanied the spot UPEP order. In comparison, 177 UPEP tests on 24-hour urine specimens were ordered over the same period of time, primarily (90%) by hematologists, with 96 (54%) having simultaneous SFLC orders.

Discussion:
Random UPEP was ordered primarily by internal medicine trainees and likely reflects a lack of knowledge regarding inappropriateness of this test. 24-hour UPEP was ordered almost exclusively by hematologists, mostly for clinical trial protocols and less frequently for workup of amyloidosis and monoclonal gammopathy of renal significance. We launched a "Stop the Spot" UPEP intervention, which includes an educational "pop up" to block any order for random UPEP and redirect clinicians to the SPEP and SFLC tests.

THYROID FUNCTION TESTING: CHOOSING UNWISELY IN SASKATCHEWAN

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Introduction:
Thyroid dysfunction is quite prevalent and diagnosed through the thyroid function tests (TFTs): thyroid-stimulating hormone (TSH), thyroxine (T4), and triiodothyronine (T3). Guidelines recommend TSH alone as a screening test. Unnecessary testing can lead to patient harm and economic burden. This study aims to evaluate our institution's TFT ordering practices and identify strategies to reduce inappropriate use of TFTs.

Methods:
Our group analyzed and visualized data from TFTs referred to Saskatoon biochemistry laboratories from January 1, 2016 to December 31, 2019.

Results:
During this period, 1,186,369 TFTs were ordered with an approximate cost of $5.9 million. 37.2% of orders had TSH and free T4, and 16% had all 3 TFTs ordered simultaneously. Out of a total of 224,423 repeat TSH tests, 78.5% had normal initial results and 90.1% of those remained normal when repeated. On average, 51.7% of repeat TSH tests were performed within 3 months of initial testing.

Conclusions:
The primary problems identified were (1) high volumes of TFTs, (2) TFTs ordered in combinations instead of primary TSH testing, and (3) inappropriate repeat TSH testing. These indicate a need to evolve a standard practice protocol and work to rationalize the testing behaviour of clinicians about thyroid dysfunction. From the data and existing guidelines, a TFT flowchart was created with a revised laboratory algorithm. Once revised algorithms and educational materials are implemented into practice, post-intervention evaluation will be performed. Improving the appropriateness of TFT ordering will lead to more cost-effectiveness and enhance the sustainability of the healthcare system.

QUALITY INDICATORS TARGETING LOW-VALUE CLINICAL PRACTICES IN TRAUMA CARE: AN INTERNATIONAL EXPERT CONSENSUS STUDY

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Background:
Trauma quality indicators proposed to date exclusively target the underuse of recommended practices. We aimed to develop a set of evidence and patient-informed, consensus-based quality indicators targeting reductions in low-value clinical practices in acute, in-hospital trauma care.

Methods:
We conducted a two-round RAND/UCLA consensus study comprising an online survey and a virtual workshop led by two independent moderators. Two panels of international experts (Canada, Australia, the USA and the UK) and local stakeholders (Québec, Canada), representing key clinical expertise involved in trauma care and including 3 patient-partners. Panelists were asked to rate 50 practices on a 7-point Likert scale according to four quality indicator criteria: importance, supporting evidence, actionability and measurability.

Results:
Of 49 eligible experts approached, 46 completed at least one round (94%) and 36 (73%) completed both rounds. Eleven quality indicators were selected overall, two more were selected by the international panel and a further three by the local stakeholder panel. Selected indicators cover low-value initial diagnostic imaging, repeat diagnostic imaging, consultation, surgery, blood product administration, medication, trauma service admission, intensive care unit admission, and routine blood work.

Conclusions:
We have developed a set of consensus-based quality indicators informed by the best available evidence and patient priorities, targeting low-value trauma care. Selected indicators represent a trauma-specific list of practices whose use should be questioned. Trauma quality programs in high-income countries can use our results as a basis to select context-specific quality indicators to measure and reduce low-value care.

ADHERENCE TO THE CANADIAN CT HEAD RULE IN A NOVA SCOTIAN EMERGENCY AND TRAUMA CENTRE

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Background:
Choosing Wisely Canada (CWC) has identified unnecessary head CTs among the top five interventions to question in the Emergency Department (ED). The Canadian CT Head Rule (CCHR) is an effective clinical decision rule in adults with minor head injuries.

