



Canadian Pharmaceutical Bar Coding Project

Medication Bar Code System Implementation Planning

Section IV: References
Section V: Acknowledgements

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Section IV: References

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Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
1	Agency for Healthcare Research and Quality (AHRQ): U.S. Department of Health and Human Services: Using Barcode Mediation Administration to Improve Quality and Safety (Dec 2008). AHRQ Publication No. 09.0023-EF. www.ahrq.gov				√
2	Agency for Healthcare Research and Quality (AHRQ): U.S. Department of Health and Human Services: Enabling Medication Management Through Health Information Technology (April 2011). McKibbin KA, Lokker C, Handler SM, et al. AHRQ Publication No. 11.E008-EF. www.ahrq.gov http://www.ncbi.nlm.nih.gov/NBK56110/		√		√
3	Agency for Healthcare Research and Quality (AHRQ): Becoming an High Reliability Organization: Operational Advice for Hospital Leaders (April 2008). Hines S, Luna, K, Lofthus, J, et al. AHRQ Publication No. 08.0022. www.ahrq.gov				√
4	Amalberti R, Auroy Y, Berwick D, Barach P. Five system barriers to achieving ultrasafe health care. Ann Intern Med. May 2005; 134(9):756-64.				√
5	American Hospital Association: Hospitals in Pursuit of Excellence: Case Study. Norwalk Hospital. Health Information Technology. http://www.hpoe.org/PDFs/Case%20Study--Norwalk%20Hospital.pdf				√
6	American Hospital Association, Health Research & Educational Trust, Institute for Safe Medication Practices (U.S.). Pathways for Medication Safety: Assessing Bedside Bar-coding Readiness. 2002.				√



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
7	American Society of Health-System Pharmacists: Statement on Bar-Code-Enabled Medication Administration Technology. 2009; 66:588-90. http://www.ashp.org/DocLibrary/BestPractices/AutoITStBCMA.aspx		√		
8	American Society of Health-System Pharmacists (ASHP) Foundation: Implementing a Bar-Coded Medication Safety Program: A Pharmacist's Toolkit. (Supported by Omnicell, Inc.) 2004. http://www.ashpfoundation.org/MainMenuCategories/Education/SpecialPrograms/BarCodeGuide.aspx				√
9	American Society of Health-System Pharmacists: ASHP Statement on the Pharmacist's Role in Informatics. (2007); 64:200-3. http://www.ashp.org/DocLibrary/BestPractices/AutoITStBCMA.aspx				√
10	American Society of Health-System Pharmacists: ASHP Statement on Bar-Code-Enabled Medication Administration Technology. 2009; 66:588-90. http://www.ashp.org/DocLibrary/BestPractices/AutoITStBCMA.aspx		√	√	√
11	Dartt LR, Schneider R. Development of a training program for bar-code assisted medication administration in inpatient pharmacy. American Society of Health-System Pharmacists: Informatics Interchange. 2010; (67):1592-4.				√
12	American Society of Health-System Pharmacists: ASHP national Survey of pharmacy practice in hospital settings: Dispensing and administration: 2011. http://www.ajhp.org/content/69/9/768.abstract			√	
13	Anderson M, Baker M, Bell R, et al. The Business Case for Patient Safety. Healthcare Quarterly. 2006; 10:20-6.				
14	Auerbach AD, Landefeld CS, Shojania KG. The Tension between Needing to Improve Care and Knowing How to Do It. N Engl J Med. Aug 9, 2007; 357(6):608-613.			√	



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
15	Baker GR, Norton PG, Flintoft V, et al. The Canadian Adverse Event Study: the incidence of adverse events among hospital patients in Canada. <i>CMAJ</i> . 2004; 170(1):1678-86.		√		
16	Bagnara S, et al. Can Hospitals Become High Reliability Organizations? Human Factors in Organizational Design and Management – IX. 2008. Sznclwar L, Mascia F, and Montedo U (Editors).IEA Press.Guaruja, Sao Paulo, Brazil.			√	
17	Baker R, Norton P. Making patients safer! Reducing error in Canadian healthcare. <i>Healthcare Papers</i> . 2001; 2(1):10-31.			√	
18	Barker KN, Flynn EA, Pepper GA, Bates DW, Mikeal RL.. Medication Errors Observed in 36 Health Care Facilities. <i>Arch Int Med</i> . 2002; 162:1897-1903.		√	√	
19	Barker KN, Mikeal RL, Pearson, et al. Medication errors in nursing homes and small hospitals. <i>Am J Hosp Pharm</i> . 1982; 39:987-991.		√		
20	Bates DW, Cullen DJ, Laird N, et al. Incidence of adverse drug events and potential adverse drug events. Implications for prevention. ADE Prevention Study Group. <i>JAMA</i> . 1995; 147 274:29-34.				
21	Bates DW, Spell N, Cullen DJ, et al. The costs of adverse drug events in hospitalized patients. Adverse Events Prevention Study Group. <i>JAMA</i> . Jan 1997; 277(4):307-11.			√	
22	Berwick DM. Not again! Preventing errors lies in redesign—not exhortation. <i>BMJ</i> . 2001 ;322:247-248. http://www.bmj.com/content/322/7281/247.extract				
23	Beso A, Franklin BD, Barber, N. The frequency and potential causes of dispensing errors in a hospital pharmacy. <i>Pharm World Sci</i> . 2005; 27:182-190		√		
24	Bond CA, Raehl CL. 2006 National Clinical Pharmacy Services Survey: Clinical Pharmacy Services, Collaborative Drug Management, Medication Errors and Pharmacy Technology. <i>Pharmacotherapy</i> . 2007; 28(1):1-13.		√		√



