Supplemental Digital Appendix 1

Articles (n = 109) Included in a Systematic Review of the Literature to Characterize and Evaluate Behavior Change Counseling Curricula, 2011

Allen B Jr, Pederson LL, Leonard EH. Effectiveness of physicians-in-training counseling for smoking cessation in African Americans. J Natl Med Assoc. 1998;90:597-604.

Allen SS, Bland CJ, Dawson SJ. A mini-workshop to train medical students to use a patient-centered approach to smoking cessation. Am J Prev Med. 1990;6:28-33.

Barss P, Grivna M, Al-Maskari F, Kershaw G. Strengthening public health medicine training for medical students: Development and evaluation of a lifestyle curriculum. Med Teach. 2008;30:e196–e218.

Bell K, Cole BA. Improving medical students' success in promoting health behavior change: A curriculum evaluation. J Gen Intern Med. 2008;23:1503–1506.

Boehlecke B, Sperber AD, Kowlowitz V, Becker M, Contreras A, McGaghie WC. Smoking history-taking skills: A simple guide to teach medical students. Med Educ. 1996;30:283-289.

Brody DS, Ryan K, Kuzma MA. Promoting the development of doctoring competencies in clinical settings. Fam Med. 2004;36(Jan Suppl):S105-S109.

Brown RL, Pfeifer JM, Gjerde CL, Seibert CS, Haq CL. Teaching patient-centered tobacco intervention to first-year medical students. J Gen Intern Med. 2004;19:534-539.

Campbell E, Weeks C, Walsh R, Sanson-Fisher R. Training medical students in HIV/AIDS test counseling: Results of a randomized trial. Med Educ. 1996;30:134-141.

Carson JA, Gillham MB, Kirk LM, Reddy ST, Battles JB. Enhancing self-efficacy and patient care with cardiovascular nutrition education. Am J Prev Med. 2002;23(4):296–302.

Coleman R, Huggett KN, Lofgreen AS. Behaviour change project for second-year medical students. Med Educ. 2006;40:462-463.

Conroy MB, Delichatsios HK, Hafler JP, Rigotti NA. Impact of a preventive medicine and nutrition curriculum for medical students. Am J Prev Med. 2004;27:77–80.

Cordes DH, Rea DF, Kligman E, Eichling P. Meanwhile back at the ranch: Training residents in clinical preventive medicine. Am J Prev Med. 1995;11:145-148.

Cornuz J, Humair JP, Seematter L, et al. Efficacy of resident training in smoking cessation: A randomized, controlled trial of a program based on application of behavioral theory and practice with standardized patients. Ann Intern Med. 2002;136:429-437.

Cornuz J, Zellweger JP, Mounoud C, Decrey H, Pécoud A, Burnand B. Smoking cessation counseling by residents in an outpatient clinic. Prev Med. 1997;26:292–296.

Coultas DB, Klecan DA, Whitten RM, et al. Training medical students in smoking-cessation counseling. Acad Med. 1994;69(10 Suppl):S48-S50.

Daskalakis C, Goldberg RJ, Ockene JK, Kalan K, Hosmer DW Jr, Pbert L. Comparison of patients' and their resident physicians' responses regarding smoking-cessation interventions. Acad Med. 1993;68:168-170.

Davis TC, Wolf MS, Bass PF, et al. Provider and patient intervention to improve weight loss: A pilot study in a public hospital clinic. Patient Educ Couns. 2008;72:56–62.

D'Onofrio G, Nadal ES, Degutis LC, et al. Improving emergency medicine residents' approach to patients with alcohol problems: A controlled educational trial. Ann Emerg Med. 2002; 40:50-62.

D'Onofrio G, Pantalon MV, Degutis LC, Fiellin DA, O'Connor PG. Development and implementation of an emergency practitioner-performed brief intervention for hazardous and harmful drinkers in the emergency department. Acad Emerg Med. 2005;12:249–256.

Eckstrom E, Hickam DH, Lessler DS, Buchner DM. Changing physician practice of physical activity counseling. J Gen Intern Med. 1999;14:376-378.

Evans AT, Rogers LQ, Peden JG Jr, et al. Teaching dietary counseling skills to residents: Patient and physician outcomes. Am J Prev Med 1996;12:259-265.