To better understand the status of CCHR use in Nova Scotia, we conducted a retrospective audit of patient charts at an emergency and trauma center in Halifax, Nova Scotia. Our mixed methods design included a literature review and retrospective chart audit. The chart audit applied the guidelines for adherence to the CCHR and reported on the level of compliance within the ED.

302 charts of patients having presented to the surveyed site were retrospectively reviewed. Of the 37 cases where a CT head was indicated as per the CCHR, a CT was ordered 32 (86.5%) times. Of the 176 cases where a CT head was not indicated, a CT was not ordered 155 (88.1%) times. Therefore, the CCHR was followed in 187 (87.8%) of the total 213 cases where the CCHR should be applied.

Our study reveals adherence to the CCHR in 87.8% of cases at this ED. Identifying contextual factors that facilitate or hinder the application of CCHR in practice is critical for reducing unnecessary CTs. In light of the frequency of CT heads ordered EDs, even a small reduction would be impactful.

IN SEARCH OF APPROPRIATENESS: IMPROVING QUALITY OF ECHO REFERRALS

Raymond Dong, Fraser Health Authority

Background:

The increased volume of echocardiograms referrals has surpassed the capacity of echo labs to provide timely access to studies. The British Columbia benchmark pf 30 days for non-urgent echoes to be completed has never been met. Using published appropriate use criteria, an educational tool was developed. All outpatient echo referrals were scored as Appropriate, May Be Appropriate, and Rarely Appropriate. The physicians were asked to use this tool and to reflect on their referral practices. In addition to the educational tool, 4 questions were used as a guide, with a focus on patient clinical status and whether the study was for ""routine surveillance"". Baseline data was collected by scoring all referrals for a period of 5 weeks. After the educational tool was distributed to the referring physician community, referrals were scored during the subsequent 25 weeks. The Rarely Appropriate studies fell from 26% during the pre-education phase to 3% after introduction of the tool. The Appropriate referrals increased from 46% at baseline to 80%. The weekly averaged Appropriate Use Score went from 5.5 (out of a possible 9) to 6.9.

The guiding principle has always been to have the right test performed for the right patient at the right time. Potential cost savings and significant reductions in wait lists for echocardiography are being evaluated. The spread/implementation of this work has begun with wider distribution of the tool, with augmented learning via webinars (describing best utilization of this imaging modality).

DRIVING QUALITY IMPROVEMENT IN COMMUNITY PHARMACY THROUGH QUALITY INDICATORS

Anisa Shivji, Ontario College of Pharmacists
Karin Taylor, Ontario College of Pharmacists

Purpose:

To support its mandate to serve and protect the public, the Ontario College of Pharmacists (the College) is responsible for encouraging continuous quality improvement within the profession of pharmacy. The College and Ontario Health set forth to establish the first set of Quality Indicators for Community Pharmacy in order to use data for QI and enhance public awareness about the role of the pharmacy professional.

Methods/Activities:

A stakeholder roundtable was conducted to establish the selected critical measurement areas: patient / caregiver experience, appropriateness of dispensed medications, medication-related hospital visits, transitions of care, and provider experience.

The indicators for provider experience were developed through a series of consensus meetings and surveying by a working group of practicing pharmacy professionals, data experts and patient advisors.

The indicators in the other measurement areas were selected using a modified Delphi process led by an expert panel consisting of practicing pharmacy professionals, patients, policy makers, data experts and academics. Extensive patient and pharmacy sector engagement was conducted throughout both processes.

Impact:

A total of 11 indicators across the measurement areas were established, aligning with existing health system indicators where possible. The data for three indicators in the measurement areas: appropriateness of dispensed medications, medication-related hospital visits and transitions of care, was obtained from existing administrative datasets and will continue to be updated on the College's website. As data is received for each of the measurement areas, the College will continue to analyze trends and inputs and focus efforts on enhancing quality improvement in community pharmacy and, improving public awareness about the role of the pharmacy professional.

STRUCTURAL CHANGE IN A PROVINCIAL HEALTH SYSTEM TO OPTIMIZE USE OF HEALTH RESOURCES: HEALTH ACCORD NL (HANL)

Pat Parfrey, Quality of Care NL/Choosing Wisely NL
Elizabeth Davis, Sisters of Mercy NL
Lynn Taylor, Quality of Care NL/Choosing Wisely NL

Goal:

HANL was created to provide a plan on how to improve health in the province. Using evidence public engagement, and expertise its goal was to obtain agreement between the public, stakeholders and the political system on how to improve health outcomes. The three major lenses used were those of inclusion, quality and integration.