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
25	Borycki EM, Dushniruk EK, Nicoll J, et al. Designing Safer Systems: Toward an Integrated Simulation Approach for Predicting and Preventing Technology-Induced Errors in Healthcare: Implications for Healthcare Decision-Makers. <i>Healthcare Quarterly</i> . 2009; 12:90-96.				√
26	Borycki EM and Kushniruk AW. Toward an Integrative Cognitive-Socio-Technical Approach in Health Informatics: Analyzing Technology-Induced Error Involving Health Information Systems to Improve Patient Safety. <i>Open Med Informatics Journal</i> . 2010; 4:181-7.				√
27	Bridge Medical, Inc. The Effect of Barcode-Enabled Point-of-Care Technology on Patient Safety. Published Oct 2002. Copyright.				√
28	Brisseau L, Chiveri A, Lebel, D, Bussieres JF. A Pilot Study of Bar Codes in a Canadian Hospital. <i>Can J Hosp Pharm</i> . 2001; 64(4):257-61.				
29	Buhrer ED, Novak LL, Lorenzi MM. Implementing barcode medication administration: Nurses attitudes. <i>AMIA Annu Symp Proc.</i> Nov 2008; 1072.				√
30	Canadian Agency for Drugs and Technologies in Health. Technology Report: Technologies to Reduce Errors in Dispensing and Administration of Medication in Hospitals: Clinical and Economic Analyses. <i>CADTH Technology Overviews</i> . Issue 121; August 2009.		√	√	
31	Canadian Coordinating Office for Health Technology Assessment (CCOHTA). Rapid Response Report: Minimization of Medication Administration Errors for Inpatient Care: Best Practice and Guidelines. June 7, 2011.				√
32	Canadian Institute for Health Information (CIHI). Health Care in Canada 2004. (Statistics Canada) https://secure.cihi.ca/free_products/hcic2004_e.pdf		√		
33	Canadian Institute for Health Information (CIHI). Analysis in Brief. Patient Safety in Canada: An Update. Aug 2007. https://secure.cihi.ca/free_products/Patient_Safety_AIB_EN_070814.pdf		√r		



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
34	Canadian Institute for Health Information (CIHI). Safety and Quality: Measuring up: CIHI Directions ICIS. Newsletter Winter. 2009; 16(1). http://www.cihi.ca/CIHI-ext-portal/pdf/internet/PDF DIR V16N1 EN		✓		
35	Canadian Medical Association: Medical Error: Analysis. Responding to tragic error: lessons from Foothills Medical Centre. CMAJ May 2004; 170(1):1659-1660.		✓		
36	Canadian Patient Safety Institute: One Dollar in Seven: Scoping the Economics of Patient Safety. Sep 2009 Report: Jackson, T. Link			✓	
37	Canadian Society of Hospital Pharmacists: CSHP 2015: Goals and Objectives. May 2011 Update. http://www.cshp.ca/programs/cshp2015/docs/CSHP2015GoalsandObjectivesStatusReportMay2011.pdf		✓		
38	Cina JL, Gandhi TK, Churchill W, et al. How many hospital pharmacy medication dispensing errors go undetected? Jt Comm J Qual Patient Saf. 2006 Feb; 32(2):73-80.		✓		
39	Cescon DW, Etchells E. Barcoded Medication Administration: A last Line of Defense. JAMA, 2008; 299(18): 2200-2202		✓	✓	
40	Cochrane G, Jones K, Brockman J, et al. Errors Prevented by and Associated with Bar-Code Medication Administration Systems. Joint Commission Journal on Quality and Patient Safety. May 2007; 33(5): 292-301.		✓		✓
41	Cohen MR, ed. Medication Errors. Washington, DC: American Pharmaceutical Association; 2007.		✓		



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
42	Cooley, TW. Lessons learned with Bar-coding and eMAR (Brigham and Women's Hospital, Boston MA). Presentation. GS1 Healthcare: Implementation case studies. http://www.gs1.org/healthcare/implementation/barcodes				√
	Cooley, TW. Lessons learned with Bar-coding and eMAR: Brigham and Women's Hospital, Boston MA http://www.gs1.org/sites/default/files/docs/healthcare/3_Brigham_HUG_150606.pdf	√	√	√	√
	Ros, H. Bedside Assortment Picking: Decreasing the number of dispensing errors by implementing CPOE and barcode assisted dispensing: Gelre Hospitals, Apeldoorn, Netherlands http://www.gs1.org/sites/default/files/docs/healthcare/gelre.pdf		√		√
43	Cousins DH, Sabatier B, Begue D, et al. Medication Errors in intravenous drug preparation and administration: a multicentre audit in the UK, Germany and France. Qual Saf Health Care. 2005; 14:190-195.		√		
44	Crespin DJ, Modi AV, Wei D, et al. Repeat medication errors in nursing homes: Contributing factors and their association with patient harm. Am J Geriatr Pharmacother. 2010 June; 8(3):258-70.		√		
45	Cummings J, Bush P, Smith D, et al. Bar-coding medication administration overview and consensus recommendations. Am J Health-Syst Pharm. 2005; 62:2626-9.		√		
46	Danello SH, Maddox RR, Schaack GJ. Intravenous Infusion Safety Technology: Return on Investment. Hosp Pharm. 2009; 44(8):680-687, 696.			√	
47	Denham CR. Greenlight Issues for the CFO: Investing in Patient Safety. J Patient Saf. Mar 2010;6(1):52-56.			√	
48	Denham CR, Guilloteau FR. The Cost of Harm and Savings Through Safety: Using Simulated Patients for Leadership Decision Support. J. Patient Saf. 2012 Sep; 8(2):89-96.			√	√
49	Denham CR. TRUST: The 5 Rights of the Second Victim. J Patient Saf. Jun 2007; 3(2):107-19.			√	√



