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### Standards and Guidelines

**National Institute for Health and Care Excellence**

- Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes
- NICE guidelines [NG5] Published date: March 2015
- Managing medicines in care homes
- NICE quality standard [QS85] Published date: March 2015

**Medicines and Healthcare Products Regulatory Agency**

- Guidance
- [Drug Safety Update: monthly PDF newsletters](#)
  
  Monthly PDF editions of the Drug Safety Update newsletter from MHRA and its independent advisor the Commission on Human Medicines.

### Cochrane Systematic Reviews

**New review - March 2015**

- Interventions for reducing medication errors in children in hospital

### New from UpToDate

**What’s new in drug therapy**

New additions to UpToDate considered by the editors and authors to be of particular interest. You may need an [OpenAthens](#) username and password.
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1. Title: A prospective three-step intervention study to prevent medication errors in drug handling in paediatric care.
   Citation: Journal of Clinical Nursing, 01 January 2015, vol./is. 24/1/2(101-114), 09621067
   Author(s): Niemann, Dorothee, Bertsche, Astrid, Meyrath, David, Koepf, Ellen D, Traiser, Carolin, Seebald, Katja, Schmitt, Claus P, Hoffmann, Georg F, Haefeli, Walter E, Bertsche, Thilo
   Language: English
   Abstract: Aims and objectives To prevent medication errors in drug handling in a paediatric ward. Background One in five preventable adverse drug events in hospitalised children is caused by medication errors. Errors in drug prescription have been studied frequently, but data regarding drug handling, including drug preparation and administration, are scarce. Design A three-step intervention study including monitoring procedure was used to detect and prevent medication errors in drug handling. Methods After approval by the ethics committee, pharmacists monitored drug handling by nurses on an 18-bed paediatric ward in a university hospital prior to and following each intervention step. They also conducted a questionnaire survey aimed at identifying knowledge deficits. Each intervention step targeted different causes of errors. The handout mainly addressed knowledge deficits, the training course addressed errors caused by rule violations and slips, and the reference book addressed knowledge-, memory- and rule-based errors. Results The number of patients who were subjected to at least one medication error in drug handling decreased from 38/43 (88%) to 25/51 (49%) following the third intervention, and the overall frequency of errors decreased from 527 errors in 581 processes (91%) to 116/441 (26%). The issue of the handout reduced medication errors caused by knowledge deficits regarding, for instance, the correct 'volume of solvent for IV drugs' from 49-25%. Conclusion Paediatric drug handling is prone to errors. A three-step intervention effectively decreased the high frequency of medication errors by addressing the diversity of their causes. Relevance to clinical practice Worldwide, nurses are in charge of drug handling, which constitutes an error-prone but often-neglected step in drug therapy. Detection and prevention of errors in daily routine is necessary for a safe and effective drug therapy. Our three-step intervention reduced errors and is suitable to be tested in other wards and settings.
   Publication type: journal article
   Source: CINAHL

2. Title: A waste walk through clinical pharmacy: How do the 'seven wastes' of Lean techniques apply to the practice of clinical pharmacists
   Citation: International Journal of Pharmacy Practice, February 2015, vol./is. 23/1(21-26), 0961-7671;2042-7174 (01 Feb 2015)
   Author(s): Green C.F., Crawford V., Bresnen G., Rowe P.H.
   Language: English
   Abstract: Aims and objectives This study used a 'Lean' technique, the 'waste walk' to evaluate the activities of clinical pharmacists with reference to the seven wastes described in 'Lean' including 'defects', 'unnecessary motion', 'overproduction', 'transport of products or material', 'unnecessary waiting', 'unnecessary inventory' and 'inappropriate processing'. The objectives of the study were to categorise the activities of ward-based clinical pharmacists into waste and non-waste, provide detail around what constitutes waste activity and quantify the proportion of time attributed to each category. Setting This study was carried out in a district general hospital in the North West of England. Method Staff were observed using work-sampling techniques, to categorise activity into waste and non-waste, with waste activities being allocated to each of the seven wastes described earlier and subdivided into recurrent themes. Key findings Twenty different pharmacists were observed for 1h on two separate occasions. Of 1440 observations, 342 (23.8%) were categorised as waste with 'defects' and 'unnecessary motion' accounting for the largest proportions of waste activity. Conclusion Observation of clinical pharmacists' activities has identified that a significant proportion of their time could be categorised as 'waste'. There are practical steps that could be implemented in order to ensure their time is used as productively as possible. Given the challenges facing the UK National Health Service, the adoption of 'Lean' techniques provides an opportunity to improve quality and productivity while reducing costs.
   Publication type: Journal: Article
Source: EMBASE

3.Title: An investigation into the content validity of the Antimicrobial Self-Assessment Toolkit for NHS Trusts (ASAT v15a) using cognitive interviews with antimicrobial pharmacists.
Citation: Journal of Clinical Pharmacy & Therapeutics, 01 April 2015, vol./is. 40/2(208-212), 02694727
Author(s): Bailey, C., Tully, M., Cooke, J.
Language: English
Abstract: What is known and objective The Antimicrobial Self-Assessment Toolkit for NHS Trusts (ASAT) was developed to evaluate the organizational strategies used to implement hospital-based antimicrobial stewardship programmes. An iterative approach was used to develop ASAT v15a, which has been previously investigated for face validity; however, further investigation into other types of validity was required. Therefore, the aim of this study was to investigate the content validity of ASAT v15a and hence modify and improve the content validity of the toolkit.
Methods A purposive sample of eight antimicrobial pharmacists was interviewed using cognitive interviewing techniques from within the former North-west Strategic Health Authority in England. Respondents were asked to 'think aloud' and to verbally express their thought processes as they generated responses to each question with the ASAT. Results There were no cognitive difficulties reported by respondents in response to 26/83 (31·3%) questions within the ASAT. However, cognitive difficulties were reported by respondents at each stage of the cognitive processing pathway in response to 57/83 (68·7%) questions. These difficulties were comprehension/interpretation in 27/83 (32·5%) questions, information retrieval in 10/83 (12%) questions, judgment/decision in 6/83 (7·2%) questions and response generation/formatting in 13/83 (15·7%) questions. Other findings included disagreement with the weightings applied to 13/83 (15·7%) questions.
Respondents recommended that these questions should be modified to reflect their impact on hospital-based antimicrobial stewardship programmes (ASPs). Based on these findings, modifications were made to ASAT v15a to produce the next iteration (ASAT v16). Furthermore, respondents indicated that the role of clinical microbiologists was underrepresented in the current version of the toolkit; therefore, seven proposed questions were drafted, based on a literature review. What is New and Conclusion Cognitive interviews were effectively able to detect problems encountered by respondents along the cognitive processing pathway by identifying words and/or phrases that required further modifications. Also, this method highlighted that there was a disparity between the respondents' interpretation and the ASAT developers' intent within some questions. Although respondents indicated that the toolkit evaluated the most pertinent components of ASPs, further modifications and testing would be required to improve its validity. These results highlight the importance of the inclusion of end-users in the development of reporting and/or evaluation tools or questionnaires.
Publication type: journal article
Source: CINAHL