Eyler AE, Dicken LL, Fitzgerald JT, Oh MS, Wolf FM, Zweifler AJ. Teaching smokingcessation counseling to medical students using simulated patients. Am J Prev Med. 1997;13:153-158.

Fairfield KM, Emmons KM, Rigotti NA, Colditz GA. Use of a computerized risk-appraisal instrument for cancer prevention education of medical students. J Cancer Educ. 2002;17:183-185.

Feddock CA, Hoellein AR, Griffith CH, Wilson JF, Lineberry MJ, Haist SA. Enhancing knowledge and clinical skills through an adolescent medicine workshop. Arch Pediatr Adolesc Med. 2009;163:256-260.

Fox CH, Mahoney MC. Improving diabetes preventive care in a family practice residency program: A case study in continuous quality improvement. Fam Med. 1998;30:441-445.

Frank E, Elon L, Hertzberg V. A quantitative assessment of a 4-year intervention that improved patient counseling through improving medical student health. MedGenMed. 2007;9:58.

Frank E, Smith D, Fitzmaurice D. A description and qualitative assessment of a 4-year intervention to improve patient counseling by improving medical student health. MedGenMed. 2005;7:4.

Geller AC, Lash TL, Siegel B, Annas GD, Prout MN. The primary care pediatrician's influence on medical student's performance of smoking assessments. Prev Med. 2005;41:47-52. First published online November 10, 2004.

Geller AC, Prout MN, Miller DR, et al. Evaluation of a cancer prevention and detection curriculum for medical students. Prev Med. 2002;35:78-86.

Geller AC, Prout MN, Sun T, et al. Cancer skills laboratories for medical students: A promising approach for cancer education. J Cancer Educ. 2000;15:196-199.

Goldberg DN, Hoffman AM, Farinha MF, et al. Physician delivery of smoking-cessation advice based on the stages-of-change model. Am J Prev Med. 1994;10:267-274.

Gonzalez JL, Gilmer L. Obesity prevention in pediatrics: A pilot pediatric resident curriculum intervention on nutrition and obesity education and counseling. J Natl Med Assoc. 2006;98:1483-1488.

Gray DS, Harvison S, Wilson JW. Evaluation of a nutrition education program for family practice residents. J Med Educ. 1988;63:569-571.

Haist SA, Griffith III CH, Hoellein AR, Talente G, Montgomery T, Wilson JF. Improving students' sexual history inquiry and HIV counseling with an interactive workshop using standardized patients. J Gen Intern Med. 2004;19:549-553.

Haist SA, Lineberry MJ, Griffith CH, Hoellein AR, Talente G, Wilson JF. Sexual history inquiry and HIV counseling: Improving clinical skills and medical knowledge through an interactive workshop utilizing standardized patients. Adv in Health Sci Educ Theory Pract. 2008;13:427-434. First published online January 6, 2007.

Haist SA, Wilson JF, Pursley HG, et al. Domestic violence: Increasing knowledge and improving skills with a four-hour workshop using standardized patients. Acad Med. 2003;78(10 Suppl):S24-S26.

Harris IB, Westermeyer J. Chemical dependency education within medical schools: Supervised clinical experience. Am J Drug Alcohol Abuse. 1978;5:59-74.

Hettema JE, Sorensen JL, Uy M, Jain S. Motivational enhancement therapy to increase resident physician engagement in substance abuse education. Subst Abuse. 2009;30:244–247.

Humair JP, Cornuz J. A new curriculum using active learning methods and standardized patients to train residents in smoking cessation. J Gen Intern Med. 2003;18:1023-1027.

Hymowitz N, Schwab J, Eckholdt H. Pediatric residency training on tobacco. Pediatrics. 2001;108:E8.

Hymowitz N, Schwab J, Haddock CK, Pyle SA, Schwab LM. The pediatric residency training on tobacco project: Four-year resident outcome findings. Prev Med. 2007;45:481-490. First published online July 26, 2007.

Katz DL, Shuval K, Comerford BP, Faridi Z, Njike VY. Impact of an educational intervention on internal medicine residents' physical activity counselling: The Pressure System Model. J Eval Clin Pract. 2008;14:294–299.