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
50	DeYong JL, van der Kool ME, Barletta JF. Effect of bar-code-assisted medication administration on medication error rates in an adult medical intensive care unit. Am J Health-Syst Pharm. 2009; 66(12):1110-1115.		✓		
51	Diniz AJ, Kwong J, Malawski J, et al. Integrating the Barcode Scanning of Vaccines into Immunization Settings: Toolkit with Case Study for Inventory Recording in Seasonal Influenza Vaccination Clinics. Aug 2011. Public Health Agency of Canada. Automated Identification of Vaccine Products project.			✓	
52	Doyle DM. Impact of the Bar Code Medication Administration (BCMA) System on Medication Administration Errors. Dissertation (Faculty of the College of Nursing, University of Arizona. 2005. Copyrighted. http://www.nursing.arizona.edu/Library/Doyle_MD.pdf				✓
53	Dubin CH. Bar-Code Scanning at Four Health Care Facilities in the U.S. Pharmacy and Therapeutics. Apr 2010; 35(4):212-214, 233.		✓		
54	Dwibedi N, Sansgiry SS, Frost CP, et al. Effect of bar-code-assisted medication administration on nurses' activities in an intensive care unit: a time-motion study. Am J Health-syst Pharm. 1 Jun 2011; 68(11):1026-1031.			✓	
55	Hospital Pharmacy in Canada Report 2009/2010: Published by the Hospital Pharmacy in Canada Board: Sponsored by Eli Lilly Canada. www.lillyhospitalsurvey.ca		✓	✓	
56	Flynn EA, Barker KN, Pepper GA, Bates DW, Mikeal RL. Comparison of methods for detecting medication errors in 36 hospitals and skilled-nursing facilities. Am J Health-Syst Pharm. 2002; 59:436-46.		✓	✓	
57	Foot SO, Coleman JR. Medication administration: the implementation process of bar-coding for medication administration to enhance medication safety. Nurs Econ. May/June 2008; 26(3):207-10.		✓		✓
58	Fowler SB, Sohler P, Zarillo DF. Bar-code technology for medication administration: medication errors and nursing satisfaction. MedSurg Nursing. March-April 2009; 18(2):103-109.		✓		✓



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
59	Franklin BD, O’Grady k, Donyai P, et al. The impact of a closed-loop electronic prescribing and administration system on prescribing errors, administration errors and staff time: a before and after study. Qual Saf Health Care. 2007; 16:279-84.		√		√
60	Gandhi TK, Weingart SN, Borus, J, et al. Adverse Drug Events in Ambulatory Care. N Engl J Med. Apr 2003; 348:1556-64.		√		
61	GS1: Global Language of Business: Bar Code Types http://www.gs1.org/barcodes/technical/bar_code_types	√			
62	GS1 Global: McKinsey Report: Strength in Unity: The promise of global standards in healthcare. McKinsey and Company. 2012. http://www.gs1.org/healthcare/mckinsey		√	√	√
63	Gurwitz, JH et al. Incidence and preventability of adverse drug events among older persons in the ambulatory setting. JAMA. 2003; 289(94): 1107-1116.		√	√	
64	Gurwitz, JH et al. The incidence of adverse drug events in two large academic long-term care facilities. American Journal of Medicine. 2005; 118(3):251-258.		√		
65	Halpern SD, Ubel PA, Asch DA. Harnessing the Power of Default Options to Improve Health Care. N Engl J Med. Sep 2007; 357(13):1340-4.			√	
66	Hassink JH, Jansen M, Helmons, P. Effects of bar code-assisted medication administration (BCMA) on frequency, type and severity of medication administration errors: a review of the literature. European Journal of Hospital Pharmacy. 2012; 19:489-494.		√		



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
67	Healthcare Information and Management Systems Society (HIMSS): Implementation Guide for the Use of Bar Code Technology: Bar Code Technology in Healthcare. (2003). Sponsored by McKesson. ISBN: 0-9725371-2-0. http://www.mckesson.com/static_files/McKesson.com/CorpBrand/Medication%20Safety/Implementation_guide.pdf				√
68	Healthcare Information and Management Systems Society (HIMSS) Nicholas E. Davies Award of Excellence: Organizational Award on Hard and Soft Return on Investment (ROI). Nov 2011. Award Winner: Kaiser Permanente Health Connect. http://www.himss.org/davies/docs/2011_AwardRecipients/KaiserPermanente_11072011.pdf			√	√
69	Healthcare Information and Management Systems Society (HIMSS) Nicholas E. Davies Award of Excellence: Organizational Award on Hard and Soft Return on Investment (ROI). 2010. Award Winner: Sentara Healthcare, Norfolk, VA. http://apps.himss.org/davies/docs/2011_FactSheets/ORG_HardSoftFactSheet.pdf			√	
70	Helmons PJ, Wargel LN, Daniels CE. Effect of bar-code-assisted medication administration on the medication administration errors and accuracy in multiple patient care areas. Am J Health-Sys Pharm. 2009; 66:1202.10. http://www.ajhp.org/cgi/content/full/66/13/1202		√		
71	Hwang RW, Herndon JH. The business case for patient safety. Clin Orthop Relat Res. Apr 2007; 457:21-34.			√	
72	Federico F. Bar Coding: What's your role? Nursing Management. Pharmacy Solutions. Nov 2009.				√
73	Institute for Healthcare Improvement (IHI): A CEO Checklist for High-Value Health Care. (Institute of Medicine Round Table): June 2012. http://www.iom.edu/~media/Files/Perspectives-Files/2012/Discussion-Papers/CEOHIGHValueChecklist.pdf		√	√	