4.Title: Antibiotic policies in acute English NHS trusts: implementation of 'Start Smart-Then Focus' and relationship with Clostridium difficile infection rates.
Citation: The Journal of antimicrobial chemotherapy, Apr 2015, vol. 70, no. 4, p. 1230-1235 (April 2015)
Author(s): Llewelyn, Martin J, Hand, Kieran, Hopkins, Susan, Walker, A Sarah
Abstract: The objective of this study was to establish how antibiotic prescribing policies at National Health Service (NHS) hospitals match the England Department of Health 'Start Smart-Then Focus' recommendations and relate to Clostridium difficile infection (CDI) rates. Antibiotic pharmacists were surveyed regarding recommendations for empirical treatment of common syndromes ('Start Smart') and antimicrobial prescription reviews ('Focus') at their hospital trusts. If no response was provided, policy data were sought from trust websites and the MicroGuide app (Horizon Strategic Partners, UK). Empirical treatment recommendations were categorized as broad spectrum (a β-lactam penicillin/β-lactamase inhibitor, cephalosporin, quinolone or carbapenem) or narrow spectrum. CDI rates were gathered from the national mandatory surveillance system. Data were obtained for 105/145 English acute hospital trusts (72%). β-Lactam/β-lactamase inhibitor combinations were recommended extensively. Only for severe community-acquired pneumonia and pyelonephritis were narrow-spectrum agents recommended first line at a substantial number of trusts [42/105 (40%) and 50/105 (48%), respectively]. Policies commonly recommended dual therapy with aminoglycosides and β-lactams for abdominal sepsis [40/93 trusts (43%)] and undifferentiated severe sepsis [54/94 trusts (57%)]. Most policies recommended treating for ≥ 7 days for most indications. Nearly all policies [100/105 trusts (95%)] recommended antimicrobial prescription reviews, but only 46/96 respondents (48%) reported monitoring compliance. Independent predictors of higher CDI rates were recommending a broad-spectrum regimen for community-acquired pneumonia (P=0.06) and, counterintuitively, a recommended treatment duration of
Source: Medline
1. Title: Applying leadership qualities of great people to your department: Sir winston churchill
Citation: Hospital Pharmacy, January 2015, vol./is. 50/1(78-83), 0018-5787;1945-1253 (01 Jan 2015)
Author(s): Gibson M., Weber R.
Language: English
Abstract: As pharmacy leaders develop health-system pharmacy services, it is important for them to understand successful leadership behaviors and apply them effectively to be successful in managing the challenges of health care. Directors can learn various skills from leaders both in and outside of pharmacy. Learning from these great leaders can provide pharmacy directors with guidance on how to shape various aspects of their leadership style. Winston Churchill is considered to be one of history’s greatest leaders; without his leadership, the outcome of World War II may have been completely different. Leadership qualities that made him successful include the use of clear and simple communication, decisiveness, willingness to take risks and learn from failure, commitment to self-improvement, and the ability to inspire and lead others. This article describes these leadership characteristics displayed by Winston Churchill and discusses ways these qualities can be used effectively by today’s pharmacy leaders in building patient-centered services.
Publication type: Journal: Article
Source: EMBASE

2. Title: Economic evaluation of a randomized controlled trial of pharmacist-supervised patient self-testing of warfarin therapy
Citation: Journal of Clinical Pharmacy and Therapeutics, February 2015, vol./is. 40/1(14-19), 0269-4727;1365-2710 (01 Feb 2015)
Author(s): Gallagher J., Mc Carthy S., Woods N., Ryan F., O'Shea S., Byrne S.
Language: English
Abstract: What is known and objective The increase in numbers of patients requiring oral anti-coagulation testing in outpatient clinics has focused attention on alternative flexible systems of anti-coagulation management. One option is pharmacist led patient self-testing (PST) of international normalised ratio (INR) levels. PST has demonstrated improvements in anti-coagulation control, but its cost-effectiveness is inconclusive. This study reports the first cost-effectiveness evaluation of a randomized controlled trial of an automated direct-to-patient expert system, enabling remote and effective management of patients on oral anti-coagulation therapy. Methods We conducted an economic evaluation alongside a randomised controlled trial investigating a pharmacist led PST method. The primary outcome was to determine the cost effectiveness of PST in comparison with usual care (management in a hospital based anti-coagulation clinic). Long term anti-coagulation patients were recruited to a 6 month cross over study between PST and routine care in an anti-coagulation clinic. Economic evaluation was from the healthcare payer perspective. Results and discussion On a per patient basis over a 6 month period, PST resulted in an incremental cost of 5908 in comparison with routine care. Patients achieved a significantly higher time in therapeutic range (TTR) during the PST arm in comparison with routine care, (72 +/- 197% vs. 59 +/- 135%). Overall cost of managing a patient through pharmacist supervised PST for a 6 month period is 22645. Additional analysis of strategies from a societal perspective indicated that PST was the dominant strategy. What is new and conclusion Pharmacist led patient self-testing is a viable method of management. It provides significant increases in anti-coagulation control for a minimal increase in cost. An economic evaluation of a novel method of pharmacist supervising anticoagulation management. Intervention resulted in a significant increase in quality of anticoagulation control for a minimal increase in cost.
Publication type: Journal: Article
Source: Medline
Abstract: Purpose: To measure the effects associated with sequential implementation of electronic medication storage and inventory systems and product verification devices on pharmacy technical accuracy and rates of potential medication dispensing errors in an academic medical center. Methods: During four 28-day periods of observation, pharmacists recorded all technical errors identified at the final visual check of pharmaceuticals prior to dispensing. Technical filling errors involving deviations from order-specific selection of product, dosage form, strength, or quantity were documented when dispensing medications using (a) a conventional unit dose (UD) drug distribution system, (b) an electronic storage and inventory system utilizing automated dispensing cabinets (ADCs) within the pharmacy, (c) ADCs combined with barcode (BC) verification, and (d) ADCs and BC verification utilized with changes in product labeling and individualized personnel training in systems application. Results: Using a conventional UD system, the overall incidence of technical error was 0.157% (24/15,271). Following implementation of ADCs, the comparative overall incidence of technical error was 0.135% (10/7,379; P = .841). Following implementation of BC scanning, the comparative overall incidence of technical error was 0.137% (27/19,708; P = .729). Subsequent changes in product labeling and intensified staff training in the use of BC systems was associated with a decrease in the rate of technical error to 0.050% (13/26,200; P = .002). Conclusions: Pharmacy ADCs and BC systems provide complementary effects that improve technical accuracy and reduce the incidence of potential medication dispensing errors if this technology is used with comprehensive personnel training.

Publication type: Journal: Article

Source: EMBASE
conducted in an academic hospital from 23/02/2012 to 29/03/2012 for the period 1 and from 25/02/2013 to 25/03/2013 for the period 2 in all services using CPOE. Between the two periods, some improvements in the computer system were implemented. Main outcome measures: A pharmacist working in the drugs dispensing sector recorded all errors related to the CPOE and estimated the time spent to solve them during these two periods. Results: 12 094 prescriptions were analysed during the period 1 and 250 errors were then listed. Errors that didn't depend on the prescriber and those related to CPOE were distinguished. 46.8% (n = 117) of the errors were caused by the computer system, 28.4% (n = 71) involved a problem of units and 11.6% (n = 29) a choice of inadequate packaging. 11 919 prescriptions were analysed during the period 2 and 225 errors were identified. A decrease in the number of errors between the two study periods for most encountered error categories was observed. The mean time to resolve one error has been estimated at 80 min. Conclusions: The identification of errors related to the CPOE and the implementation process of resolving errors will allow optimizing the organization of the medication flow, to ensure that the right drugs are prescribed, dispensed and administered to the right patients at the right time, with an optimum risk-benefit ratio for the patient.

