

“UpToDate has been the subject of more than 80 research studies...”

- 1: Amini R, Hernandez NC, Keim SM, Gordon PR. Using standardized patients to evaluate medical students' evidence-based medicine skills. *J Evid Based Med*. 2015 Dec 8. doi: 10.1111/jebm.12183. [Epub ahead of print] PubMed PMID: 26646923.
- 2: Campbell JM, Umaphysivam K, Xue Y, Lockwood C. Evidence-Based Practice Point-of-Care Resources: A Quantitative Evaluation of Quality, Rigor, and Content. *Worldviews Evid Based Nurs*. 2015 Dec 2. doi: 10.1111/wvn.12114. [Epub ahead of print] PubMed PMID: 26629973.
- 3: Del Fiol G, Mostafa J, Pu D, Medlin R, Slager S, Jonnalagadda SR, Weir CR. Formative evaluation of a patient-specific clinical knowledge summarization tool. *Int J Med Inform*. 2015 Nov 20. pii: S1386-5056(15)30058-7. doi: 10.1016/j.ijmedinf.2015.11.006. [Epub ahead of print] PubMed PMID: 26612774.
- 4: Kinoshita K, Tsugawa Y, Shimizu T, Tanoue Y, Konishi R, Nishizaki Y, Shiojiri T, Tokuda Y. Impact of inpatient caseload, emergency department duties, and online learning resource on General Medicine In-Training Examination scores in Japan. *Int J Gen Med*. 2015 Oct 30;8:355-60. doi: 10.2147/IJGM.S81920. eCollection 2015. PubMed PMID: 26586961; PubMed Central PMCID: PMC4634823.
- 5: Dragan IF, Newman M, Stark P, Steffensen B, Karimbux N. Using a Simulated Infobutton Linked to an Evidence-Based Resource to Research Drug-Drug Interactions: A Pilot Study with Third-Year Dental Students. *J Dent Educ*. 2015 Nov;79(11):1349-55. PubMed PMID: 26522641.
- 6: Obstetric Recommendations in American Congress of Obstetricians and Gynecologists Practice Bulletins versus UpToDate: A Comparison (Podcast). *Am J Perinatol*. 2015 Sep 23. [Epub ahead of print] PubMed PMID: 26397739.
- 7: Beck JB, Tieder JS. Electronic resources preferred by pediatric hospitalists for clinical care. *J Med Libr Assoc*. 2015 Oct;103(4):177-83. doi: 10.3163/1536-5050.103.4.003. PubMed PMID: 26512215; PubMed Central PMCID: PMC4613376.
- 8: Bicalho MD, Soares DB, Botoni FA, Reis AM, Martins MA. Drug-Induced Nephrotoxicity and Dose Adjustment Recommendations: Agreement Among Four Drug Information Sources. *Int J Environ Res Public Health*. 2015 Sep 9;12(9):11227-40. doi: 10.3390/ijerph120911227. PubMed PMID: 26371029; PubMed Central PMCID: PMC4586671.
- 9: Callahan A, Pernek I, Stiglic G, Leskovec J, Strasberg HR, Shah NH. Analyzing Information Seeking and Drug-Safety Alert Response by Health Care Professionals as New Methods for Surveillance. *J Med Internet Res*. 2015 Aug 20;17(8):e204. doi: 10.2196/jmir.4427. PubMed PMID: 26293444.