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
74	Institute for Healthcare Improvement (IHI): Massoud MR, Nielsen GA, Nolan K, et al. A Framework for Spread: From Local Improvements to System-Wide Change: IHI Innovation Series White Paper. 2006. http://www.ihl.org/knowledge/Pages/IHIWhitePapers/AFrameworkforSpreadWhitePaper.aspx				√
75	Institute for Healthcare Improvement (IHI): Rutherford P, Bartley A, Miller D, et al. Transforming Care at the Bedside How-to Guide: Increasing Nurses' Time in Direct Patient Care. Cambridge, MA. Institute for Healthcare Improvement. 2008. http://www.ihl.org/knowledge/Pages/Tools/TCABHowToGuideIncreasingNursesTimeinDirectPatientCare.aspx			√	√
76	Institute of Medicine (IoM). To err is human: building a safer health system. Kohn LT, Corrigan JM, Donaldson MS, eds. Washington, D.C.: National Academy Press. 2000. http://www.nap.edu/catalog/9728.html		√		
77	Institute of Medicine (IoM). Preventing Medication Errors: Quality Chasm Series. 2007. http://www.nap.edu/catalog.php?record_id=11623 http://www.iom.edu/Reports/2006/Preventing-Medication-Errors-Quality-Chasm-Series.aspx		√	√	
78	Institute of Medicine (IoM). Preventing Medication Errors: Report Brief> July 2006: National Academy Press. 2006. http://www.iom.edu/~media/Files/Report%20Files/2006/Preventing-Medication-Errors-Quality-Chasm-Series/medicationerrorsnew.pdf		√	√	
79	Institute of Medicine (IoM). Setting Priorities for Health Technology Assessment. Donaldson MS, Sox HC, eds. Washington: National Academy Press. 1992. http://bob.nap.edu/books/0309046963/html			√	
80	Institute of Medicine (IoM). A CEO Checklist for High-Value Health Care. June 2012. Cosgrove D, Fisher M, Gabow, P, et al. Participants in the IOM Roundtable on Value and Science-driven Health Care. http://www.iom.edu/~media/Files/Perspectives-Files/2012/Discussion-Papers/CEOHIGHValueChecklist.pdf			√	



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
81	Institute for Safe Medication Practices (ISMP). A Call to Action: Safeguard Drug Administration within 2 Years! Nov 2002. http://ismp.org/Newsletters/acutecare/articles/WhitepaperBarCoding.asp			√	
82	Institute for Safe Medication Practices. Failed check system for chemotherapy leads to pharmacist's no contest plea for involuntary manslaughter. April 2009. www.ismp.org/Newsletters/acutecare/articles/20090423.asp			√	
83	International Pharmaceutical Federation: FIP Statement of Professional Standards: Medication Errors Associated with Prescribed Medication. The Hague, Netherlands. Sept. 1999.		√		
84	Johnston RV, et al. Responding to tragic error: lessons from Foothills Medical Centre. Canadian Medical Association Journal. May 25, 2004; 170(11):1659-60.			√	
85	Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Safely implementing health information and converging technologies. Dec 11, 2008; 42. http://www.jointcommission.org/assets/1/18/SEA_42.PDF		√		√
86	Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Shaping Systems for Better Behavioral Choices: Lessons Learned from a Fatal Medication Error. Smetzer J, Baker C, Byrne F, Cohen MR. Joint Commission Journal on Quality and Patient Safety. Root Cause Analysis. Apr 2010; 36(4):152-163, AP1, AP2.				√
87	Koppel R, Wetterneck T, Telles JL, et al. Workarounds to barcode medication administration systems: their occurrences, causes and threats to patient safety. <i>J Am Med Inform Assoc.</i> 2008; 15:408-23.				√
88	Kushniruk A, Beuscart-Zephir MC, Grzes A, Borycki E, et al. Increasing the Safety of Healthcare Information Systems through Improved Procurement: Toward a Framework for Selection of Safe Healthcare Systems. <i>Healthcare Quarterly.</i> 2010; 13:53-58.				√
89	Larrabee S, Brown MM. Recognizing the Institutional Benefits of Bar-Code Point-of-Care Technology. <i>Joint Commission Journal on Quality and Safety.</i> July 2003; 29:345-53.		√		



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
90	Leape LL. Error in medicine. JAMA. 1994 Dec 21; 272(23):1851-7.		√		
91	Leape, LL, Bates DW, Cullen DJ, et al. Systems Analysis of Adverse Drug Events. JAMA. 1995; 274:35-43.		√		
92	Leape LL, Berwick DM, Bates DW. What practices will most improve safety? Evidence-based medicine meets patient safety. JAMA. 2002 Jul 24-31; 288(4):501-7.			√	
93	Lekka, Chysanthi. High reliability organisations: A review of the literature. Prepared for Health and Safety Executive: National Archives: UK, 2011. (Presentation) www.hse.gov.uk/research/rrpdf/rr899.pdf			√	
94	Lwin AK, Shepard DS. Estimating Lives and Dollars Saved from Universal Adoption of the Leapfrog Safety and Quality Standards: Schneider Institutes for Health Policy. Heller School, Brandeis University. 2008 Update. http://www.leapfroggroup.org/media/file/Lives_Saved_Leapfrog_Report_2008-Final_%282%29.pdf			√	
95	Mancini Newell L, Christensen, D. Who's Counting Now? ROI for Patient Safety IT Initiatives. J Healthcare Information Management.. 2003; 17(4):29-35.			√	
96	Marini SD, Hasman A. Impact of BCMA on medication errors and patient safety: a summary. Stud Health Technol Inform. 20009; 146:439-44. http://www.ncbi.nlm.nih.gov/pubmed/19592882			√	
97	Maviglia SM, Yoo JY, Franz C, et al. Cost-benefit analysis of a hospital pharmacy bar code solution. Arch Intern Med. Apr 2007; 167(8):788-94.		√	√	
98	McDonald C. Computerization Can Create Safety Hazards: A Bar-Coding Near Miss. Annals Int. Med. Apr 4, 2006; 144(7):510-516.				√
99	Medication labels have led to deadly mistakes. Article. Tom Blackwell. Sep 29, 2010. National Post.. http://news.nationalpost.com/2010/09/29/medication-labels-have-led-to-deadly-mistakes-pharmacists/		√		