Publication type: Journal: Conference Abstract

Source: EMBASE

11. Title: Examining pharmacy workforce issues in the United States and the United Kingdom.
Citation: American journal of pharmaceutical education, Mar 2015, vol. 79, no. 2, p. 17. (March 25, 2015)
Author(s): Covvey, Jordan R, Cohron, Peter P, Mullen, Alexander B
Abstract: Objective. To examine available data and actions surrounding current pharmacy workforce issues in the United States and United Kingdom. Methods. Published pharmacy workforce data from the United States and United Kingdom were gathered from various sources, including PUBMED, Internet search engines, and pharmacy organization websites. Data was collated from additional sources including scientific literature, internal documents, news releases, and policy positions. Results. The number of colleges and schools of pharmacy has expanded by approximately 50% in both the United States and United Kingdom over the previous decade. In the United States, continued demand for the pharmacy workforce has been forecasted, but this need is based on outdated supply figures and assumptions for economic recovery. In the United Kingdom, workforce modeling has predicted a significant future oversupply of pharmacists, and action within the profession has attempted to address the situation through educational planning and regulation. Conclusion. Workforce planning is an essential task for sustaining a healthy profession. Recent workforce planning mechanisms in the United Kingdom may provide guidance for renewed efforts within the profession in the United States.
Source: Medline
Full text: Available National Library of Medicine at American Journal of Pharmaceutical Education

12. Title: Factors contributing to medicine-related problems (MRPs) that may be specific to South Asian (SA) and Middle Eastern (ME) cultures in the UK
Citation: International Journal of Clinical Pharmacy, February 2015, vol./is. 37/1(194), 2210-7703 (February 2015)
Author(s): Alhomoud F., Smith F., Aslanpour Z., Dhillon S.
Language: English
Abstract: Background and objective: There has been little research which specifically examines medicines use among SA and ME groups, although evidence suggests that medicines related needs may be poorly met for these groups. Thus, the aim of this study was to describe the reasons which may contribute to MRPs and were reported to be specific to SA and ME cultures. Setting and method: The study was a cross-sectional study. Patients were from SA and ME origins, aged over 18 and prescribed three or more regular medicines. Patients were identified through previous medicine use reports (MUR), patient medication records (PMR) or when presenting with a prescription. The data were collected in 80 face-to-face semi-structured interviews in seven pharmacies in London using MRPs tool. Interviews were audiotaped, transcribed verbatim and analysed thematically using Gordon's coding frame and Nvivo 10 software. Main outcome measures: Identification of factors contributing to MRPs that may be specific to SA and ME groups. Results: Participants (61% male) had mean (SD) age 58 (13.4) years and on a mean (SD) of 8 (4) medicines. Interviews revealed that several factors contribute to the development of MRPs; some appeared to be specific to SA and ME cultures and others were similar to the general population. The factors that were reported to be specific to SA and ME groups comprised religious practices and beliefs, use of non-prescription medicines, extent of family support, and travelling abroad back-to patient's home land or to take religious journeys. Perceptions of healthcare providers, difficulty consulting a doctor of the same gender, lack of referrals to specialised care, language and communication barriers, lack of translated resources, illiteracy, lack of involvement in the treatment decisions; problems with source, delivery, type and timing of information may also contribute to the problems. Many of these
factors could be expected to influence patient's safety, adherence, and informed decision-making. Conclusions: This study demonstrated that SA and ME patients have their own problems and needs with both medicine use and service access. By uncovering particular problems experienced by these groups the study can inform healthcare professionals to support SA and ME patients in the use of their medicines.

Publication type: Journal: Conference Abstract
Source: EMBASE

13. Title: Financial evaluations of antibiotic stewardship programs - a systematic review
Citation: Frontiers in Microbiology, 2015, vol./is. 6/MAR, 1664-302X (2015)
Language: English
Abstract: Introduction: There is an increasing awareness to counteract problems due to incorrect antimicrobial use. Interventions that are implemented are often part of an Antimicrobial Stewardship Program (ASPs). Studies publishing results from these interventions are increasing, including reports on the economical effects of ASPs. This review will look at the economical sections of these studies and the methods that were used. Methods: A systematic review was performed of articles found in the PubMed and EMBASE databases published from 2000 until November 2014. Included studies found were scored for various aspects and the quality of the papers was assessed following an appropriate check list (CHEC criteria list). Results: 1233 studies were found, of which 149 were read completely. 99 were included in the final review. Of these studies, 57 only mentioned the costs associated with the antimicrobial medication. Others also included operational costs (n=23), costs for hospital stay (n=18) and/or other costs (n=19). 9 studies were further assessed for their quality. These studies scored between 2 and 14 out of a potential total score of 19. Conclusions: This review gives an extensive overview of the current financial evaluation of ASPs and the quality of these economical studies. We show that there is still major potential to improve financial evaluations of ASPs. Studies do not use similar nor consistent methods or outcome measures, making it impossible to draw sound conclusions and compare different studies. Finally, we make some recommendations for the future.
Publication type: Journal: Article
Source: EMBASE

14. Title: Hospital staff views on their role in providing information to patients on medication side effects
Citation: European Journal of Hospital Pharmacy: Science and Practice, 2015, vol./is. 22/2(102-106), 2047-9956;2047-9964 (2015)
Author(s): Wilcock M., Davidson I., Underwo F.
Language: English
Abstract: Objectives Studies have shown that on discharge from hospital, patients sometimes lack vital knowledge about their medicines. There is little research into how health professionals view the provision of information on medication side effects. The objective of this study was to elicit the views of hospital clinical staff on when, how and by whom information on medication side effects should be provided to inpatients. Method An electronically delivered questionnaire emailed to clinical staff in a National Health Service hospital Trust in England. Participants were asked 10 questions. The main outcome measure was staff perceptions on the provision of information to patients on medication side effects. Results The electronic survey was completed by 275 members of the clinical staff. More staff would prefer to give information when medicines are prescribed (58.8% think this is the best time) than currently do so (40.4% usually give information at this time). Time to talk to patients was perceived as the main barrier to providing information by 91.4% staff. Some staff groups identified insufficient knowledge of side effects as a barrier- 38.8% nurses and 54.2% Foundation Year 1/Foundation Year 2 doctors. Pharmacists were seen as having the primary responsibility for providing verbal information about side effect by 59.9% of staff. Conclusions Hospital staff recognise the importance of providing information about medicine side effects to patients, but struggle to embed this into routine practice. Some staff lack confidence in explaining side effects information to patients. There may be issues of staff training or beliefs and attitudes about perceived hierarchical structures or professional recognition among hospital staff.
Publication type: Journal: Article
Source: EMBASE

15. Title: Implementation of a 24-hour pharmacy service with prospective medication review in the emergency department
Citation: Hospital Pharmacy, February 2015, vol./is. 50/2(134-138), 0018-5787;1945-1253 (01 Feb 2015)
Author(s): Sin B., Yee L., Claudio-Saez M., Halim Q., Marshall L., Hayes-Quinn M.
Language: English
Abstract: Background: It is reported that more than 128 million patients are seen in emergency departments (EDs) annually. Patient overcrowding had been associated with an increased occurrence of medication errors. Purpose: Due to increased patient volume and the need for improved patient safety, a 24-hour pharmacy service was established for our institution's ED. The purpose of the study is to quantify and demonstrate the impact of a 24-hour pharmacy service in an urban ED. Methods: This was a retrospective descriptive study conducted at a regional level 1 trauma center. The study period occurred between December 2012 and July 2013. The following variables were quantified and analyzed: number of medication orders reviewed, number of intravenous medications compounded, and number of clinical interventions that were recommended by the ED pharmacy team (EDPT) and accepted by ED clinicians. Results: A total of 3,779 medication orders were reviewed by the EDPT. Of these orders, 3,482 (92%) were prospectively reviewed. A total of 3,068 (81.2%) and 711 (18.8%) orders were reviewed for the adult and pediatric ED, respectively. During the study period, the EDPT procured 549 intravenous admixtures and conducted 642 clinical interventions. Most of the interventions involved providing drug information for physicians and nurses (45.9%), adjusting drug dosages (21.1%), and recommending antimicrobial therapy (15.1%). Conclusion: The implementation of a 24-hour pharmacy service at our institution was an innovative practice that increased the role of pharmacists in the ED. The EDPT conducted prospective medication review, procured intravenous admixtures from a sterile environment, and provided therapeutic recommendations for the ED interdisciplinary team.