- 10: Torous J, Franzan J, O'Connor R, Mathew I, Keshavan M, Kitts R, Boland R. Psychiatry Residents' Use of Educational Websites: A Pilot Survey Study. *Acad Psychiatry*. 2015 Dec;39(6):630-3. doi: 10.1007/s40596-015-0335-8. Epub 2015 Jun 16. PubMed PMID: 26077007.
- 11: Myer EN, Too GT, Hammad IA, Babbar S, Martin CE, Hill JB, Blackwell SB, Chauhan SP. Obstetric Recommendations in American Congress of Obstetricians and Gynecologists Practice Bulletins versus UpToDate: a comparison. *Am J Perinatol*. 2015 Apr;32(5):427-44. doi: 10.1055/s-0034-1396684. Epub 2014 Dec 29. PubMed PMID: 25545450.
- 12: Egle JP, Smeenge DM, Kassem KM, Mittal VK. The Internet School of Medicine: use of electronic resources by medical trainees and the reliability of those resources. *J Surg Educ*. 2015 Mar-Apr;72(2):316-20. doi: 10.1016/j.jsurg.2014.08.005. Epub 2014 Dec 6. PubMed PMID: 25487347.
- 13: Beall DP, McRoberts WP, Berven SH, Ledlie JT, Tutton SM, Parsons BP. Critique of the analysis of UpToDate.com on the treatment of painful vertebral compression fractures: time to update UpToDate. *AJNR Am J Neuroradiol*. 2015 Apr;36(4):631-6. doi: 10.3174/ajnr.A4095. Epub 2014 Nov 20. PubMed PMID: 25414003.
- 14: Wallace KL, Beckett RD, Sheehan AH. Pharmacist perception and use of UpToDate®. *J Med Libr Assoc*. 2014 Oct;102(4):296-300. doi: 10.3163/1536-5050.102.4.012. PubMed PMID: 25349549; PubMed Central PMCID: PMC4188058.
- 15: Santillana M, Nsoesie EO, Mekaru SR, Scales D, Brownstein JS. Using clinicians' search query data to monitor influenza epidemics. *Clin Infect Dis*. 2014 Nov 15;59(10):1446-50. doi: 10.1093/cid/ciu647. Epub 2014 Aug 12. PubMed PMID: 25115873; PubMed Central PMCID: PMC4296132.
- 16: Maggio LA, Kung JY. How are medical students trained to locate biomedical information to practice evidence-based medicine? A review of the 2007-2012 literature. *J Med Libr Assoc*. 2014 Jul;102(3):184-91. doi: 10.3163/1536-5050.102.3.008. PubMed PMID: 25031559; PubMed Central PMCID: PMC4076127.
- 17: Nguyen DL, Rasheed S, Parekh NK. Patterns of Internet use by gastroenterologists in the management and education of patients with inflammatory bowel disease. *South Med J*. 2014 May;107(5):320-3. doi: 10.1097/SMJ.000000000000107. PubMed PMID: 24937734.
- 18: Brasure M, Forte M, Butler M, Kane RL. Use of Evidence-Based Practice Center Comparative Effectiveness Reviews by Clinical Point-of-Care Tools [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2014 Apr. Available from <http://www.ncbi.nlm.nih.gov/books/NBK206754/> PubMed PMID: 24901180.

- 19: Maggio LA, Cate OT, Moorhead LL, van Stiphout F, Kramer BM, Ter Braak E, Posley K, Irby D, O'Brien BC. Characterizing physicians' information needs at the point of care. *Perspect Med Educ*. 2014 Nov;3(5):332-42. doi: 10.1007/s40037-014-0118-z. PubMed PMID: 24865885; PubMed Central PMCID: PMC4235804.
- 20: Mishra R, Del Fiol G, Kilicoglu H, Jonnalagadda S, Fiszman M. Automatically extracting clinically useful sentences from UpToDate to support clinicians' information needs. *AMIA Annu Symp Proc*. 2013 Nov 16;2013:987-92. eCollection 2013. PubMed PMID: 24551389; PubMed Central PMCID: PMC3900230.
- 21: Basow D. No internet? No problem. Ensuring access to clinical decision support even when internet is spotty or nonexistent. *Health Manag Technol*. 2013 Aug;34(8):20-1. PubMed PMID: 24015490.
- 22: Anderson C, Henner T, Burkey J. Tablet computers in support of rural and frontier clinical practice. *Int J Med Inform*. 2013 Nov;82(11):1046-58. doi: 10.1016/j.ijmedinf.2013.08.006. Epub 2013 Aug 19. PubMed PMID: 24012016.
- 23: Maggio LA, Steinberg RM, Moorhead L, O'Brien B, Willinsky J. Access of primary and secondary literature by health personnel in an academic health center: implications for open access. *J Med Libr Assoc*. 2013 Jul;101(3):205-12. doi: 10.3163/1536-5050.101.3.010. PubMed PMID: 23930091; PubMed Central PMCID: PMC3738081.
- 24: Weng YH, Kuo KN, Chen C, Yang CY, Lo HL, Chiu YW. Profile of evidence-based practice among respiratory therapists in Taiwan. *Respir Care*. 2014 Feb;59(2):281-7. doi: 10.4187/respcare.02611. Epub 2013 Aug 6. PubMed PMID: 23920218.
- 25: Weng YH, Kuo KN, Yang CY, Liao HH, Chen C, Lo HL, Lee WC, Chiu YW. Effectiveness of national evidence-based medicine competition in Taiwan. *BMC Med Educ*. 2013 May 7;13:66. doi: 10.1186/1472-6920-13-66. PubMed PMID: 23651869; PubMed Central PMCID: PMC3661390.
- 26: Kronenfeld MR, Bay RC, Coombs W. Survey of user preferences from a comparative trial of UpToDate and ClinicalKey. *J Med Libr Assoc*. 2013 Apr;101(2):151-4. doi: 10.3163/1536-5050.101.2.011. PubMed PMID: 23646031; PubMed Central PMCID: PMC3634379.
- 27: Duran-Nelson A, Gladding S, Beattie J, Nixon LJ. Should we Google it? Resource use by internal medicine residents for point-of-care clinical decision making. *Acad Med*. 2013 Jun;88(6):788-94. doi: 10.1097/ACM.0b013e31828ffdb7. PubMed PMID: 23619072.
- 28: Addison J, Whitcombe J, William Glover S. How doctors make use of online,