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
100	Millar J. System Performance is the Real Problem. Healthcare Papers 2001; 2(1):79-84.			√	
101	Miller DF, Fortier CR, Garrison KL. Bar Code Medication Administration technology: characterization of high alert triggers and clinician workarounds. Ann Pharmacother. 2011; 45: 162-168.				√
102	Mills P, Nedily J, Mims E, Burkhardt, M, Bagian J. Improving the bar-coded medication administration system at the Department of Veterans Affairs. American Journal of Health-Systems Pharmacists. Sep 2006; 63(15): 1442-1447.				√
103	Mims E, Tucker C, Carlson, R, et al. Quality-monitoring program for bar-code-assisted medication administration. 2009; 66: 1125-31. http://www.ajhp.org/cgi/content/full/66/12/1125				√
104	Morath, J. Nurses Create a Culture of Patient Safety: It Takes More Than Projects. Online Journal of Issues in Nursing. Sep 2011; 16(3) Manuscript 2. Article Link: OJIN				√
105	Morriss FH, Abraowitz PW, Carmen L, et al. "Nurses Don't Hate Change": Survey of nurses in a neonatal intensive care unit regarding the implementation, use and effectiveness of a barcode medication administration system. Healthcare Quarterly, 2009; 12: 135-140.				√
106	Morriss FH, Abraowitz PW, Nelson S, et al. Effectiveness of a Barcode Medication Administration System in Reducing Preventable Adverse Drug Events in a Neonatal Intensive Care Unit: A Prospective Cohort Study. J Ped. 2009; 154(3):363-8, e1.			√	
107	Nanji KC, Cina J, Patel N, et al. Overcoming barriers to the implementation of a pharmacy bar code scanning system for medication dispensing: A case study. J Am Med Inform Assoc. 2009; 16:645-50. http://jamia.bmj.com/content/16/5/645.full				√



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
108	National Coordinating Council for Medication Error Reporting and Prevention (U.S.) (NCC MERP): Council Recommendations: 2007: Bar Code Machine-readable systems. http://www.nccmerp.org/council/council2007-06-05.html (Revised June 5, 2007: Labels) http://www.nccmerp.org/council/council1998-03-30.html (Revised June 7, 2007: Systems)			√	
109	National Health Service (NHS). Department of Health (UK): Institute for Innovation and Improvement. Reducing avoidable mortality.: Chief Executives lead the way. (June 2007)			√	
110	National Health Service (NHS): Department of Health (UK). Coding for Success: Simple technology for safer patient care. Feb 2007. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_066082	√	√	√	
111	National Health Service (NHS): Department of Health ((UK). Return on Investment (ROI) Calculator. 2010. http://www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/Return_on_Investment_%28ROI%29_calculator.html			√	
112	National Health Service (NHS): Public Health Wales: Medication administration errors in care homes (Ver 1b): Apr 2010.		√		
113	Neuenschwander M, Cohen MR, Vaida Ag, et al. Practical Guide to bar coding for patient medication safety. Am J Health Syst Pharm. 2003; 60:768-79.	√		√	√
114	Nolen AL, Rohes WD, Godon S. Bar-code medication administration system for anesthetics: Effects on documentation and billing. Am. J. Health Syst. Pharm., Apr 1, 2008; 65:655-9.				√
115	Ontario Hospital Association: A Guidebook to Patient Safety Leading Practices: 2010.			√	



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
116	Paoletti, RD, Suess TM, Lesko MG, et al. Using bar-code technology and medication observation methodology for safer medication administration. Am J Health-Syst Pharm. Mar 2007; 64:536-543.		√		√
117	Perry A, Shah M, Englebright J. Improving Safety with Barcode-enabled Medication Administration. Patient Safety and Quality Healthcare. May/June 2007. http://statorgservices.com/Papers/Barcode-Enabled%20Medication%20Administration.pdf				√
118	Patient Safety and Quality Healthcare: Design for Reliability: Barcoded Medication Administration. Hayden AC, Lanoue ET, Still CJ. Case Study 2011. http://www.psqh.com/julyaugust-2011/908-design-for-reliability-barcoded-medication-ad				√
119	Patterson ES, Rogers ML, Chapman RJ, Render ML. Compliance with Intended Use of Bar Code Medication Administration in Acute and Long-Term Care: An Observational Study. Human Factors. 2006; 48(1):15-22.				√
120	Patterson ES, Cook R?I, Render ML.. Improving patient safety by identifying side effects of introducing bar coding in medication administration. JAMIA. 2002; 9:540-53.				√
121	Patterson E, Rogers M, Render M. Fifteen best practice recommendations for bar-code medication administration in the Veterans Health Administration. Joint Comm J Qual Saf. 2004; 30:355-65.				√
122	Patterson ES. Using Human Factors Principles in the (Re)Design of Bar Code Medication Administration. Veterans Administration Getting at Patient Safety (GAPS) Center. Ohio State University. Seminar 2007: Presentation. Presentation Link				√