Publication type: Journal: Article
Source: EMBASE

Author(s): Pauwels, Kim, Simoens, Steven, Casteels, Minne, Huys, Isabelle
Abstract: Drug shortages are a complex and global phenomenon. When a drug cannot be delivered at the moment of patient demand, every stakeholder in the health care system is affected. The aim of this study was to investigate the characteristics, clinical impact, financial impact and management of drug shortages in European hospital pharmacies and identify opportunities for prevention and mitigation of drug shortages in Europe. An online survey was designed based on a review of the literature and interviews and was sent to subscribers of Hospital Pharmacy Europe between June and September 2013. Forty-five percent of respondents (n = 161) indicated that life sustaining or life preserving drugs such as oncology drugs were affected by drug shortages. More than 30% of respondents indicated that drug shortages in Europe were always or often associated with increased costs for hospitals, increased personnel costs and more expensive alternative drugs (n = 161). On the question when information about a drug shortage was obtained, 42% of respondents answered that information from the pharmaceutical company was obtained at the time of no delivery, 50% indicated that information from the wholesaler was obtained at the time of no delivery, while 40% of respondents indicated that information was never or rarely received from the government (n = 161). Forty-seven percent of respondents strongly agreed that an obligation to the producer to notify further shortages could help to solve the problem (n = 161). These results showed that pharmaceutical companies and wholesalers are already involved in the management of drug shortages, while a role is still reserved for the government. Mandatory notification in advance and centralized information can help to reduce workload for hospital pharmacists, will allow early anticipation of drug shortages and will facilitate mitigation of the clinical impact on patients.
Source: Medline
Full text: Available ProQuest at PLoS ONE
Full text: Available ProQuest at PLoS One

17. Title: Interdisciplinary collaboration in the provision of a pharmacist-led discharge medication reconciliation service at an Irish teaching hospital.
Citation: International journal of clinical pharmacy, Apr 2015, vol. 37, no. 2, p. 310-319 (April 2015)
Author(s): Holland, Deirdre M
Abstract: Background Medication reconciliation is a basic principle of good medicines management. With the establishment of the National Acute Medicines Programme in Ireland, medication reconciliation has been mandated for all patients at all transitions of care. The clinical pharmacist is widely credited as the healthcare professional that plays the most critical role in the provision of medication reconciliation services. Objectives To determine the feasibility of the clinical pharmacist working with the hospital doctor, in a collaborative fashion, to improve the completeness and accuracy of discharge prescriptions through the provision of a pharmacist led discharge medication reconciliation service. Setting 243-bed acute teaching hospital of Trinity College Dublin, Ireland. Method Cross-sectional observational study of discharge prescriptions identified using non-probability consecutive sampling. Discharge medication reconciliation was provided by the clinical pharmacist. Non-reconciliations were
communicated verbally to the doctor, and documented in the patient's medical notes as appropriate. The pharmacist and/or doctor resolved the discrepancies according to predetermined guidelines. Main outcome measures Number and type of discharge medication non-reconciliations, and acceptance of interventions made by the clinical pharmacist in their resolution. Number of discharge medication non-reconciliations requiring specific input of the hospital doctor. Results In total, the discharge prescriptions of 224 patients, involving 2,245 medications were included in the study. Prescription non-reconciliation was identified for 62.5 % (n = 140) of prescriptions and 15.8 % (n = 355) of medications, while communication non-reconciliation was identified for 92 % (n = 206) of prescriptions and 45.8 % (n = 1,029) of medications. Omission of preadmission medications (76.6 %, n = 272) and new medication non-reconciliations (58.5 %, n = 602) were the most common type. Prescription non-reconciliations were fully resolved on 55.7 % (n = 78) of prescriptions prior to discharge; 67.9 % (n = 53) by the doctor, 26.9 % (n = 21) by the clinical pharmacist, and 5.2 % (n = 4) by the joint input of doctor and pharmacist. All communication non-reconciliations were resolved prior to discharge; 97.1 % (n = 200) by the pharmacist, and 2.9 % (n = 6) by both doctor and pharmacist. Conclusion This study demonstrates how interdisciplinary collaboration, between the clinical pharmacist and hospital doctor, can improve the completeness and accuracy of discharge prescriptions through the provision of a pharmacist led discharge medication reconciliation service at an Irish teaching hospital.

Source: Medline

18. Title: Internationally trained pharmacists' perception of their communication proficiency and their views on the impact on patient safety.
Citation: Research in social & administrative pharmacy : RSAP, May 2015, vol. 11, no. 3, p. 428-441 (2015 May-Jun)
Author(s): Ziaei, Zainab, Hassell, Karen, Schafheutle, Ellen I
Abstract: According to Great Britain (GB)'s pharmacy regulator’s standards of conduct, ethics and performance, pharmacists have a responsibility to ensure that they have sufficient linguistic skills to communicate and perform their job safely. Yet, very little is known about internationally trained pharmacists' (ITPs) linguistic proficiency. The purpose of this study was to investigate ITPs' perceptions of their communication proficiency and the resultant impact on patient safety. Eight focus groups were conducted between May and July 2010, with 31 European Economic Area (EEA) and 11 non-EEA pharmacists who, at the time of the study, practiced in community pharmacy (n = 29) or hospital (n = 13), in London, Manchester, Liverpool and Glasgow. The framework method was used to analyze qualitative data, and the Model of Communicative Proficiency (MCP) served as a framework to handle and explain the data obtained. ITPs experienced communication difficulties through new dialects, use of idioms and colloquial language in their workplace. The differences between the “BBC English” they learned formally and the "Street English" used in GB also led to difficulties. Culture was also recognized as an important aspect of communication. ITPs in this study were adamant that communication difficulty did not compromise patient safety. Communicative deficiency of ITPs arose primarily from two sources: linguistic competence and socio-cultural competence. These deficiencies could have negative implications for patient safety. The findings of this study should be taken into account when designing adaptation programs for ITPs. Copyright © 2015 Elsevier Inc. All rights reserved.
Source: Medline

19. Title: Issues facing pharmacy leaders in 2015: suggestions for pharmacy strategic planning.
Citation: Hospital pharmacy, Feb 2015, vol. 50, no. 2, p. 167-172, 0018-5787 (February 2015)
Author(s): Weber, Robert J
Abstract: Issues facing pharmacy leaders in 2015 include practice model growth and the role of pharmacy students, clinical privileging of health-system pharmacists and provider status, medication error prevention, and specialty pharmacy services. The goal of this article is to provide practical approaches to 4 issues facing pharmacy leaders in 2015 to help them focus their department’s goals. This article will address (1) advances in the pharmacy practice model initiative and the role of pharmacy students, (2) the current thinking of pharmacists being granted clinical privileges in health systems, (3) updates on preventing harmful medication errors, and (4) the growth of specialty pharmacy services. The sample template of a strategic plan may be used by a pharmacy department in 2015 in an effort to continue developing patient-centered pharmacy services.
Source: Medline