Klein JD, Portilla M, Goldstein A, Leininger L. Training pediatric residents to prevent tobacco use. Pediatrics. 1995;96:326-330.

Kligman EW, Hale F, Feldhausen J. Strategies for integrating clinical preventive medicine into family medicine clerkships. Fam Med. 1990;22:279-283.

Knudson M, Hosokawa M. Evaluation of an educational intervention to increase health promotion by residents. J Med Educ. 1988;63:309-315.

Kogan JR, Reynolds EE, Shea JA. Effectiveness of report cards based on chart audits of residents' adherence to practice guidelines on practice performance: A randomized controlled trial. Teach Learn Med. 2003;15:25–30.

Kolasa KM, Jobe AC, Clay M, Daugherty J. Evaluating the use of a multimedia approach to teaching nutrition in medical school. J Nutritional Educ. 1997;29:351-355.

Kolasa KM, Jobe AC, Miller MG, Clay MC. Teaching medical students cancer risk reduction nutrition counseling using a multimedia program. Fam Med. 1999;31:200-204.

Kosower E, Ernst A, Taub B, Berman N, Andrews J, Seidel J. Tobacco prevention education in a pediatric residency program. Arch Pediatr Adolesc Med. 1995;149:430-435.

Kosowicz LY, Pfeiffer CA, Vargas M. Long-term retention of smoking cessation counseling skills learned in the first year of medical school. J Gen Intern Med. 2007;22:1161–1165.

Lee JD, Triola M, Gillespie C, et al. Working with patients with alcohol problems: A controlled trial of the impact of a rich media web module on medical student performance. J Gen Intern Med. 2008;23:1006–1009.

Lee MT, Hishinuma ES, Derauf C, Guerrero AP, Iwaishi LK, Kasuya RT. Smoking cessation counseling training for pediatric residents in the continuity clinic setting. Ambul Pediatr. 2004;4:289-294.

Leone FT, Evers-Casey S, Veloski J, Patkar AA, Kanzleiter L. Short-, intermediate-, and long-term outcomes of Pennsylvania's continuum of tobacco education pilot project. Nicotine Tob Res. 2009;11:387–393. First published online April 7, 2009.

Leong SL, Lewis PR, Curry WJ, Gingrich DL. Tobacco World: Evaluation of a tobacco cessation training program for third-year medical students. Acad Med. 2008;83(10 Suppl):S25–S28.

Levenkron JC. Teaching risk factor counseling skills: A comparison of two instructional methods. Am J Prev Med. 1990;6(2 Supp):29-34.

Levenkron JC, Greenland P, Bowley S. Using patient instructors to teach behavioral counseling skills. J Med Educ. 1987;62:665-672.

Levin FR, Owen P, Stinchfield R, Rabinowitz E, Pace N. Use of standardized patients to evaluate the physicians in residence program. J Addict Dis. 1999;18:39-50.

Leyden D, Cullinane EM, Wincze J, Saritelli A, Thompson PD. Teaching behavioral medicine using individual coronary heart disease risk factors. Prev Med. 1987;16:269-273.

Lopreiato JO, Foulds DM, Littlefield JH. Does a health maintenance curriculum for pediatric residents improve performance? Pediatrics 2000;105:966–972.

Lozano P, McPhillips HA, Hartzler B, et al. Randomized trial of teaching brief motivational interviewing to pediatric trainees to promote healthy behaviors in families. Arch Pediatr Adolesc Med. 2010;164:561-566.

MacLeod JB, Hungerford DW, Dunn C, Hartzler B. Evaluation of training of surgery interns to perform brief alcohol interventions for trauma patients. J Am Coll Surg. 2008;207:639–645.

Madlon-Kay DJ, Harper PG, Reif CJ. Health promotion counseling in residency training. J Gen Intern Med. 1994;9:465-467.

Madray H, Pfeiffer CA, Ardolino A. Teaching patient wellness to first-year medical students: The impact on future ability to perform the history of present illness. Med Educ. 2000;34:404-408.

Martino S, Haeseler F, Belitsky R, Pantalon M, Fortin AF 4th. Teaching brief motivational interviewing to year three medical students. Med Educ. 2007;41:160–167.