Activities:

A task force of stakeholders were provided with direction statements and action plans from 10 strategy committees coordinated by a secretariat from Quality of Care NL/Choosing Wisely NL (QCNL).

Impact:

Structural changes to implement change included a Provincial Health Authority (which will facilitate a provincial Choosing Wisely program), Regional networks to integrate across health and other systems that influence health, and a Council on Health Quality and Performance directly connected to QCNL. The Council is responsible for reporting, creating an evaluation plan, and facilitating a Learning Health and Social System (LHSS).

Challenges:

Lack of measures for quality of social care and integration of social interventions into primary care; accountability for the use of health resources and developing a LHSS in Community Teams; creating a culture of quality in the rebalanced health system.

Lessons Learned:

Evidence stimulated discussion of change, the creation of HANL, and the agreement on calls to action. However, public engagement was the critical component that permitted an Accord to be delivered.

THE BAG IS NOT ALWAYS BAD: IMPLEMENTING A TWO-STEP METHOD FOR URINE TESTING ON THE INPATIENT PAEDIATRIC WARD

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Beth Gamulka, The Hospital for Sick Children
Laila Premji, The Hospital for Sick Children

Background:

Reducing unnecessary investigations is critical for patient care and due to current strains on laboratory services during the pandemic. A two-step approach for urine collection has previously demonstrated a reduction in unnecessary bladder catheterizations and urine cultures for children with suspected urinary tract infections (UTIs).

Goal:

Decrease the number of bladder catheterizations and unnecessary urine culture samples for children 6-24 months with suspected UTIs on the general paediatric ward.

Methods:

Baseline data was collected for all urine studies sent from the paediatric ward in 2020. A two-step pathway was adapted which includes first completing a point-of-care urinalysis (UA) on a urine bag sample, and only if positive, completing a bladder catheterization for UA and urine culture. Using the Model for Improvement and multiple PDSA cycles, the pathway was implemented. Data collection continues monthly.

Impact:

Baseline data demonstrated a high rate of urinary catheter cultures despite a negative UA or no UA being performed prior (67%). After the pathway implementation, this decreased to a mean of 30%. The number of point-of-care UAs performed on the wards increased from a mean of 70% to a mean of 88%, meaning fewer UA samples derived via catheter sampling processed in the lab.

Challenges:

There remains variability in practice for investigating UTIs on the wards and ongoing education for new staff is challenging.

Lessons Learned:

Bladder catheterizations are often used to investigate UTIs but are invasive. A two-step approach will contribute to providing high-value, patient-centered care during a period where resource stewardship is pivotal.

ENSURING APPROPRIATE USE OF IMMUNE GLOBULIN IN SASKATCHEWAN

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Paul Babyn, Saskatchewan Health Authority

Background:
Immune Globulin (IG) has been an untracked resource in Saskatchewan. With no registry in place, no strategic oversight for orders/renewals, and an anticipated global supply shortage, a dedicated program was initiated to curb inappropriate use with respect to indication, dose and/or duration of treatment.

Goals:

- Ensure all orders follow Criteria for the Clinical Use of IG,
- Use adjusted body weight dosing,
- Develop patient/provider registry,
- Create intervention, shortage strategies.

Team:

- Medical specialist champions,
- Nurse navigators,
- Infusion clinic nurses,
- Analyst,
- Lab staff,
- Blood management managers,
- Physicians.

Activities:
A new adult order set and workflows were developed to screen orders. The program launched on November 1, 2021, resulting in all orders being surveyed through tri-provincial criteria and the new registry. IG orders are for a maximum of six months and are reviewed as they come due.
From November 1 to January 31, 2021 the inappropriate orders for IVIG were reduced from 29% to 6%. An overall savings of 12.3% was estimated.
Initial actions have improved IG prescribing practices in Saskatchewan. Additional savings will be realized as renewals are received/reviewed in the future.

Challenges:
Some clinicians objected that the new order set was too long. Coaching and follow-ups were required to alleviate these concerns.

Lessons Learned:
The program will continue to seek patient feedback, including surveys while attending infusion clinics. A continuous idea board is utilized to identify and track lessons learned and implement future improvements.

Feedback:
Regular meetings occur with specialists, champions and prescribers to promote the need for curbing inappropriate IG use.

REDUCING UNNECESSARY AND REPETITIVE DIAGNOSTIC PHLEBOTOMY IN AN INTENSIVE CARE UNIT: A QUALITY IMPROVEMENT STUDY

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Background:
Critically ill patients receive a high volume of blood tests. The resulting phlebotomy can contribute to ICU acquired anemia and the need for red cell transfusion.