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
123	Pennsylvania Patient Safety Advisory: ECRI Institute and ISMP US. Medication Errors Occurring with the Use of Bar-Code Administration Technology. Pa Patient Saf Advis. Dec 2008; 5(4):122-6. http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2008/Dec5(4)/Pages/122.aspx				√
124	Poon EF, Cina JL, Churchill WW, et al. Effect of bar-code technology on the incidence of medication dispensing errors and potential adverse drug events in a hospital pharmacy. AMIA Annu Symp Proc. 2005: 1085.		√		
125	Poon EG, Cina JL, Churchill W, et al. Medication dispensing errors and potential adverse drug events before and after implementing bar code technology in the pharmacy. Ann Internal Med. 2006; 145:426-34.		√		√
126	Poon EG, Keohane CA, Bane A, et al. Impact of medication administration technology on how nurses spend their time providing patient care. J Nurs Admin. Dec 2008; 38(12):541-9.				√
127	Poon EG, Keohane CA, Yoon CS, et al. Effect of Bar-Code Technology on the Safety of Medication Administration. N Engl J Med. 2010; 362:1698-707.		√		
128	Pronovost PJ, Miller MR, Wachter RM. Tracking progress in patient safety: an elusive target. JAMA. 2006; 296:696-9.			√	
129	Ragan R, Bond J, Major K, et al. Improved control of medication use with an integrated bar-154 code-packaging and distribution system. Am J Health-Syst Pharm. 2005; 62:1075-9.		√		√
130	Reason J. Human error: models and management. BMJ. Mar 2000; 320(7237):768-770.		√	√	
131	Richardson B, Bromirski B, Hayden A. Implementing a safe and reliable process for medication administration. May 2012; 26(3):169-76.		√		√



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
132	Ros JJ, Vreeze-Wesselink EJ. Reducing the number of dispensing errors by implementing a combination of CPOE system and bar-code-assisted dispensing system: the BAP concept. <i>EJHP Science</i> . 2009; 15:86-92.				
133	Sakowski J, Leonard T, Colburn S, et al. Using a Bar-Coded Medication Administration System to Prevent Medication Errors in a Community Hospital Network. <i>Am. J. Health-Sys Pharm</i> . Dec 2005; 62:2619-2625.		√		√
134	Sakowski J, Newman JM, Dozier K. Severity of medication administration errors detected by a bar-code medication administration system. <i>Am. J. Health Syst. Pharm</i> . Sep 1, 2008; 65(17):1661-1666.		√	√	
135	Schneider R, Bagby J, Carlson R. Bar-code medication administration: a systems perspective. <i>Am J Health-Syst Pharm</i> . 2008 Dec; 65(23):2216,2218-9.				√
136	Schmidek JM, Weeks WB. What do we know about financial returns on investments in patient safety? A literature review. <i>Jt Comm J Qual Patient Saf</i> . Dec 2005; 31(12):690-9.			√	
137	Spanish Ministry of Health and Consumer Affairs. Bibliographical review of cost of "Patient Safety Failings" in administration of drugs (Summary). Mar 2008. http://www.msc.es/organizacion/sns/planCalidadSNS/docs/SummaryMedicationErrorCosts.pdf			√	
138	Szczepura a, Wild D, Nelson S. Medication administration errors for older people in long-term residential care. <i>BMC Geriatr</i> . 2011 Dec; 11:82.		√		
139	Mims E, Tucker C, Carlson R, et al. Quality Monitoring program for bar-code assisted medication administration. <i>Am J Health Syst Pharm</i> . Jun 2009; 66(12):1125-31.				
140	University of Wisconsin Hospital and Clinics: Presentation: Pharmacy Face-Off: Why BCMA Should come Before CPOE. http://www.pharmacyonesource.com/images/BCMAvsCPOE.pdf		√	√	



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
141	U.S. Health and Human Services. U.S. Government:: Executive Order 13563: Updating regulations in recognition of changing technology. 2011. http://www.hhs.gov/open/execorders/13563/highlights/6a1-updatingregs.html http://www.hhs.gov/open/execorders/13563/prelim_ret_revplan05232100.pdf			√	
142	Van der Westerlaken MM, Zoer, J. Trends in Drug Distribution: Using Bar Codes in Medicine Distribution and Administration. European Journal of Hospital Pharmacy Practice. 2006; 12:60-62.		√	√	
143	Van Onzenoort HA, van de Plas A, Kessels AG, et al. Factors Influencing bar-code verification by nurses during medication administration in a Dutch hospital. Am J Health Syst Pharm. Apr 2008; 65(7):644-8.				√
144	Vermeulen LC, Rough SS, Thielk TS, et al. Strategic approach for improving the medication-use process in health systems: The high-performance pharmacy practice framework. Am J Health-Syst Pharm. 2007; 64:1699-710.			√	
145	Veterans Administration (VA): Best Practice Recommendations for the Implementation and Use of Bar Code Medication Administration (BCMA). Patterson ES, Chapman RJ, Rogers ML, (et al). Veterans Administration Midwest (Ohio): VA GAPS Center. http://www.patientidexpert.com/material/bcma_best_practices.pdf				√
146	Veterans Administration (VA): Fifteen Best Practice Recommendations for Bar-Code Medication Administration in the Veterans Health Administration. Patterson ES, Rogers, ML, Render ML. Joint Commission Journal on Quality and Safety. 2004 Jul; 30(7):355-365.				√
147	Veterans Administration: Using BCMA Software to Improve Patient Safety in Veterans Administration Medical Centers. 2002; 16(1):46-51.				√
148	Vincente KJ, Kada-Bekhaled K, Hillel, G, et al. Programming errors contribute to death from patient-controlled analgesia: case report an estimate of probability. (General Anesthesia). Can J Anesth. 2003; 50(4):328-332.		√	√	