20. Title: Longitudinal trends and cross-sectional analysis of English national hospital antibacterial use over 5 years (2008-13): working towards hospital prescribing quality measures.
Citation: The Journal of antimicrobial chemotherapy, Jan 2015, vol. 70, no. 1, p. 279-285 (January 2015)
Author(s): Cooke, Jonathan, Stephens, Peter, Ashiru-Oredope, Diane, Charani, Esmita, Dryden, Mathew, Fry, Carole, Hand, Kieran, Holmes, Alison, Howard, Philip, Johnson, Alan P, Livermore, David M, Mansell, Paula, McNulty, Ciiodna
Abstract: There is global concern that antimicrobial resistance is a major threat to healthcare. Antimicrobial use is a primary driver of resistance but little information exists about the variation in antimicrobial use in individual hospitals in England over time or comparative use between hospitals. The objective of this study was to collate, analyse and report issue data from pharmacy records of 158 National Health Service (NHS) acute hospitals. This was a cohort study of inpatient antibacterial use in acute hospitals in England analysed over 5 years through a data warehouse from IMS Health, a leading provider of information, services and technology for the healthcare industry. Around 98% of NHS hospitals were included in a country with a population of 50 million residents. There was a dramatic change in the usage of different groups of antibacterials between 2009 and 2013 with a marked reduction in the use of first-generation cephalosporins by 24.7% and second-generation cephalosporins by 41%, but little change in the use of third-generation cephalosporins (+5.7%) and fluoroquinolones (+1.6%). In contrast, use of co-amoxiclav, carbapenems and piperacillin/tazobactam increased by 60.1%, 61.4% and 94.8%, respectively. There was wide variation in the total and relative amounts of antibacterials used between individual hospitals. Longitudinal analysis of antibacterial use demonstrated remarkable changes in NHS hospitals, probably reflecting governmental and professional guidance to mitigate the risk of Clostridium difficile infection. The wide variation in usage between individual hospitals suggests potential for quality improvement and benchmarking. Quality measures of optimal hospital antimicrobial prescribing need urgent development and validation to support antimicrobial stewardship initiatives. © The Author 2014. Published by Oxford University Press on behalf of the British Society for Antimicrobial Chemotherapy. All rights reserved. For Permissions, please e-mail: journals.permissions@oup.com.

Source: Medline

21. Title: Long-term effects of an antimicrobial stewardship programme at a tertiary-care teaching hospital

Citation: International Journal of Antimicrobial Agents, March 2015, vol./is. 45/3(262-267), 0924-8579;1872-7913 (March 2015)

Author(s): Cook P.P., Gooch M.

Language: English

Abstract: Antimicrobial stewardship has been shown to reduce unnecessary antibiotic use, but there are few data on the long-term benefits of such a programme. Antimicrobial use over a 13-year period since implementing an antimicrobial stewardship programme (ASP) at our institution was examined. Nosocomial rates of Clostridium difficile infection (CDI) and antimicrobial susceptibility patterns of common nosocomial micro-organisms over the same period were also reviewed. Total antimicrobial use decreased by 62.8% (P < 0.0001). There were decreases in use of aminoglycosides (-91.3%; P < 0.0001), cephalosporins (-68.3%; P < 0.0001), extended-spectrum penicillins (-77.7%; P < 0.0001), macrolides (-27.2%; P = 0.002), clindamycin (-95.9%; P < 0.0001) and quinolones (-78.7%; P < 0.0001). Antifungal use decreased by 71.0% (P < 0.0001). There were increases in the use of carbapenems (+736%, P < 0.0001) and anti-MRSA drugs (+73.3%; P < 0.0001). There was a 56.7% (P = 0.007) reduction in nosocomial MRSA infections. Nosocomial CDI rates decreased by 42.6% (P = 0.005) between 2003 and 2010 and then increased to near baseline levels following implementation of more sensitive testing for detection of CDI in 2011. There were decreases in the rate (-71.9%; P = 0.001) and percentage (-51.4%; P < 0.0001) of quinolone-resistant Pseudomonas aeruginosa. There were decreases in the rate (P < 0.0001) and percentage (P = 0.02) of carbapenem-resistant P. aeruginosa following implementation of a policy restricting ciprofloxacin use. We have demonstrated sustained reductions in both antimicrobial use and drug-resistant organisms following implementation of an ASP.

Publication type: Journal: Article

Source: EMBASE

22. Title: Medication safety and the administration of intravenous vincristine: International survey of oncology pharmacists

Citation: Journal of Oncology Pharmacy Practice, February 2015, vol./is. 21/1(10-18), 1078-1552;1477-092X (08 Feb 2015)

Author(s): Gilbar P., Chambers C.R., Larizza M.

Language: English

Abstract: Purpose: The risk of medication errors with vincristine administration is well documented. Our objective was to ascertain how vincristine is administered worldwide and determine what strategies for preventing the accidental intrathecal administration of vincristine are in place. Methods: A survey, comprising 28 questions, was distributed to 363 International Society of Oncology Pharmacy Practitioners members from 42 countries via email. Questions were asked on methods of vincristine administration, intrathecal drug administration and strategies used to prevent medication errors. A reminder was sent and the survey was available on the International Society of Oncology Pharmacy Practitioners website. Only one survey per institution was requested. Results: In all, 62
responses from 15 countries were received, with the majority from Australia. Vincristine was dispensed in mini-bags in 77.4% of centres, though some also used syringes. Syringes were used in 31.1% of centres, with half these doses prepared undiluted. Administration took 5 to 15 minutes in most centres (78.8%). The most common reasons for still using syringes were perceived risk of extravasation and faster infusion time. Despite numerous vincristine administrations, extravasation was very rare. Other recommended strategies for error prevention were in use in the majority of centres. Conclusion: Comparisons with three previous surveys are difficult as the majority of respondents in those studies were from the USA. A number of areas appear to have improved, particularly the preparation of vincristine in mini-bags, but they are far from perfect. Deaths continue to occur following accidental intrathecal administration of vincristine. International Society of Oncology Pharmacy Practitioner members are urged to lead the way in incorporating strategies for prevention into institutions worldwide.

**Publication type:** Journal: Article

**Source:** EMBASE

**Full text:** Available ProQuest at Journal of Oncology Pharmacy Practice

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23. **Title:** Near-miss transcription errors: A comparison of reporting rates between a novel error-reporting mechanism and a current formal reporting system

**Citation:** Hospital Pharmacy, February 2015, vol./is. 50/2(118-124), 0018-5787;1945-1253 (01 Feb 2015)

**Author(s):** South D.A., Skelley J.W., Dang M., Woolley T.

**Language:** English

**Abstract:** Purpose: The medication use process comprises several steps. In institutions without full implementation of computerized prescriber order entry (CPOE), transcription is a critical step in this process. As focus is increasingly placed on identifying near-miss errors, this study aimed to compare near-miss transcription error (NMTE) reporting rates between an institution’s formal reporting system and an NMTE reporting mechanism. Methods: Two NMTE reporting mechanisms were assessed for 3 months. These mechanisms included the institution’s formal error-reporting system and a specific transcription error queue within the institution’s order imaging software. Date, patient-care unit, and type of transcription error were recorded for each order image in the transcription error queue and for each transcription error reported formally. Following data collection, reporting rates for both systems were compared. Results: Data collection spanned 92 days and an estimated 460,000 medication orders. In total, 1,563 NMTEs were reported using the transcription error queue and 12 errors were reported via the formal reporting mechanism. Of the 1,563 errors identified via the transcription error queue, 325 (20.79%) were of an unknown type. Reporting rates (with unknown errors removed) were 0.27% and 0.0026% for the novel system and formal reporting system, respectively (P < .001). Conclusion: Significantly more NMTEs were reported utilizing the novel system compared with the formal reporting system.

**Publication type:** Journal: Article

**Source:** EMBASE

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24. **Title:** New thoughts on the "forgotten" aspect of Antimicrobial stewardship: Adverse event reporting

**Citation:** Pharmacotherapy, 2015, vol./is. 35/1(59-63), 0277-0008;1875-9114 (2015)

**Author(s):** Hoffmann C., Khadem T., Schweighardt A., Brown J.

**Language:** English

**Abstract:** Antimicrobial stewardship is an activity that optimizes patient care through selection of the most appropriate antimicrobial therapy. Antimicrobial stewardship programs strive to enhance patient care and reduce preventable consequences of antimicrobial use. They are also vital in monitoring for the development of adverse events occurring as a result of antimicrobial therapy, although literature reviews of this activity are scarce. Although randomized controlled trials are considered the gold standard to study the efficacy of a medication, these trials are not designed to test safety end points and often are only able to identify the most commonly occurring and acute adverse events. In addition, prior to a drug going to market, it is difficult to detect rare adverse events because the associated costs are economically untenable given the limited pipeline of novel agents. These limitations in some ways may be resolved with the use of postmarketing surveillance and spontaneous reporting systems such as the United States Food and Drug Administration Adverse Event Reporting System. The focus of this commentary is to highlight the importance of adverse event reporting by antimicrobial stewardship programs to spontaneous reporting systems as a means to improve patient care.