- point-of-care clinical decision support systems: a case study of UpToDate®. Health Info Libr J. 2013 Mar;30(1):13-22. doi: 10.1111/hir.12002. Epub 2012 Oct 15. PubMed PMID: 23413790.
- 29: Chisholm R, Finnell JT. Emergency department physician internet use during clinical encounters. AMIA Annu Symp Proc. 2012;2012:1176-83. Epub 2012 Nov 3. PubMed PMID: 23304394; PubMed Central PMCID: PMC3540428.
- 30: Jeffery R, Navarro T, Lokker C, Haynes RB, Wilczynski NL, Farjou G. How current are leading evidence-based medical textbooks? An analytic survey of four online textbooks. J Med Internet Res. 2012 Dec 10;14(6):e175. doi: 10.2196/jmir.2105. PubMed PMID: 23220465; PubMed Central PMCID: PMC3799557.
- 31: Kiefer B. [Should we be wary of UpToDate?]. Rev Med Suisse. 2012 Oct 24;8(359):2040. French. PubMed PMID: 23167083.
- 32: Prorok JC, Iserman EC, Wilczynski NL, Haynes RB. The quality, breadth, and timeliness of content updating vary substantially for 10 online medical texts: an analytic survey. J Clin Epidemiol. 2012 Dec;65(12):1289-95. doi: 10.1016/j.jclinepi.2012.05.003. Epub 2012 Sep 10. PubMed PMID: 22974495.
- 33: Chiu YW, Weng YH, Lo HL, Shih YH, Hsu CC, Kuo KN. Comparison of accessing online databases between physicians and nurses in Taiwan. Inform Health Soc Care. 2012 Dec;37(4):230-41. doi: 10.3109/17538157.2012.654842. Epub 2012 Jun 1. PubMed PMID: 22657100.
- 34: Phua J, See KC, Khalizah HJ, Low SP, Lim TK. Utility of the electronic information resource UpToDate for clinical decision-making at bedside rounds. Singapore Med J. 2012 Feb;53(2):116-20. PubMed PMID: 22337186.
- 35: Bejaimal SA, Haynes RB, Shariff S, Garg AX. Finding and evaluating renal evidence: bridging the knowledge gap. Adv Chronic Kidney Dis. 2012 Jan;19(1):5-10. doi: 10.1053/j.ackd.2012.01.003. Review. PubMed PMID: 22364795.
- 36: Sheets L, Callaghan F, Gavino A, Liu F, Fontelo P. Usability of selected databases for low-resource clinical decision support. Appl Clin Inform. 2012 Sep 6;3(3):326-33. doi: 10.4338/ACI-2012-06-RA-0024. Print 2012. PubMed PMID: 23646080; PubMed Central PMCID: PMC3613026.
- 37: O'Keeffe J, Willinsky J, Maggio L. Public access and use of health research: an exploratory study of the National Institutes of Health (NIH) Public Access Policy using interviews and surveys of health personnel. J Med Internet Res. 2011 Nov 21;13(4):e97. doi: 10.2196/jmir.1827. PubMed PMID: 22106169; PubMed Central PMCID: PMC3236667.
- 38: Isaac T, Zheng J, Jha A. Use of UpToDate and outcomes in US hospitals. J Hosp Med. 2012 Feb;7(2):85-90. doi: 10.1002/jhm.944. Epub 2011 Nov 16. PubMed PMID:

22095750.