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
149	Wachter RM, Pronovost PJ. Balancing “No Blame” with Accountability in Patient Safety. N Engl J Med. Oct 2009; 361(14):1401-6.			√	√
150	Walsh KE, Dodd KS, Seetharaman K, Roblin DW, et al. Medication Errors Among Adults and Children With Cancer in the Outpatient Setting. J Clin Oncol. 2008; 27:891-6.		√		
151	Wideman MV, Whittler ME, Anderson TM. Barcode Medication Administration: Lessons Learned from an Intensive Care Unit Implementation. In: Henriksen K, Battles JB, Marks ES, et al., editors. Advances in Patient Safety: From Research to Implementation (Volume 3: Implementation Issues). Rockville (MD): Agency for Healthcare Research and Quality (US); 2005 Feb. http://www.ncbi.nlm.nih.gov/books/NBK20569/				√
152	Wright AA, Katz IT. Bar coding for patient safety. N Engl J Med. 2005; 353:329-31.			√	
153	Wu A. Medical Error: the second victim. The Doctor who makes mistakes needs help too. BMJ. 2000; 320:726-7.			√	
154	Young J, Slebodnik M, Sands L. Bar Code Technology and Medication Administration Error. J Patient Saf. Jun 2010; 6(2):115-20.			√	
155	Zebra Technologies: White Paper: Adopting Bar Code Labeling in Hospital Pharmacies. 2010. P1042831 (7/11) http://www.zebra.com/content/dam/zebra/white-papers/en-us/barcoding-hospital-pharmacies-en-us.pdf	√		√	√
156	Zed PJ. Presentation: Drug-Related Hospital Visits: How Big is the Problem? 2004. http://www.vhpharmsci.com/Presentations/Drug%20Related%20Hospital%20Visits%20CSHP%20PPC%202004%20PJZ.pdf		√	√	



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
157	Jha AK, Kuperman GJ, Rittenberg E, et al. Identifying hospital admissions due to adverse drug events using a computer-based monitor. <i>Pharmaco-epidemiology and Drug Safety</i> . 2001; 10(2):113-119.		√		
158	Tafreshi MJ, Melby MJ, Kaback KR, Nord TC. Medication-related visits to the emergency department: A prospective study. <i>Ann Phamacother</i> . 1999; 33(12):1252-7.		√		
159	Dennehy CE, Kishi DT, Louie C. Drug-related illness in emergency department patients. <i>Am J Health-Syst Pharm</i> . 1996; 53(12):1422-6.		√		
160	Field TS, Filman BH, Subramanian S, et al. The costs associated with adverse drug events among older adults in the ambulatory setting. <i>Medical Care</i> . 2005; 43(12):1171-6.		√	√	
161	Thomsen LA, Wnterstein AG, Sondergaard B, et al. Systematic review of the incidence and characteristics of preventable adverse drug events in ambulatory care. <i>Ann Pharmacol</i> . 2007; 45(9):1411-26.		√		
162	Nuckols TK, Paddock SM, Bower AG, et al. Costs of intravenous adverse drug events in academic and non-academic intensive care units. <i>Med Care</i> . 2008; 46(1):17.24.		√	√	
163	Carroll HS and Rudolph JW. Design of high reliability organizations in health care. <i>Qual Saf Health Care</i> . 2006 Dec; (15) (Suppl 1):i4-9.			√	√
164	Palmieri PA, DeLucia PR, et al. The Anatomy and Physiology of Error in Adverse Health Care Events. <i>Patient Safety and Health Care Management: Advances in Health Care Management, 2009;Vol 87; 33-68</i> . Emerald Group Publishing Ltd. ISSN: 1474-8231/doi:10.1016/S1474-8231(08)07003-1			√	
165	Hayden AD, Lanoue ET. Design for Reliability: Barcoded Medication Administration. <i>Patient Safety and Quality Healthcare online</i> . Jul/Aug 2011				√



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
166	Nurses at the “Sharp End” of Patient Care: Patient Safety and Quality: An Evidence-based Handbook for Nurses. (Chapter 2) Hughes RG, editor. Rockville (MD): Agency for Healthcare Research and Quality; 2008 Apr.			√	√
167	American Association of Critical-Care Nurses. AACN Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence. Am J Crit Care. 2005; 14:187-97. www.aacn.org/WD/HWE/Docs/HWEStandards.pdf			√	√
168	Kushniruk AW, Borycki EM, Kuwata S, Watanabe H. Using a Low-Cost Simulation Approach for Assessing the Impact of a Medication Administration System on Workflow. eHealth Beyond the Horizon – Get IT There. S.K. Anderson (Editor). IOS Press, 2008. Pages 567-572.				√
169	Borycki E and Keay E. Implementing Safety Solutions: Methods to Assess the Safety of Health Information Systems. Healthcare Quarterly. 2010 Sep; 13 Spec No:47-52.				√
170	Kushniruk A, Borycki E, Kuwata S, Kannry J. Using Information to Improve Safety: Predicting Changes in Workflow Resulting from Healthcare Information Systems: Ensuring the Safety of Healthcare. Healthcare Quarterly. 2006 Oct; 9 Spec No:114-8.				√
171	Borycki, E, Kushniruk A, Brender J. Theories, models and frameworks for diagnosing technology-induced error. Stud Health Technol Inform. 2010; 160(Pt 1):714-8.				√
172	Carvalho CJ, Borycki EM, Kushniruk, A. Identifying Risks: Ensuring the Safety of Health Information Systems: Using Heuristics for Patient Safety. Healthcare Quarterly. 2009; 12 Speci No:49-54.				√
173	Weick KE and Sutcliffe KM. (2001) Managing the unexpected: Assuring high performance in a range of complexity. San Francisco: Jossey-Bass.			√	√
174	Schiff GD and Bates DW. Can Electronic Clinical Documentation Help Prevent Diagnostic Errors? N Engl J Med. 2010 Mar 25; 362(12):1066-9.		√		