Aim:
To reduce unnecessary routine ICU phlebotomy volume by 15% in a 26-bed tertiary Medical-Surgical ICU at St. Michael's Hospital in Toronto, Ontario, between February and June 2019.

Methods:
This prospective Quality Improvement (QI) study included a 7-month pre-intervention baseline, 5-month intervention, and 8-month post-intervention period. Change strategies including education sessions, work-flow changes, electronic order set modifications, add-on testing, and audit and feedback were implemented using plan-do-study-act cycles. The primary outcome was average volume of blood collected per patient-day. Secondary outcomes included number of discrete blood draws and red cell transfusions. Outcomes were evaluated using process control charts and segmented regression.

Results:
Mean blood volume decreased from 41.3 ± 4.0 mL to 35.5 ± 5.0 mL per patient day. Discrete blood-draws also decreased from 3.2 ± 0.3 to 2.8 ± 0.4 per patient day. Special cause variation was observed at 6 weeks. Linear segmental regression confirmed a statistically significant change in phlebotomy volume (-4.4 ± 1.2 mL/patient day, $p<0.001$). A horizontal post-intervention slope (Beta=0.03 ± 0.04, $p=0.44$) confirms sustainability. Red blood cell transfusions also decreased from 8.4 ± 4.2 to 6.9 ± 2.6 per 100 patient days ($p=0.036$).

Conclusion:
Iterative improvement interventions can reduce ICU blood testing and can impact patient important outcomes including red cell transfusion. Frequent stakeholder consultation, incorporating stewardship into daily workflow, and audit and feedback are integral to success.

IMPACT OF UTILIZATION MANAGEMENT STRATEGIES ON UNJUSTIFIED REFERRED-OUT TEST REQUESTS

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Objectives:

This study investigates the impact of standardized evidence-base approval criteria, with physician engagement on utility of referred out (RO) tests. Activities: Prior to October 2016, limited RO tests underwent an approval process involving LIS messaging systems requesting clinical justification within 30 days. Commencing October 2016, we extended this process to 84 RO tests with stricter approval criteria. Vetting of responses were performed by medical lab staff. Numbers of each test requested and completed during 2015 to 2018 were collected and annual cost savings were calculated.

Results:

In 2015, prior to the new review process, 973/5028 (19.4%) RO tests were canceled due to non-approval or no reply. The test cancelation rates increased to 25.1%, 34.4% and 38.5% despite annual RO requests increasing slightly to 5067, 5143 and 5778 in 2016, 2017 and 2018 respectively. The annual cost saving increased from $61,454 in 2015 to $132,120 in 2018. In 2018, the test in top demand was fecal calprotectin reaching 553 from only 17 in 2015; from which 23% of requests were canceled, accounting for the highest canceled tests. The most significant reduction in requests was for zinc from 375 in 2015 to 195 in 2018 and its cancelation rate increased from 14.7% in 2015 to 47.2% in 2018. Conclusions: Automated messaging with LIS assisted rules is an effective utilization strategy for costly tests suspected of being redundant or unjustified. Establishment of further communication with ordering physicians by providing evidence-based approval criteria is necessary for better patient care and cost savings.

INTERVENTIONS TO REDUCE BENZODIAZEPINE AND SEDATIVE-HYPNOTIC DRUGS IN HOSPITAL: RESEARCH ADVISORY GROUP RECOMMENDATIONS

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Goal:

Interventions to reduce hospital use of benzodiazepines and other sedative-hypnotic drugs have been identified, but consideration of local contextual factors is needed to improve implementation success. A research advisory group (RAG) of clinicians and public members assessed which interventions would be feasible and practical to implement in the local health authority.

Activities:

The RAG included hospital clinicians (nurses, pharmacists, physicians), administrators, educators, and public members. During six virtual meetings, the RAG used the APEASE criteria (affordability, practicability, effectiveness, acceptability, safety, and equity) from The Behaviour Change Wheel (2014) to discuss and score eleven interventions.

Impact:

Mean APEASE scores across all criteria ranged from 3.33 to 7.75 out of 10 for each intervention. The highest scoring interventions were clinician education, patient education, and policy changes. Discharge support, which had been partially implemented in the local health authority, also scored highly. Behavior change using a patient brochure scored highly on affordability, effectiveness, acceptability, and safety. Deprescribing and cognitive behavioral therapy received high scores for affordability and effectiveness, but a low score for practicability. Computerized alerts and prescription monitoring/benchmarking scored the lowest overall, primarily due to affordability and implementation difficulties.

