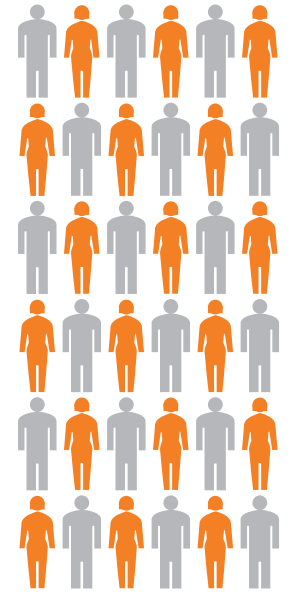
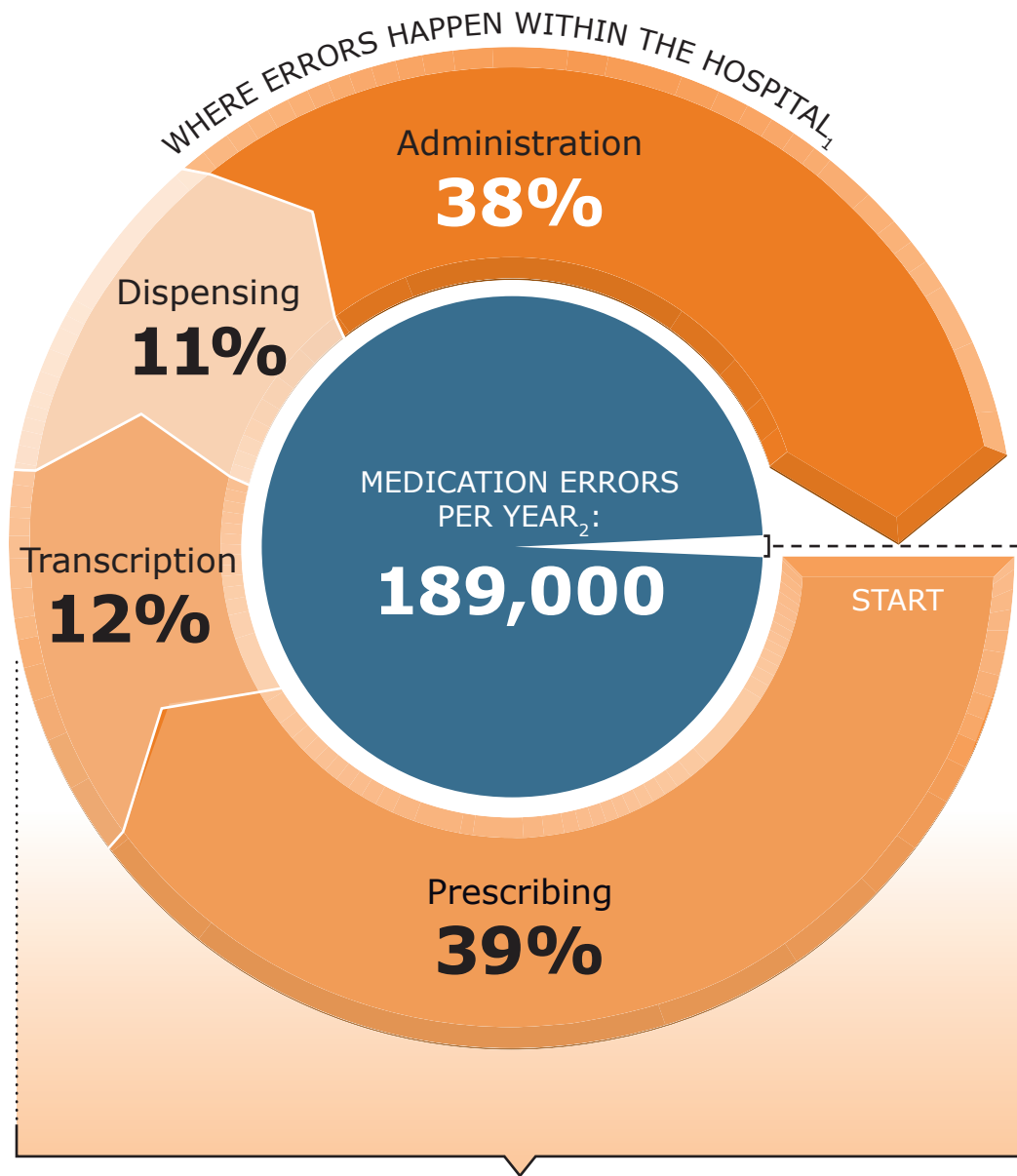