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
175	Cescon DW and Etchells E. Barcoded Medication Administration: A Last Line of Defense. JAMA. 2008; 299(18):2200-2.		√		
176	Bagalio, SA. When Systems fail: Improving care through technology can create risk. J Healthcare Risk Mgmt. 2007; 27:13-8. doi: 10.1002				√
177	Leading change. John P. Kotter, 1996, Harvard Business School Press, Boston, MA, http://www.hbsp.harvard.edu				√
178	Kotter JP. Leading change: Why transformation efforts fail. Harv Bus Rev. 1996; 73(2):59-67.				√
179	ASHP Foundation: Leading Change in a Complex Health Care System http://www.ashpfoundation.org/transformational/TransformationalChange110212_print.html				√
180	Weick KE and Sutcliffe KM. (2007) Managing the unexpected: Resilient Performance in an Age of Uncertainty. (2 nd Edition), Wiley, New York.			√	√
181	<i>Annette Gebauer in collaboration with Ursula Kiel-Dixon, ThyssenKrupp. High Reliability Organizing: Managing the Unexpected by Building up Organizational Capabilities. 2010. Interventions for Corporate Learning Academy, Berlin.</i> http://www.corporate-learning.org/wp/wp-content/uploads/2010/08/High-Reliability-Organizations-article-aq_enq_Final.pdf http://www.corporate-learning.org			√	√
182	Hassink JJ, Essenberg MD, Roukema JA, van den Bemt PM. Effect of bar-code-assisted medication administration on medication administration errors. Am J Health Syst Pharm. 2013 Apr 1; 70(7):572-3.		√		



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
183	Sakowski JA, Ketchel A. The cost of implementing inpatient bar code medication administration. Am J Manag Care. 2013 Feb 1; 19(2):e38-45.			√	
184	Henneman PL, Marquard JL, Fisher DL, et al. Bar-code verification: reducing but not eliminating medication errors. J Nurs Adm. 2012 Dec; 42(12):562-6.		√		
185	Bonkowski J and Weber R. Including emergency departments in hospitals' bar-code-assisted medication administration system. Am J Health Syst Pharm. 2012 Jun 15; 69(12):1018-9		√		
186	Rack LL, Dudjak LA, Wolf GA. Study of nurse workarounds in a hospital using bar code medication administration system. J Nurs Care Qual. 2012 Jul-Sep;27(3):232-9.				√
187	Wild D, Szczepura A, Nelson S. New barcode checks help reduce drug round errors in care homes. Nurs Manag (Harrow). 2011 Sep;18(5):26-30.		√		√
188	FitzHenry F, Doran J, Lobo B, Sullivan TM, Potts A, Feldott CC, Matheny ME, McCulloch G, Deppen S, Doulis J. Medication-error alerts for warfarin orders detected by a bar-code-assisted medication administration system. Am J Health Syst Pharm. 2011 Mar 1;68(5):434-41.		√		
189	Raman K, Heelon M, Kerr G, Higgins TL. Addressing challenges in bar-code scanning of large-volume infusion bags. Am J Health Syst Pharm. 2011 Aug 1;68(15):1450-3.				√
190	Dasgupta A, Sansgiry SS, Jacob SM, Frost CP, Dwibedi N, Tipton J. Descriptive analysis of workflow variables associated with barcode-based approach to medication administration. J Nurs Care Qual. 2011 Oct-Dec;26(4):377-84				√



Medication Bar Code System Implementation Planning

Ref No.	Reference and Link	BC Primer	Rate & Impact	CEO ROI	Implement
191	Prusch AE, Suess TM, Paoletti RD, Olin ST, Watts SD. Integrating technology to improve medication administration. Am J Health Syst Pharm. 2011 May 1;68(9):835-42.		√		
192	Morriss FH Jr, Abramowitz PW, Nelson SP, Milavetz G, Michael SL, Gordon SN. Risk of adverse drug events in neonates treated with opioids and the effect of a bar-code-assisted medication administration system. Am J Health Syst Pharm. 2011 Jan 1;68(1):57-62.		√		
193	AHRQ Study Shows Using Bar-Code Technology with eMAR Reduces Medication Administration and Transcription Errors. AHRQ, May 5, 2010 http://www.ahrq.gov/news/newsroom/press-releases/2010/emar.html		√		
194	McNulty J, Donnelly E, Lorio K. Methodologies for sustaining barcode medication administration compliance. A multi-disciplinary approach. J Healthc Inf Manag. 2009 Fall;23(4):30-3.				√
195	Getting Started with Microsystems. Buy-in vs. Ownership. Dartmouth Institute Microsystem Academy. The Dartmouth Institute. Geisel School of Medicine. Dartmouth College. http://clinicalmicrosystem.org/assets/toolkits/getting_started/buyin_vs_ownership.pdf				√
196	<i>Change Management Leadership Guide (2011)</i> . Ryerson University: Human Resources (Organizational & Employee Effectiveness. Toronto, Ontario. http://www.ryerson.ca/hr/management/change_mgmt/index.html http://www.ryerson.ca/content/dam/hr/management/change_mgmt/docs/ChangeManagementGuide_FINAL.pdf				√

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