Challenges:

To address implementation and contextual challenges the RAG suggested considering patients' health literacy, providing education materials in several languages, not implementing multiple interventions simultaneously, and integrating interventions into existing hospital systems.

Lessons Learned:

Members of the RAG found virtual meetings effective in reaching agreement using the APEASE criteria. Interventions considered feasible and practical were recommended for implementation.

USING AUDIT AND FEEDBACK TO INCREASE INDICATIONS RECORDED WITH ANTIMICROBIAL PRESCRIPTIONS AMONG PRIMARY HEALTHCARE PRESCRIBERS

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Goal:
To increase the number of indications recorded with antimicrobial prescriptions among primary healthcare practices in Regina, SK, Canada. This information will help the Antimicrobial Stewardship Program design more targeted future interventions.

Activities:
Audit and feedback included monthly reports emailed to 11 local primary healthcare clinics, providing prescribers with their individual data on the number of antimicrobial prescriptions with an indication documented in the electronic medical record. Prescribers could compare themselves anonymously to their colleagues in the same data set. The audit and feedback is ongoing (i.e., prescribers continue to receive monthly reports).

Impact:

Over 18 months (initial analysis for this intervention), the audit and feedback intervention was associated with an increase in the total percentage of antimicrobial prescriptions with a recorded indication from 21.4% pre-intervention to 37.8% post-intervention. The intervention was associated with 3.0 (95% CI, 2.7 – 3.4) greater odds of prescriptions having recorded indications.

Challenges:
The arrival of COVID-19 in SK coincided with the start of this audit and feedback intervention. This meant we had to adjust our original plan, which included face-to-face meetings with prescribers at their clinics, and move to an entirely virtual intervention (i.e., contact through email only).

Lessons Learned:
Even without in-person connections to help promote uptake of the audit and feedback intervention among primary healthcare providers, our data show an association between our virtual audit and feedback and an increase in the number of indications recorded for antimicrobial prescriptions.

BASELINE INAPPROPRIATE ANTIBIOTIC USE IN PRIMARY CARE PATIENTS WITH VIRAL RESPIRATORY TRACT INFECTIONS IN 2019 AND 2020

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Background:

Respiratory tract infection (RTI) is the leading cause of avoidable antimicrobial use in primary care. The COVID-19 pandemic has impacted antibiotic prescribing. Our goal was to examine antibiotic prescribing rates for RTI in primary care during 2020, compared to baseline (2019).

Methods:

Data were obtained from the Canadian Primary Care Sentinel Surveillance Network (CPCSSN). We examined oral antibiotic prescribing for patients who were identified as having a primary care visit for RTI. The analysis was repeated for urinary tract infection (UTI) as a tracer condition. Avoidable antibiotic use for RTI was defined by Choosing Wisely Canada.

Results:

A total of 1,692,876 patients had at least one visit to primary care in 2019 and 2020. Patient visits for RTI decreased (2.3%, 2019 vs. 1.6%, 2020 ($p<.0001$)), as did patient visits for UTI (1.1% vs 0.7%, $p<.0001$). In 2019, 28.0% of patients visits for RTI were prescribed an antibiotic and this proportion decreased to 20.6% in 2020 (<.0001). RTI Antibiotic prescriptions was driven by a decrease in prescribing for common colds (13.6% vs. 11.3%, <.0001) and acute bronchitis/asthma (15.2% vs. 7.3%, $p<.0001$). UTI antibiotic prescribing for visits increased marginally between 2019 and 2020 (71.6% vs. 72.3%, $p=0.007$).

Impact:

A significant decrease in RTI antibiotic prescribing was observed during the first year of the COVID-19 pandemic, likely related to the changes in epidemiology and care delivery models in primary care. CPCSSN can provide pan-Canadian surveillance of antibiotic prescribing practices in primary care that can be used for provider feedback and quality improvement.

IMPROVING ACUTE CARE FOR LONG-TERM CARE RESIDENTS

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Submitted on behalf of the LTC-to-ED optimization project team

Background:

A major vulnerability highlighted during the COVID-19 pandemic is the strain on acute care resources. Long term care (LTC) residents often experience acute changes in health status that can lead to transfers to ED, imposing additional stress on limited resources. Many residents' conditions could be managed using resident-centered care provided at LTC homes if appropriate supports are provided. We present preliminary results of a knowledge translation project that aims to reduce potentially avoidable transfers to ED from LTC homes.