39: Midmer D, Kahan M, Kim T, Ordean A, Graves L. Efficacy of a physicians' pocket guide about prenatal substance use: a randomized trial. *Subst Abus.* 2011 Oct;32(4):175-9. doi: 10.1080/08897077.2011.598399. PubMed PMID: 22014247.

40: Tulaimat A, Patel A, Shah B, Littleton SW. Is the content of textbooks on the evaluation of a patient in respiratory distress adequate? *Respir Care.* 2012 Mar;57(3):404-12. doi: 10.4187/respcare.01112. Epub 2011 Oct 12. PubMed PMID: 22005290.

41: Banzi R, Cinquini M, Liberati A, Moschetti I, Pecoraro V, Tagliabue L, Moja L. Speed of updating online evidence based point of care summaries: prospective cohort analysis. *BMJ.* 2011 Sep 23;343:d5856. doi: 10.1136/bmj.d5856. PubMed PMID: 21948588; PubMed Central PMCID: PMC3179203.

42: Buscaglia J, Nagula S, Yuan J, Bucobo JC, Kumar A, Forsmark CE, Draganov PV. The practice of evidence-based medicine (EBM) in gastroenterology: discrepancies between EBM familiarity and EBM competency. *Therap Adv Gastroenterol.* 2011 Sep;4(5):283-94. doi: 10.1177/1756283X11412240. PubMed PMID: 21922027; PubMed Central PMCID: PMC3165209.

43: Sayyah Ensan L, Faghankhani M, Javanbakht A, Ahmadi SF, Baradaran HR. To compare PubMed Clinical Queries and UpToDate in teaching information mastery to clinical residents: a crossover randomized controlled trial. *PLoS One.* 2011;6(8):e23487. doi: 10.1371/journal.pone.0023487. Epub 2011 Aug 12. PubMed PMID: 21858142; PubMed Central PMCID: PMC3155565.

44: Ahmadi SF, Faghankhani M, Javanbakht A, Akbarshahi M, Mirghorbani M, Safarnejad B, Baradaran H. A comparison of answer retrieval through four evidence-based textbooks (ACP PIER, Essential Evidence Plus, First Consult, and UpToDate): a randomized controlled trial. *Med Teach.* 2011;33(9):724-30. doi: 10.3109/0142159X.2010.531155. PubMed PMID: 21854150.

45: Shariff SZ, Bejaimal SA, Sontrop JM, Iansavichus AV, Weir MA, Haynes RB, Speechley MR, Thind A, Garg AX. Searching for medical information online: a survey of Canadian nephrologists. *J Nephrol.* 2011 Nov-Dec;24(6):723-32. doi: 10.5301/JN.2011.6373. PubMed PMID: 21360475.

46: Ketchum AM, Saleh AA, Jeong K. Type of evidence behind point-of-care clinical information products: a bibliometric analysis. *J Med Internet Res.* 2011 Feb 18;13(1):e21. doi: 10.2196/jmir.1539. PubMed PMID: 21335319; PubMed Central PMCID: PMC3221343.

47: Cooper AL, Elnicki DM. Resource utilisation patterns of third-year medical students. *Clin Teach.* 2011 Mar;8(1):43-7. doi: 10.1111/j.1743-498X.2010.00393.x. PubMed PMID: 21324072.