McIlvain HE, Susman JL, Manners MA, Davis CM, Gilbert CS. Improving smoking cessation counseling by family practice residents. J Fam Pract. 1992;34:745-749.

Merkel WT, Nierenberg BP. Behavioral science training in family practice residency education: A first evaluation. Soc Sci Med. 1983;17:213-217.

Moser EM, Stagnaro-Green A. Teaching behavior change concepts and skills during the third-year medicine clerkship. Acad Med. 2009;84:851–858.

Mounsey AL, Bovbjerg V, White L, Gazewood J. Do students develop better motivational interviewing skills through role-play with standardised patients or with student colleagues? Med Educ. 2006;40:775-780.

Nairn RG, Coverdale JH, Elkind GS. Teaching the principles of behaviour change to medical students: Evaluation of a programme. Med Educ. 1995;29:443-448.

Nieman LZ. A preclinical training model for chronic care education. Med Teach. 2007;29:391–393.

Nieman LZ, Velasquez MM, Groff JY, Cheng L, Foxhall LE. Implementation of a smoking cessation counseling module in a preceptorship program. Fam Med 2005;37:105-111.

Ockene JK, Quirk ME, Goldberg RJ, et al. A residents' training program for the development of smoking intervention skills. Arch Intern Med. 1988;148:1039-1045.

Papadakis MA, Croughan-Minihane M, Fromm LJ, Wilkie HA, Ernster VL. A comparison of two methods to teach smoking-cessation techniques to medical students. Acad Med.1997;72:725-727.

Pederson LL, Blumenthal DS, Dever A, McGrady G. A web-based smoking cessation and prevention curriculum for medical students: Why, how, what, and what next. Drug Alcohol Rev. 2006;25:39-47.

Perrin EM, Vann JC, Lazorick S. Bolstering confidence in obesity prevention and treatment counseling for resident and community pediatricians. Patient Educ Couns. 2008;73:179-185.

Poirier MK, Clark MM, Cerhan JH, Pruthi S, Geda YE, Dale LC. Teaching motivational interviewing to first-year medical students to improve counseling skills in health behavior change. Mayo Clin Proc. 2004;79:327-331.

Pololi LH, Potter S. Behavioral change in preventive medicine: An efficacy assessment of a physician education module. J Gen Intern Med. 1996;11:545-547.

Pololi L, Potter S, Ewing Garber C. A competency-based preventive medicine teaching module for medical students. Teach Learn Med. 1998;10:109–115.

Popp SM, Schwartz KL, Schoener EP. Brief intervention in hazardous drinking: An important adjunct to medical school ATOD curriculum. Subst Abus. 1998;19:1-6.

Powers CA, Thomson CC, Feuerstein I, et al. Smoking sleuths: A pilot tobacco prevention elective for medical school students. J Cancer Educ. 2008;23:122–125.

Prochaska JJ, Fromont SC, Leek D, et al. Evaluation of an evidence-based tobacco treatment curriculum for psychiatry residency training programs. Acad Psychiatry. 2008;32:484-492.

Prochaska JJ, Teherani A, Hauer KE. Medical students' use of the stages of change model in tobacco cessation counseling. J Gen Intern Med. 2007;22:223-227.

Quirk M, Ockene J, Kristeller J. Training family practice and internal medicine residents to counsel patients who smoke: Improvement and retention of counseling skills. Fam Med. 1991;23:108-111.

Roche AM, Eccleston P, Sanson-Fisher R. Teaching smoking cessation skills to senior medical students: A block-randomized controlled trial of four different approaches. Prev Med. 1996;25:251–258.

Roche AM, Stubbs JM, Sanson-Fisher RW, Saunders JB. A controlled trial of educational strategies to teach medical students brief intervention skills for alcohol problems. Prev Med. 1997;26:78-85.

Rogers LQ, Peden JG, Seelig CB, et al. A program for teaching residents to provide dietary counseling for hypercholesterolemic patients. Teach Learn Med. 1994;6:277-282.

Roseby R, Marks MK, Conn J, Sawyer SM. Improving medical student performance in adolescent anti-smoking health promotion. Med Educ. 2003;37:704-708.