49 LTC homes in the Alberta Health Services Calgary and Central zones were involved in implementation of a standardized LTC-to-ED care and referral pathway utilizing a centralized telephone triage system, community paramedics, and early identification tools for acute medical issues. Using a step-wedge design between October 2019 and October 2021, implementation was informed by the knowledge to action (KTA) cycle, with implementation strategies being adapted to local barriers, context within each home, and challenges with the pandemic. The evaluation of the intervention used a mixed methods approach with our primary outcome of interest being the change in the rate of transfers to ED from LTC.

Secondary outcomes being assessed include impact on key quality dimensions, cost efficiency, and residents and healthcare practitioners' experiences with the intervention. Early findings from 24/40 homes in the Calgary zone show a reduction in the total number of ED visits from 690 five months before to 610 five months after implementation. Next steps include delineating the impact of the intervention from the impact of the COVID -19 pandemic.

OPTIMIZING INPATIENT MANAGEMENT OF VIRAL BRONCHIOLITIS AT THE MONTREAL CHILDREN'S HOSPITAL: A QUALITY IMPROVEMENT PROJECT

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Background:
Viral bronchiolitis is a common reason for pediatric admission. National guidelines support avoidance of unnecessary investigations and interventions, yet practices remain heterogeneous across and within institutions, potentially impacting quality of care and resource utilization. A chart audit of practices on our inpatient units between September 2018 and December 2019 highlighted several areas for improvement.

Goals:

To decrease routine nasopharyngeal suction with catheter, decrease use of continuous pulse oximetry in low-risk patients not requiring oxygen, match oxygen saturation target to national recommendation of ≥90%, and increase nasogastric hydration (instead of intravenous fluids).

Methods:

Following publication of a local bronchiolitis guideline, a quality improvement project focused on targets of interest was launched on inpatient units. Facets included multidisciplinary educational sessions, display of visual campaigns, and dissemination of a clinical pathway and pre-printed order set. Retrospective chart audits were completed post-intervention (spanning June 2020 to November 2021). Sample size was considerably limited by decreased bronchiolitis hospitalizations during the COVID-19 pandemic.

Results:
Routine nasopharyngeal suction with catheter decreased from 81% to 32% of patients. Continuous pulse oximetry remained stable. Prescription of an oxygen saturation target of ≥90% increased from 77% to 84%. Nasogastric hydration increased from 14% to 47%. Balancing measures, including length of stay and readmission rate, remained stable.

Conclusion:
Preliminary results show positive practice changes following guideline publication and associated quality improvement initiatives. Further data collection is required to confirm changes are sustained. Plan-Do-Study-Act (PDSA) cycles will ensure the project maintains momentum and allow potential focus shift to other identified targets.

REDUCING OPIOID PRESCRIPTIONS FROM THE EMERGENCY DEPARTMENT: A TWO-PRONGED QUALITY IMPROVEMENT INITIATIVE

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Background:
Adequately managing patients' pain in the emergency department (ED) is important. However, the liberal prescription of opioid medications can be problematic. Studies show that more than 60% of opioids prescribed by emergency physicians (EP) are unused. These opioids pose a risk for abuse, diversion, and unintentional ingestion.

Aim:
To decrease the quantity and frequency of ED opioid prescriptions by 15% in 1 year ending September 2021.

Measures & Design:
We conducted a two-pronged intervention to decrease opioid prescribing practices for discharged ED patients. We implemented a default quantity on all electronic opioid prescriptions at 10 tablets. A quarterly audit on physicians' opioid prescribing practices was conducted. Anonymized data was distributed to physicians with comparison to other EP, the group mean and highlighting those more than 1 standard deviation above the mean.

Outcome Measures:
1. Quantity (average morphine mg equivalents-MME per prescription).
2. Rate (opioid prescriptions per discharged patient).

Results:
A total of 42 EPs were included in this quality improvement initiative between October 2020 to September 2021. The average MME per prescription decreased from 75.3 MME to 54.5; a 28% reduction in the amount of opioids prescribed. The pre-intervention rate of opioid prescriptions was 4.35% compared to 3.90% in Q4; a 10% reduction in the frequency of opioid prescriptions.