- 48: Cao Y, Liu F, Simpson P, Antieau L, Bennett A, Cimino JJ, Ely J, Yu H. AskHERMES: An online question answering system for complex clinical questions. *J Biomed Inform.* 2011 Apr;44(2):277-88. doi: 10.1016/j.jbi.2011.01.004. Epub 2011 Jan 21. PubMed PMID: 21256977; PubMed Central PMCID: PMC3433744.
- 49: Thiele RH, Poirio NC, Scalzo DC, Nemergut EC. Speed, accuracy, and confidence in Google, Ovid, PubMed, and UpToDate: results of a randomised trial. *Postgrad Med J.* 2010 Aug;86(1018):459-65. doi: 10.1136/pgmj.2010.098053. PubMed PMID: 20709767.
- 50: Edson RS, Beckman TJ, West CP, Aronowitz PB, Badgett RG, Feldstein DA, Henderson MC, Kolars JC, McDonald FS. A multi-institutional survey of internal medicine residents' learning habits. *Med Teach.* 2010;32(9):773-5. doi: 10.3109/01421591003692698. PubMed PMID: 20795809.
- 51: Galnares-Cordero L, Gutiérrez-Ibarluzea I. Information needs of health technology assessment units and agencies in Spain. *Int J Technol Assess Health Care.* 2010 Oct;26(4):463-9. doi: 10.1017/S0266462310000942. Epub 2010 Oct 6. PubMed PMID: 20923584.
- 52: Somal K, Lam WC, Tam E. Computer and internet use by ophthalmologists and trainees in an academic centre. *Can J Ophthalmol.* 2009 Jun;44(3):265-8. doi: 10.3129/i09-057. PubMed PMID: 19491979.
- 53: Stephens MB, Von Thun AM. Military medical informatics: accessing information in the deployed environment. *Mil Med.* 2009 Mar;174(3):259-64. PubMed PMID: 19354089.
- 54: Goodyear-Smith F, Kerse N, Warren J, Arroll B. Evaluation of e-textbooks. *DynaMed, MD Consult and UpToDate. Aust Fam Physician.* 2008 Oct;37(10):878-82. PubMed PMID: 19002313.
- 55: Hoogendam A, Stalenhoef AF, Robbé PF, Overbeke AJ. Answers to questions posed during daily patient care are more likely to be answered by UpToDate than PubMed. *J Med Internet Res.* 2008 Oct 3;10(4):e29. doi: 10.2196/jmir.1012. PubMed PMID: 18926978; PubMed Central PMCID: PMC2629368.
- 56: Phua J, Lim TK. How residents and interns utilise and perceive the personal digital assistant and UpToDate. *BMC Med Educ.* 2008 Jul 14;8:39. doi: 10.1186/1472-6920-8-39. PubMed PMID: 18625038; PubMed Central PMCID: PMC2483706.
- 57: Bonis PA, Pickens GT, Rind DM, Foster DA. Association of a clinical knowledge support system with improved patient safety, reduced complications and shorter length of stay among Medicare beneficiaries in acute care hospitals in the United States. *Int J Med Inform.* 2008 Nov;77(11):745-53. doi: 10.1016/j.ijmedinf.2008.04.002. Epub 2008 Jun 19. PubMed PMID: 18565788.

- 58: Serdar MA, Turan M, Cihan M. Rapid access to information resources in clinical biochemistry: medical applications of Personal Digital Assistants (PDA). Clin Exp Med. 2008 Jun;8(2):117-22. doi: 10.1007/s10238-008-0166-y. Epub 2008 Jul 11. PubMed PMID: 18618222.
- 59: Rose BD. Nephrologists Sans Frontières: how I became a teacher. Kidney Int. 2008 Apr;73(8):901-2. doi: 10.1038/ki.2008.61. PubMed PMID: 18379523.
- 60: Graber MA, Randles BD, Ely JW, Monnahan J. Answering clinical questions in the ED. Am J Emerg Med. 2008 Feb;26(2):144-7. doi: 10.1016/j.ajem.2007.03.031. PubMed PMID: 18272092.
- 61: Phua J, Lim TK. Use of traditional versus electronic medical-information resources by residents and interns. Med Teach. 2007 May;29(4):400-2. PubMed PMID: 17786760.
- 62: Kitchin DR, Applegate KE. Learning radiology a survey investigating radiology resident use of textbooks, journals, and the internet. Acad Radiol. 2007 Sep;14(9):1113-20. PubMed PMID: 17707320.
- 63: Fenton SH, Badgett RG. A comparison of primary care information content in UpToDate and the National Guideline Clearinghouse. J Med Libr Assoc. 2007 Jul;95(3):255-9. Erratum in: J Med Libr Assoc. 2007 Oct;95(4):473. PubMed PMID: 17641755; PubMed Central PMCID: PMC1924927.
- 64: McKibbin KA, Fridsma DB, Crowley RS. How primary care physicians' attitudes toward risk and uncertainty affect their use of electronic information resources. J Med Libr Assoc. 2007 Apr;95(2):138-46, e49-50. PubMed PMID: 17443246; PubMed Central PMCID: PMC1852627.
- 65: Iqbal M, Quadri KM. Preliminary experience with learner-centered evidence based format morning report. J Pak Med Assoc. 2007 Mar;57(3):120-2. PubMed PMID: 17432014.
- 66: Collier AP, Heilig LF, Schilling LM, Dellavalle RP. Clinical questions asked by medical students: a learning tool for dermatology rotations. Dermatology. 2007;214(2):108-11. PubMed PMID: 17341857.
- 67: McCord G, Smucker WD, Selius BA, Hannan S, Davidson E, Schrop SL, Rao V, Albrecht P. Answering questions at the point of care: do residents practice EBM or manage information sources? Acad Med. 2007 Mar;82(3):298-303. PubMed PMID: 17327723.
- 68: Campbell R, Ash J. An evaluation of five bedside information products using a user-centered, task-oriented approach. J Med Libr Assoc. 2006 Oct;94(4):435-41, e206-7. PubMed PMID: 17082836; PubMed Central PMCID: PMC1629448.