Saitz R., Horton NJ, Sullivan LM, Moskowitz MA, Samet JH. Addressing alcohol problems in primary care: A cluster randomized, controlled trial of a systems intervention. The screening and intervention in primary care (SIP) study. Ann Intern Med. 2003;138:372-382.

Scal P, Hennrikus D, Ehrlich L, Ireland M, Borowsky I. Preparing residents to counsel about smoking. Clin Pediatr (Phila). 2004;43:703-708.

Schlundt DG, Quesenberry L, Pichert JW, Lorenz RA, Boswell EJ. Evaluation of a training program for improving adherence promotion skills. Patient Educ Couns. 1994;24:165-173.

Seale JP, Shellenberger S, Boltri JM, Okosun IS, Barton B. Effects of screening and brief intervention training on resident and faculty alcohol intervention behaviours: A pre- post-intervention assessment. BMC Fam Pract. 2005;6:46.

Seale JP, Shellenberger S, Tillery WK, et al. Implementing alcohol screening and intervention in a family medicine residency clinic. Subst Abus. 2005;26:23-31.

Seim HC, Verhoye JR. Comparison of training techniques using a patient-centered approach to smoking cessation. Med Educ. 1995;29:139-143.

Shapiro J. Does a behavioral science rotation change residents' self-assessed psychosocial attitudes and behavior? Fam Pract Res J. 1991;11:107-119.

Spangler J, Foley KL, Crandall S, et al. Implementing smokeless tobacco instruction into medical student education: Addressing the gap. Teach Learn Med. 2009;21:33-37.

Spector A, Alpert H, Karam-Hage M. Smoking cessation delivered by medical students is helpful to homeless population. Acad Psychiatry. 2007;31:402-405.

Strecher VJ, O'Malley MS, Villagra VG, et al. Can residents be trained to counsel patients about quitting smoking? Results from a randomized trial. J Gen Intern Med. 1991;6:9-17.

Thompson PD, Conrad S, Siconolfi S, Cullinane E, Wincze J. The use of a cardiovascular risk factor self-change project to teach behavioral medicine to medical students. J Med Educ. 1982;57:724-726.

Usatine RP, Wilkes M, Slavin S, Wilkerson L. A model smoking intervention curriculum for medical school. Acad Med. 1996;71(1 Suppl):S96-S98.

Vinicor F, Cohen SJ, Mazzuca SA, et al. DIABEDS: A randomized trial of the effects of physician and/or patient education on diabetes patient outcomes. J Chronic Dis. 1987;40:345-356.

Wagenschutz H, Ross P, Purkiss J, Yang J, Middlemas S, Lypson M. Standardized Patient Instructor (SPI) interactions are a viable way to teach medical students about health behavior counseling. Patient Educ Couns. 2011;84:271-274. First published online September 3, 2010.

Walsh RA, Roche AM, Sanson-Fisher RW, Saunders JB. Interactional skills of students from traditional and non-traditional medical schools before and after alcohol education. Med Educ. 2001;35:211-216.

Walsh SE, Singleton JA, Worth CT, et al. Tobacco cessation counseling training with standardized patients. J Dent Educ. 2007;71:1171-1178.

Ward J, Sanson-Fisher R. Does a 3-day workshop for family medicine trainees improve preventive care? A randomized control trial. Prev Med. 1996;25:741–747.

White LL, Gazewood JD, Mounsey AL. Teaching students behavior change skills: Description and assessment of a new motivational interviewing curriculum. Med Teach. 2007;29:e67-e71.

Wilk AI, Jensen NM. Investigation of a brief teaching encounter using standardized patients: Teaching residents alcohol screening intervention. J Gen Intern Med. 2002;17:356-360.

Wilkerson L, Lee M, Hodgson CS. Evaluating curricular effects on medical students' knowledge and self-perceived skills. Acad Med. 2002;77(10 Suppl):S51-S53.

Yedidia MJ, Gillespie CC, Kachur E, et al. Effect of communications training on medical student performance. JAMA. 2003;290:1157-1165.

Zweifler AJ, Sisson JC, Wolf FM, et al. Training students in education of the hypertensive patient: Enhanced performance after simulated patient instructor (SPI)-based exercise. Am J Hypertens. 1998;11:610-613.