Impact:
The interventions were successful in decreasing both the quantity and frequency of opioids prescribed by EP. This initiative encouraged EP to minimize unnecessary opioid prescriptions and to reflect on their prescribing practices relative to their peers.

ACADEMIC DETAILING AND DRUG FORMULARY IMPACT APPROPRIATENESS OF CARE

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Goal:
We aimed to align florquinolone prescribing with current evidence.

Activities:
Since 2007, our ADS has reviewed available literature on topics in prescribing detailing to align practice with current evidence. In 2012, our Academic Detailing Service (ADS) addressed antibiotic use. Academic detailing has been shown to be an effective tool for achieving practice change. (1,2) Almost half (47%) of primary care prescribers in Nova Scotia engage in ADS. (3,4)

In 2012, our ADS targeted outpatient antibiotic prescribing for pneumonia, acute exacerbation of COPD (AECOPD), acute bacterial sinusitis (ABS), and urinary tract infections (UTI). (5) ADS was provided across Nova Scotia in 2012-2013 in addition to webinars and conference presentations to disseminate the evidence.

Impact:
The Canadian Network for Observational Drug Effect Studies (CNODES) Investigators conducted a retrospective cohort study of the proportion of events treated with florquinolones between 2005 and 2015 in six Canadian provinces.

Overall, florquinolone prescribing trended downward for UTI and AECOPD across all sites In Nova Scotia, florquinolone prescriptions changed as follows: UTIs from 25% in 2005 to 20% in 2015; ABS 4.5% in 2005 to 2.2% in 2015; and AECOPD 8% in 2005 to 6% in 2015.

The Challenge:
Provincial drug formularies and education were credited for this improvement (5, 7, 8, 9). Developing processes to inform drug formularies and provide high-level, effective translation of evidence into practice are costly and time consuming. Specific measurement of programs such as the ADS is important.

Provincial drug formularies and education programs can effectively impact antibiotic prescribing.

COALITION INFLUENCE ON PHYSICIAN BEHAVIOUR: A QUALITATIVE STUDY USING THE THEORETICAL DOMAINS FRAMEWORK

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Goal:
Explore physician experience using the Theoretical Domains Framework (TDF) and the Behavioural Change Wheel (BCW), identifying behavioral factors that a physician QI leadership coalition used to encourage physician leadership/ participation in implementing a provincial Laboratory-Test Ordering Overuse (LTOO) initiative to reduce blood urea nitrogen (BUN) ordering.

Activities:
Semi-structured interviews with 12 physicians using a deductive content analysis guided by the TDF and BCW along with a thematic analysis was completed.

Impact:
Nine-overarching themes were generated, 7 TDF domains (knowledge; skills; beliefs about capabilities; social influences; social/professional role and identity; environmental context and resources; and emotion) influenced QI leadership/ participation and 8 (knowledge; beliefs about capabilities; social influences; social/professional role and identity; goals; beliefs about consequences; intentions; and behavioural regulation) influenced BUN ordering.

BUN ordering communicated by a local credible physician who share data, clinical-best-practice, and past project success, encouraged appropriate ordering. Participants recognized the coalition as a peer-to-peer QI community and perceived this initiative as an opportunity to support an intervention with minimal effort; they also acknowledged coalition awareness was not necessary for physician involvement in the initiative.

Challenges:

Investigating several behaviours simultaneously complicated the analysis.

Lessons Learnt:

Future interventions to encourage physician QI participation and leadership for appropriate laboratory ordering requires education (QI and clinical laboratory medicine), role modelling that is persuasive, incentives, and application of guidelines, restrictions and environmental restructuring.

TRANSFUSION STEWARDSHIP PROGRAM: ADDRESSING IMMUNE-GLOBULIN USE IN MANITOBA

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Darcy Heron, Shared Health
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Goal:
Immune-globulin (Ig) therapy continues to be a vital treatment option for a broad spectrum of disorders – both as replacement therapy and as an immune modulator. However, off-label treatment (due to limited evidence base) has led to significantly higher utilization for indications that have questionable benefit. In Manitoba, Ig therapy in the form of intravenous Ig (IVIG) and subcutaneous Ig (SCIG) have shown yearly growth rates of 10% per year with much greater per capita use compared to the other provinces in Canada. Given these higher rates and the potential for intermittent manufacturing shortages, a Transfusion Stewardship Program initiative directed at Ig therapy was implemented in December 2020.