- 69: Fenton SH, Badgett R. Are there differences in online resources for answering primary care questions? AMIA Annu Symp Proc. 2005:953. PubMed PMID: 16779240; PubMed Central PMCID: PMC1560504.
- 70: Leff B, Harper GM. The reading habits of medicine clerks at one medical school: frequency, usefulness, and difficulties. Acad Med. 2006 May;81(5):489-94. PubMed PMID: 16639211.
- 71: Burkiewicz JS, Vesta KS, Hume AL. Update in handheld electronic resources for evidence-based practice in the community setting. Ann Pharmacother. 2005 Dec;39(12):2100-4. Epub 2005 Nov 15. Review. PubMed PMID: 16288067.
- 72: DeZee KJ, Durning S, Denton GD. Effect of electronic versus print format and different reading resources on knowledge acquisition in the third-year medicine clerkship. Teach Learn Med. 2005 Fall;17(4):349-54. PubMed PMID: 16197322.
- 73: Schilling LM, Steiner JF, Lundahl K, Anderson RJ. Residents' patient-specific clinical questions: opportunities for evidence-based learning. Acad Med. 2005 Jan;80(1):51-6. PubMed PMID: 15618093.
- 74: Ismach RB. Teaching evidence-based medicine to medical students. Acad Emerg Med. 2004 Dec;11(12):e6-10. Review. PubMed PMID: 15579428.
- 75: Koonce TY, Giuse NB, Todd P. Evidence-based databases versus primary medical literature: an in-house investigation on their optimal use. J Med Libr Assoc. 2004 Oct;92(4):407-11. PubMed PMID: 15494755; PubMed Central PMCID: PMC521511.
- 76: Johnson ED, Pancoast PE, Mitchell JA, Shyu CR. Design and evaluation of a personal digital assistant- based alerting service for clinicians. J Med Libr Assoc. 2004 Oct;92(4):438-44. PubMed PMID: 15494759; PubMed Central PMCID: PMC521515.
- 77: Peterson MW, Rowat J, Kreiter C, Mandel J. Medical students' use of information resources: is the digital age dawning? Acad Med. 2004 Jan;79(1):89-95. PubMed PMID: 14691004.
- 78: Fox GN, Moawad N. UpToDate: a comprehensive clinical database. J Fam Pract. 2003 Sep;52(9):706-10. PubMed PMID: 12967543.
- 79: McDonald FS, Zeger SL, Kolars JC. Factors associated with medical knowledge acquisition during internal medicine residency. J Gen Intern Med. 2007 Jul;22(7):962-8. Epub 2007 Apr 28. PubMed PMID: 17468889; PubMed Central PMCID: PMC2219722.
- 80: McDonald FS, Zeger SL, Kolars JC. Associations between United States Medical Licensing Examination (USMLE) and Internal Medicine In-Training Examination

(IM-ITE) scores. J Gen Intern Med. 2008 Jul;23(7):1016-9. doi:
10.1007/s11606-008-0641-x. PubMed PMID: 18612735; PubMed Central PMCID:
PMC2517912.

[Back to top](#)