**Publication type:** Journal: Article

**Source:** EMBASE

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25. **Title:** Optimisation of pharmacy content in clinical cancer research protocols: Experience of the United Kingdom Chemotherapy and Pharmacy Advisory Service.
Citation: Clinical trials (London, England), Jun 2015, vol. 12, no. 3, p. 257-264 (June 2015)
Author(s): Debruyne, Philip R, Johnson, Philip J, Pottel, Lies, Daniels, Susanna, Greer, Rachel, Hodgkinson, Elizabeth, Kelly, Stephen, Lycke, Michelle, Samol, Jens, Mason, Julie, Kimber, Donna, Loucaides, Eileen, Parmar, Mahesh Kb, Harvey, Sally, NIHR CRN – CPAS
Abstract: Clarity and accuracy of the pharmacy aspects of cancer clinical trial protocols is essential. Inconsistencies and ambiguities in such protocols have the potential to delay research and jeopardise both patient safety and collection of credible data. The Chemotherapy and Pharmacy Advisory Service was established by the UK National Cancer Research Network, currently known as National Institute for Health Research Clinical Research Network, to improve the quality of pharmacy-related content in cancer clinical research protocols. This article reports the scope of Chemotherapy and Pharmacy Advisory Service, its methodology of mandated protocol review and pharmacy-related guidance initiatives and its current impact. Over a 6-year period (2008-2013) since the inception of Chemotherapy and Pharmacy Advisory Service, cancer clinical trial protocols were reviewed by the service, prior to implementation at clinical trial sites. A customised Review Checklist was developed and used by a panel of experts to standardise the review process and report back queries and inconsistencies to chief investigators. Based on common queries, a Standard Protocol Template comprising specific guidance on drug-related content and a Pharmacy Manual Template were developed. In addition, a guidance framework was established to address 'ad hoc' pharmacy-related queries. The most common remarks made at protocol review have been summarised and categorised through retrospective analysis. In order to evaluate the impact of the service, chief investigators were asked to respond to queries made at protocol review and make appropriate changes to their protocols. Responses from chief investigators have been collated and acceptance rates determined. A total of 176 protocols were reviewed. The median number of remarks per protocol was 26, of which 20 were deemed clinically relevant and mainly concerned the drug regimen, support medication, frequency and type of monitoring and drug supply aspects. Further analysis revealed that 62% of chief investigators responded to the review. All responses were positive with an overall acceptance rate of 89% of the proposed protocol changes. Review of pharmacy content of cancer clinical trial protocols is feasible and exposes many undetected clinically relevant issues that could hinder efficient trial conduct. Our service audit revealed that the majority of suggestions were effectively incorporated in the final protocols. The refinement of existing and development of new pharmacy-related guidance documents by Chemotherapy and Pharmacy Advisory Service might aid in better and safer clinical research. © The Author(s) 2015.
Source: Medline

26. Title: Perception and readiness of community pharmacists on the use of mobile smart phone as a health monitoring tool
Citation: International Journal of Pharmacy and Pharmaceutical Sciences, 2015, vol./is. 7/3(1-5), 0975-1491 (2015)
Author(s): Lua P.L., Ibrahim U.I.
Language: English
Abstract: The use of communication technology has brought positive changes to the healthcare delivery system of today. Both healthcare professionals and patients have found a better option to access relevant health and drug information. The purpose of this review is to compile and evaluate all available investigations on the application of communication technology in hospital and community pharmacies. Pub Med, Medline and EBSCO host databases were searched using the key words: mobile phone, pharmacy and telecommunication, pharmacy and electronics, electronic record in pharmacy from the year 1994 until August 2014; whereby only full length English articles related to the review were included. Ten studies met all inclusion criteria comprising of 1124 respondents (age = 19-63, males=43%). Majority of the studies were cross-sectional in nature. Six utilized mobile phones as their means of communication of which majority (n=5) utilized text messages. Four utilized computer systems as their means of communication where they mostly work on drug-drug interaction software. Most of the reviewed studies demonstrated that incorporation of information technology in pharmaceutical care delivery and pharmacy training has improved patient satisfaction and produced better outcomes. However, several studies indicated that drug-drug interaction software had increased burden on the pharmacy staff and in some cases caused the distraction. Overall, there were positive reports on the use of communication technology which was found to help in improving pharmaceutical care.
Publication type: Journal: Review
Source: EMBASE

27. Title: Pharmacist prescribing within a UK NHS hospital trust: Nature and extent of prescribing, And prevalence of errors
Citation: European Journal of Hospital Pharmacy: Science and Practice, 2015, vol./is. 22/2(79-82), 2047-9956;2047-9964 (2015)
28. Title: Pharmacist-led management of chronic pain in primary care: Costs and benefits in a pilot randomised controlled trial

Citation: BMJ Open, 2015, vol./is. 5/4, 2044-6055 (2015)


Abstract: Objectives: To explore differences in mean costs (from a UK National Health Service perspective) and effects of pharmacist-led management of chronic pain in primary care evaluated in a pilot randomised controlled trial (RCT), and to estimate optimal sample size for a definitive RCT. Design: Regression analysis of costs and effects, using intention-to-treat and expected value of sample information analysis (EVSI). Setting: Six general practices: Grampian (3); East Anglia (3). Participants: 125 patients with complete resource use and short form-six-dimension questionnaire (SF-6D) data at baseline, 3 months and 6 months. Interventions: Patients were randomised to either pharmacist medication review with face-to-face pharmacist prescribing or pharmacist medication review with feedback to general practitioner or treatment as usual (TAU). Main outcome measures: Differences in mean total costs and effects measured as quality-adjusted life years (QALYs) at 6 months and EVSI for sample size calculation. Results: Unadjusted total mean costs per patient were 452 for prescribing (SD: 466), 570 for review (SD: 527) and 668 for TAU (SD: 1333). After controlling for baseline costs, the adjusted mean total costs were 77 for prescribing (95% CI 82 to 237) and 54 for review (95% CI 103 to 212). Unadjusted mean QALYs were 0.3213 for prescribing (SD: 0.0659). 0.3161 for review (SD: 0.0684) and 0.3079 for TAU (SD: 0.0606). Relative to TAU, the adjusted mean differences were 0.0069 for prescribing (95% CI 0.0091 to 0.0229) and 0.0097 for review (95% CI 0.0054 to 0.0248). The EVSI suggested the optimal future trial size was between 460 and 690, and between 540 and 780 patients per arm using a threshold of 30 000 and 20 000 per QALY gained, respectively. Conclusions: Compared with TAU, pharmacist-led interventions for chronic pain appear more costly and provide similar QALYs. However, these estimates are imprecise due to the small size of the pilot trial. The EVSI indicates that a larger trial is necessary to obtain more precise estimates of differences in mean effects and costs between treatment groups. Trial registration number: ISRCTN06131530.