Estimated Impact Of Medication Errors On An Average 300 Bed Hospital



HARMFUL ERRORS₃
1,890
(1%)

PATIENT DEATHS₄
36
(1.88%)

300 BED HOSPITAL COST DUE TO HARMFUL ERRORS₅:
\$16.5
MILLION

ADDED HOSPITAL STAY
DUE TO ERRORS₆:
3,609
DAYS

36
PREVENTABLE
DEATHS PER YEAR₇

References

¹Leape LL, Bates DW, Cullen DJ et al. Systems analysis of adverse drug events. JAMA. 1995; 274:35-43.

²19% of medications administered in error (Barker KN, Flynn EA, Pepper GA, Bates DW, Mikeal RL. Medication Errors Observed in 36 Health Care Facilities. Arch Intern Med. 2002;162:1897-1903) 20 doses per day (Baker, J., Draves, M., Ramudhin, A., Analysis of the Medication Management System in Seven Hospitals: MedBPM study, 2008) 13,500 admissions (CareFusion data analysis) 3.5 average length of stay (H. Bueno, J. Ross, Y. Wang, J. Chen, et al, Trends in Length of Stay and Short-term Outcomes Among Medicare Patients Hospitalized for Heart Failure, 1993-2006, JAMA. 2010;303(21):2141-2147. CareFusion data analysis) $20 \times 13,500 = 270,000$ doses per patient day $\times 3.5$ days average length of stay = $945,000 \times 20\% = 189,000$

³Using conservative range: 0.5% -1.5%. Studies on rates include: 1% of medication errors are harmful (Bates DW, Boyle DL, Vander Vliet MB, Schneider J, Leape L. 1995a. Relationship between medication errors and adverse drug events. Journal of General Internal Medicine 10(4):100-205.) 7% of medication errors resulted in pADEs (Barker KN, Flynn EA, Pepper GA, Bates DW, Mikeal RL. Medication Errors Observed in 36 Health Care Facilities. Arch Intern Med. 2002;162:1897-1903) 2.4 per 100 admissions. (Classen DC, Pestotnik SL, Evans RS, Lloyd JF, Burke JP, 1997. Adverse drug events in hospitalized patients. Excess length of stay, extra costs and attributable mortality. Journal of the American Medical Association 261 (22):3273-3277

⁴Classen DC, Pestotnik SL, Evans RS, Lloyd JF, Burke JP, "Adverse drug events in hospitalized patients. Excess length of stay, extra costs, and attributable mortality," JAMA, 1997, 277(4):301-306

⁵Bates DW, Spell N, Cullen DJ, Burdick E, Laird N, Petersen LA, Small SD, Sweitzer BJ, Leape L. 1997. The costs of adverse drug events in hospitalized patients. Adverse Drug Events Prevention Study Group. Journal of the American Medical Association 277(4):307-311

⁶Classen DC, Pestotnik SL, Evans RS, Lloyd JF, Burke JP, Adverse drug events in hospitalized patients. Excess length of stay, extra costs, and attributable mortality, JAMA, 1997 Jan 22-29; 277(4):301-6

⁷Bates DW, Spell N, Cullen DJ, Burdick E, Laird N, Petersen LA, Small SD, Sweitzer BJ, Leape L. 1997. The costs of adverse drug events in hospitalized patients. Adverse Drug Events Prevention Study Group. Journal of the American Medical Association 277(4):307-311

⁸H. Bueno, J. Ross, Y. Wang, J. Chen, et al, Trends in Length of Stay and Short-term Outcomes Among Medicare Patients Hospitalized for Heart Failure, 1993-2006, JAMA. 2010;303(21):2141-2147.

⁹Classen DC, Pestotnik SL, Evans RS, Lloyd JF, Burke JP, "Adverse drug events in hospitalized patients. Excess length of stay, extra costs, and attributable mortality," JAMA, 1997, 277(4):301-306