Activities:
Targeted screening of Ig requests were done through individual blood banks using both a dosing calculator and the reference guideline Criteria for the Clinical Use of Immune Globulin (1st ed 2018) developed by the Prairie Collaborative. Prior to implementing the screening process, various stake holders were engaged, educational materials were developed, communication channels were established for information sharing and an on-call process was established for urgent requests.

Impact:
Yearly growth of 10% per year declined to no growth over the last 12 months; greater alignment with per capita use as compared to other jurisdictions; IVIG use declined by 27%; SCIG use increased by 62% to accommodate greater proportion of patients transitioning to home infusion.

Challenges:
Confusion with new processes from clinicians and laboratory staff; enforcement of dosing calculator met with resistance; off-label requests required on-call expertise.

NSQIP PATIENT EXPERIENCE QUALITY INITIATIVE OF 30-DAY DISCHARGE INSTRUCTIONS: DEVELOPMENT AND ADMINISTRATION OF A PATIENT EXPERIENCE SURVEY THROUGH REDCAP AT NOVA SCOTIA HEALTH

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Cindy Connolly, Nova Scotia Health Authority
Greg Hirsch, Nova Scotia Health Authority

Background:

In 2019, the Perioperative Surgical Services Portfolio within Nova Scotia Health made the decision and commitment to implement the American College of Surgeons - National Surgical Quality Improvement Program (ACS-NSQIP) at eleven facilities with a goal to improve patient experience and health system outcomes. We sought to use the NSQIP 30-day post-operative follow-up process to engage with patients and families to learn from their experiences. The current study reports on findings from a post-operative patient experience survey developed with iterative feedback from patients and Surgical Clinical Nurse Reviewers (SCNRs)

Methods:

Data from the survey was collected using REDcap during follow-up phone calls with patients, using a sampling plan of the first 10 complete cases per month for each participating site from December 2020 to March 2021 (n = 422). Mixed-methods analysis was conducted to evaluate patient perceptions of availability and quality of discharge information, as well as preparedness and expectations surrounding surgery.

Results:

While all survey questions reported a high degree of satisfaction with surgery across surgical disciplines and participating sites, areas of improvement were identified through thematic analysis of qualitative content. Specifically, patients identified issues surrounding insufficient information surrounding care and recovery, urgency of care influencing preparedness and expectations, lack of communication overall, and desire for individualized information to support informed decision-making.

Conclusion:

Leveraging the NSQIP data abstraction process and 30-day postoperative follow-up calls to enhance patient care is a unique opportunity to learn what matters most to patients and families. These findings support ongoing data collection through REDcap, refinement of survey distribution, and broader patient education strategies through online supports.

DEVELOPMENT OF SHARED DECISION-MAKING TRAINING MODULE FOR PATIENTS FACING PREFERENCE-SENSITIVE DECISIONS REGARDING MAJOR CARDIAC SURGICAL PROCEDURES

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Cindy Connolly, Nova Scotia Health Authority
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Background:

Studies of decision making around cardiac surgical procedures demonstrate poor decisional quality, especially patient comprehension and expression of preferences. Shared decision making (SDM) has been shown to improve comprehension, reduce decisional conflict, encourage preference expression, and better align patient expectations with outcome. Despite success in a pilot project to implement SDM in our cardiac surgery unit through SDM training exclusively for surgeons and provision of decision aids to patients, utilization of these approaches has extinguished over time. We shifted strategy to a team-based approach to SDM implementation, involving training all health care providers (HCPs) including nursing staff, as well as cardiology and cardiac surgery physicians allowing for earlier patient engagement in SDM.

Objective:

To create SDM training that would meet the needs of these learners informed by focus groups with HCPs and patients.

Methods:

Two focus groups with patients and three with health care providers (HCP) were carried out to determine barriers and facilitators of SDM and learning preferences for HCPs. These would be incorporated into an SDM training module.

Results:

Common barriers to SDM identified in thematic analysis include: lack of time during surgeon patient interaction; authoritative imbalance between patients and clinicians; and deficits in patient comprehension. HCPs expressed preferences regarding the delivery of SDM education including presentation style and format specifically; synchronous short events; the utilization of relevant examples through video presentation, and an interactive approach allowing for learner participation. As a result, a training module has been developed and delivered to over 100 HCPs including nursing staff and attendings from Cardiology and Cardiac Surgery. Sessions were interactive allowing learners to define patient concerns and preferences after video presentation. The training module is being modified to allow asynchronous learning and can be housed on easily accessible web platforms for continued use for both refreshers and for new staff orienting to services.

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