Publication type: Journal: Article
Source: EMBASE

Full text: Available Highwire Press at BMJ Open

29. Title: Point-of-prescription interventions to improve antimicrobial stewardship

Citation: Clinical Infectious Diseases, April 2015, vol./is. 60/8(1252-1258), 1058-4838;1537-6591 (15 Apr 2015)


Language: English

Abstract: Antimicrobial stewardship is pivotal to improving patient outcomes, reducing adverse events, decreasing healthcare costs, and preventing further emergence of antimicrobial resistance. In an era in which antimicrobial resistance is increasing, judicious antimicrobial use is the responsibility of every healthcare provider. Antimicrobial
stewardship programs (ASPs) have made headway in improving antimicrobial prescribing using such "top-down" methods as formulary restriction and prospective audit with feedback; however, engagement of prescribers has not been fully explored. Strategies that include frontline prescribers and other unit-based healthcare providers have the potential to expand stewardship, both to augment existing centralized ASPs and to provide alternative approaches to perform stewardship at healthcare facilities with limited resources. This review discusses interventions focusing on antimicrobial prescribing at the point of prescription as well as a pilot project to engage unit-based healthcare providers in antimicrobial stewardship.

**Publication type:** Journal: Review

**Source:** EMBASE

30. **Title:** Reducing pharmacy wait time to promote customer service: a follow-up study.

**Citation:** Quality management in health care, Jan 2015, vol. 24, no. 1, p. 9-20 (2015 Jan-Mar)

**Author(s):** Slowiak, Julie M, Huitema, Bradley E

**Abstract:** The present study had 3 objectives: (1) to evaluate the effects of 2 different interventions (feedback regarding customer satisfaction with wait time and combined feedback and goal setting) on wait time in a hospital outpatient pharmacy; (2) to assess the extent to which the previously applied interventions maintained their effects; and (3) to evaluate the differences between the effects of the original study and those of the present follow-up study. Participants were 10 employees (4 pharmacists and 6 technicians) of an outpatient pharmacy. Wait times and customer satisfaction ratings were collected for "waiting customers." An ABCB within-subjects design was used to assess the effects of the interventions on both wait time and customer satisfaction, where A was the baseline (no feedback and no goal setting); B was the customer satisfaction feedback; and C was the customer satisfaction feedback, the wait time feedback, and the goal setting for wait time reduction. Wait time decreased after baseline when the combined intervention was introduced, and wait time increased with the reintroduction of satisfaction feedback (alone). The results of the replication study confirm the pattern of the results of the original study and demonstrate high sensitivity of levels of customer satisfaction with wait time. The most impressive result of the replication is the nearly 2-year maintenance of lower wait time between the end of the original study and the beginning (baseline) of the replication.

**Source:** Medline

31. **Title:** Results of the implement of a double check dispensing process in a Hospital Pharmacy Department

**Citation:** International Journal of Clinical Pharmacy, February 2015, vol./is. 37/1(247), 2210-7703 (February 2015)

**Author(s):** Castel C., Morin P., Saint-Lorant G.

**Language:** English

**Abstract:** Background and objective: Medication errors can occur during pharmacy dispensing. A study carried out in France between 2005 and 2009 by the Medication Errors Office showed that on 1420 medication errors identified, 12 % occurred while pharmacy dispensing(1). Additionally, data from scientific literature showed independent double-check during drug administration enables a 70 % reduction of drug-related adverse events. The aim of this study is to evaluate the decrease in medication errors due to dispensing when using an independent double-check process, in order to optimize patient's safety. Setting and method: This study was performed prospectively over 2 years (2012-2014) in a University Hospital, in 5 distinct sites (80 care units). Pharmacy technicians prepared drug doses ordered by physicians after pharmaceutical analysis. Two pharmacy students randomly checked drug dispensations under control of a pharmacist and a pharmacy resident. Drug and quantity delivered were checked. Qualitative error was defined as either a wrong drug, a wrong formulation or a wrong dosage prepared by technician. Quantitative error was defined as a wrong number of doses prepared by technician. Total of qualitative and quantitative errors were calculated. Main outcome measures: Determine high alert medications and high alert units to focus the double check on them. Results: Over 2 years, 379 random double-check were performed. At least one error was found in 80 dispensations (21 %). Of these, 15 (19 %) were qualitative errors and 65 (71 %) were quantitative errors. Among qualitative errors, wrong dosage (overdosing and underdosing) counted respectively for 53 % and 7 %, wrong drug delivered for 26 % and wrong formulation for 7 %. About antibiotics, errors occurred in 7 % of dispensing double-checks. Conclusions: Dispensing double-check improved medication errors detection, and possibly decreased drug-related adverse events. In order to improve pharmacy dispensing safety, training will be provided to pharmacy staff (pharmacists, residents, technicians and also pharmacy students). Additionally, high-alert units are currently being identified in our hospital and will be targeted for systematic dispensing double-check, particularly in neonatal and paediatric units.

**Publication type:** Journal: Conference Abstract

**Source:** EMBASE
32. Title: The role of clinical decision support in pharmacist response to drug-interaction alerts.
Citation: Research in social & administrative pharmacy : RSAP, May 2015, vol. 11, no. 3, p. 480-486 (2015 May-Jun)
Author(s): Miller, Luke, Steinmetz Pater, Karen, Corman, Shelby
Abstract: With over 100,000 different types of drug-drug interactions health care professionals rely heavily on automated drug-interaction alerts. Substantial variance in drug-interaction alerts yields opportunities for the use of clinical decision support (CDS) as a potential benefit to pharmacists. The purpose of this research was to determine whether decision support during dispensing impacts pharmacist response to drug-interaction alerts. A brief survey was administered to pharmacists in the community consisting of three patient cases, each containing three drug-drug interactions of varying severity. For each interaction, pharmacists were asked how they would respond, one group of pharmacists was randomly assigned to receive CDS while the other group did not. There were no significant differences in pharmacist response to alerts between the two groups. The control group did appear to be more likely to consult a drug reference, but this difference was not significant. While this study did not demonstrate a significant difference, drug-interaction alerts are still an area where improvements could be made. Advancements have the potential to reduce risk to patients and limit unnecessary hospital admissions. This study suggests that this level of clinical decision support has limited impact, but may prove beneficial by reducing the need to consult additional references. Copyright © 2015 Elsevier Inc. All rights reserved.
Source: Medline

33. Title: The use of social media in pharmacy practice and education.
Citation: Research in social & administrative pharmacy : RSAP, Jan 2015, vol. 11, no. 1, p. 1-46 (2015 Jan-Feb)
Author(s): Benetoli, Arcelio, Chen, Timothy F, Aslani, Parisa
Abstract: Social media is becoming increasingly ubiquitous. It has significant potential as a health communication and educational tool, and may provide a medium for the delivery of health-related services. This systematic review aimed to investigate the use of social media in professional pharmacy practice and pharmacy education, and includes an evaluation of the research designs utilized. Medline, Embase, PubMed, IPA, and CINAHL databases were broadly searched for peer-reviewed research studies about pharmacy and social media (SM). The search was restricted to years 2000 to June 2013, with no other restrictions applied. Key words used were within three concept areas: "social media" and "pharmacist or student" and "pharmacy." Twenty-four studies met the inclusion criteria.
SM was broadly addressed as a general concept in 3 of the 24 studies. The other 21 studies investigated/used specific SM tools. Fourteen of those addressed social networking sites (SNS), four wikis, two blogs, and one Twitter. The studies' foci were to describe SM use (n = 17 studies) by pharmacist, pharmacy educators, and pharmacy students and investigate usage related topics (such as e-professionalism and student-educator boundary issues); or the use of SM as an educational tool in pharmacy education (n = 7). Pharmacy students were the subject of 12 studies, pharmacists of six, and faculty members and administrators of four. Survey methods were used in 17 studies, alone or with an additional method; focus groups were used in two; interviews in one; and direct observation of social media activity in seven. Results showed that SM in general and SNS in particular were used mainly for personal reasons. Wikis, Facebook, and Twitter were used as educational tools in pharmacy education with positive feedback from students. Research investigating the use of SM in the practice of pharmacy is growing; however, it is predominantly descriptive in nature with no controlled studies identified. Although some studies have used SM to deliver and enhance pharmaceutical education, none have focused on the delivery of pharmacy services through SM. Copyright © 2015 Elsevier Inc. All rights reserved.
Source: Medline

34. Title: Time for action - Improving the design and reporting of behaviour change interventions for antimicrobial stewardship in hospitals: Early findings from a systematic review
Citation: International Journal of Antimicrobial Agents, March 2015, vol./is. 45/3(203-212), 0924-8579;1872-7913 (March 2015)
Author(s): Davey P., Peden C., Charani E., Marwick C., Michie S.
Language: English
Abstract: There is strong evidence that self-monitoring and feedback are effective behaviour change techniques (BCTs) across a range of healthcare interventions and that their effectiveness is enhanced by goal setting and action planning. Here we report a summary of the update of a systematic review assessing the application of these BCTs to improving hospital antibiotic prescribing. This paper includes studies with valid prescribing outcomes published before the end of December 2012. We used a structured method for reporting these BCTs in terms of specific characteristics and contacted study authors to request additional intervention information. We identified 116 studies reporting 123 interventions. Reporting of BCTs was poor, with little detail of BCT characteristics. Feedback was only reported for 17 (13.8%) of the interventions, and self-monitoring was used in only 1 intervention. Goals
were reported for all interventions but were poorly specified, with only three of the nine characteristics reported for
>50% of interventions. A goal threshold and timescale were specified for just 1 of the 123 interventions. Only 29
authors (25.0%) responded to the request for additional information. In conclusion, both the content and reporting
of interventions for antimicrobial stewardship fell short of scientific principles and practices. There is a strong
evidence base regarding BCTs in other contexts that should be applied to antimicrobial stewardship now if we are to
further our understanding of what works, for whom, why and in what contexts.

Publication type: Journal: Review
Source: EMBASE

35. Title: What effect does medicine advice provided by UK Medicines Information pharmacists have on prescriber
practice and patient care: a qualitative primary care study.
Citation: Journal of evaluation in clinical practice, Apr 2015, vol. 21, no. 2, p. 307-312 (April 2015)
Author(s): Rutter, Jill, Fitzpatrick, Raymond, Rutter, Paul
Abstract: UK Medicines Information (UKMI) is pharmacist-led service funded by the National Health Service
providing evidence-based advice about medicines to health care professionals. Service evaluations have repeatedly
shown high user satisfaction but few studies have assessed how this advice influences the care patients receive.
Furthermore, no study has assessed how prescribers actually use this information in shaping their decision making.
The aim was to explore how UKMI advice influences prescriber decision making and patient care. Doctors and
dentists (referred to as prescribers) working in primary care in England and Wales who received reactive medicines
advice from a medicines information centre were contacted by telephone to determine how they used the advice
provided. Forty semi-structured interviews were analysed and coded using constant comparative content analysis.
Five key themes were identified that affected prescriber decision making, these were: prescriber action, patient
outcome, medicines information advice, risk management and time factors. Prescribers acted directly on the advice
provided enabling them to provide the right care for their patients. Advice had a positive effect on how they viewed
a medication problem and empowered them to make decisions that appeared to confer greater confidence in
managing patient problems. A favourable patient outcome was described by over half of the prescribers, for
example, the advice enabled them to provide patient reassurance, avoid a potential allergic reaction, stabilize the
patient’s condition or stop treatment. Medicines information advice empowered prescribers in helping them to
make decisions about medicines that shaped patient care. © 2015 John Wiley & Sons, Ltd.
Source: Medline

36. Title: Work experiences of internationally trained pharmacists in Great Britain.
Citation: The International journal of pharmacy practice, Apr 2015, vol. 23, no. 2, p. 131-140 (April 2015)
Author(s): Ziaei, Zainab, Hassell, Karen, Schafheutle, Ellen I
Abstract: Internationally trained health professionals are an important part of the domestic workforce, but little is
known about the working experiences of internationally trained pharmacists (ITPs) in Great Britain (GB). The purpose
of this study is to explore the work experiences of ITPs practising in the community or hospital sector in GB. Twenty-
five semi-structured, face-to-face interviews were conducted with a sample of European Economic Area (EEA) and
non-EEA pharmacists who, at the time of the study, practised in the community (n = 20) or hospital sector (n = 5) in
the North West England from March to May 2009. In general, ITPs complained about their heavy workload, long
working hours and lack of support from their employers. Specifically, EEA pharmacists in most cases felt excluded
from the professional network and sensed colleagues saw them as ‘foreigners’ while some non-EEA pharmacists had
to deal with a level of hostility from patients. This novel research provides a foundation for future work on ITPs in GB
and could assist employers to better target their efforts in development of standards to support the working
experiences of ITPs in GB. © 2014 Royal Pharmaceutical Society.
Source: Medline

News

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The Pharmaceutical Journal
http://www.pharmaceutical-journal.com/

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"NHS tests and drugs 'do more harm than good'," is the headline in The Telegraph, while The Guardian warns: "Doctors to withhold treatments in campaign against 'too much medicine'."

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"Paracetamol may dull emotions as well as physical pain, new study shows," The Guardian reports. The story comes from research testing whether over-the-counter painkiller paracetamol can blunt not just the feeling of pain but also emotions...

Paracetamol 'not effective' for lower back pain or arthritis
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"Paracetamol doesn't help lower-back pain or arthritis, study shows," The Guardian reports on a new review. The review found no evidence that paracetamol had a significant positive effect, compared to placebo...

Do antibiotics in pregnancy cause cerebral palsy and epilepsy?
Thursday Mar 26 2015
"Antibiotic used in pregnancy linked to risk of epilepsy and cerebral palsy," The Guardian reports. The results of a new study suggest women who take macrolide antibiotics were slightly more likely to give birth to a child with one (or both)...

Frequent antibiotic use linked to higher type 2 diabetes risk
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"Repeated antibiotic use linked to diabetes," BBC News reports. A major new study found that people who took five or more courses a year had a higher than normal risk of developing type 2 diabetes...

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HRT review finds increased risk of blood clots and stroke
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'Women on HRT pills should be aware that there is a small chance of an increased risk of blood clots and possibly stroke' BBC News report. A major review, involving over 40,000 patient records, found an increase in risk of clotting....

Gene testing could find those who would benefit most from statins
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"Patients with the highest genetic risk of suffering a heart attack benefit the most from cholesterol-lowering statin drugs, a study has found," The Guardian reports. Those with the highest genetic risk score appear to get the most benefit from the drugs...
Is long-term paracetamol use not as safe as we thought?
Tuesday Mar 3 2015
"Daily paracetamol could raise the risk of heart attacks, stroke and early death," the Mail Online reports. A new review of previous data found that long-term use was linked with a small increased risk of adverse events, such as heart attack...

Does deadly diet drug DNP defeat diabetes?
Friday Feb 27 2015
"A chemical [DNP] which caused munitions factory workers to lose weight inexplicably in the First World War could cure diabetes," The Daily Telegraph reports. The banned weight loss drug looked effective and safe when given in a modified form to rats...

'Game changer' HIV drug cuts infection risk by 86%
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"Scientists hail discovery of 'game-changer' that cuts the risk of infection among gay men by 86%," The Independent reports. The drug, Truvada, has proved very successful in a "real-world" trial...

Nanoparticles used to treat damaged arteries
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"New trials suggest microscopic stealth drones could be used to seek and repair damaged arteries," The Daily Telegraph, somewhat overexcitedly, reports. A study in mice has found promising results for a targeted treatment...

HRT increases ovarian cancer risk by small amount
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