

Group Health and Group Health Research Institute Translational Successes

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Selected Group Health Research Institute translational highlights

Program and Selected Projects	Examples of translational impact	Related References
Aging and geriatrics		
Seattle Longitudinal study (1956-)	Cognitive training positively affects function; health, environment and personality factors affect risk of cognitive decline. Results shape national efforts on healthy aging.	(Schaie et al., 2004)
Alzheimer's Disease Patient Registry (1986-2000), Adult Changes in Thought, ACT (1994-)	Evidence for beneficial behaviors and clinical practices for healthy aging, including delaying dementia. Leads to Group Health patient resources on preventive care, exercise, smart eating, maintaining memory, chronic condition care.	(Kukull et al., 2002; Kukull et al., 1992; Kukull et al., 1996; Larson, 2008; Larson et al., 1990; Larson et al., 2004; Larson et al., 2006)
Exercise and aging	Exercise programs reduce risk of falls and fractures. Group Health's Medicare Advantage care covers senior exercise programs.	(Buchner et al., 1992; Teri et al., 2011; Wagner et al., 1992)
Alternate approaches to healing		
Complementary and alternative medicine for back pain	Yoga, acupuncture and massage can be effective for back pain. National guidelines recommend these therapies for back pain and Group Health covers massage for certain types of pain and offers complementary therapy discounts.	(Cherkin et al., 2001; Cherkin et al., 2011; Chou et al., 2007)
Herbal alternatives for menopause symptoms	Some herbal treatments are not effective for menopause symptoms. Findings incorporated into Group Health patient information.	(Newton et al., 2006)
Behavior Change		
Smoking cessation	Effectiveness and cost of telephone-based tobacco cessation counseling and integrated phone + Web programs. Effectiveness and safety of drugs. Free & Clear (Alere	(Curry et al., 1998; McClure et al., 2010; Orleans et al.,

	Wellbeing) established nationwide. Results change Group Health medication policies and program coverage.	1991; Swan et al., 2003; Swan et al., 2010)
Bicycle helmets and head injuries	Helmets are effective at promoting head injuries and promoting helmet use is cost-effective. Helmet use increases nationwide.	(Thompson et al., 2000; Thompson et al., 1989)
Home blood pressure monitoring (e-BP)	Web-based at-home blood pressure monitoring helps control hypertension. Testing and piloting moves to communities.	(Green et al., 2008)
Weight loss	Interventions in real-life situations (families and workplaces). Development of practical weight control interventions.	(Benedict and Arterburn, 2008; Ludman et al., 2010a)
Biostatistics		
Statistical support for networks	Statistical methods development for the Breast Cancer Surveillance Consortium, Cancer Intervention and Surveillance Modeling Network (CISNET) for colorectal cancer, Centers for Disease Control and Prevention's National Vaccine Safety Datalink project and Food and Drug Administration's Sentinel Initiative. Methods used nationally in safety and effectiveness research.	(Cook, in press; Knudsen et al., 2010; Li, 2011; Miglioretti and Heagerty, 2004; Nelson, in press; Nelson et al., 2009; Rutter et al., 2011a; Rutter et al., 2011b)
Cancer control		
Population-based breast cancer screening	Early study results show cost-effectiveness, leading to acceptance of insurance coverage for risk-based breast cancer screening. Ongoing research explores screening safety and effectiveness with findings influencing national guidelines.	(Barlow et al., 2006; Buist et al., 2011; Buist et al., 2009; Buist et al., 2004; Carney et al., 2010; Taplin et al., 2004a; Thompson, 1988; White et al., 2004)
Multisite studies through networks: Breast Cancer Surveillance Consortium (1994-), Cancer Biomedical Informatics Grid (caBIG), the Cancer Care Outcomes	Cancer research on etiology, prevention, detection, treatment, survivorship, clinical care, health services and costs, and translational and implementation science using diverse population-based data and in collaboration with national networks. Projects include breast, lung, colorectal, ovarian, prostate, pancreatic cancer and	(Fenton et al., 2010; Lash et al., 2007; Taplin et al., 2004b; Wagner et al., 2010; Wagner et al., 2005)

Research and Surveillance (CanCORS) Consortium, the Cancer Intervention and Surveillance Modeling Network (CISNET, 2000-), and the Cancer Research Network (CRN, 1999-)	myeloma, among others for pediatric and adult populations. Results influence local policies and national guidelines.	
Cardiovascular health		
Links between heart disease, lifestyle, genetics, medication use	New ways to monitor and treat heart disease and comprehensive analysis of multiple risk factors. Clinical awareness of patient risk factors increases at Group Health and nationally.	(Dublin et al., 2011; Dublin et al., 2010)
Safety of drugs for chronic conditions	Some hypertension medications linked to higher heart attack risk. Leads to additional trials, Food and Drug Administration review, and an intervention at Group Health motivating changes to safer drug alternatives.	(Kaplan et al., 1998; Psaty et al., 1995; Psaty et al., 1990)
Child and adolescent health		
Healthy families and preventive care	Children have specific preventive care needs. Studies on boosting parenting skills, enhancing safety and improving care for chronic conditions such as asthma and depression. Interventions developed to encourage lifelong healthy behavior.	(Curry et al., 2003; Lozano et al., 2004; Richardson et al., 2010)
Improving health care for disadvantaged youth	Cultural competence improves youth care. Impact on research at GHRI and elsewhere on obesity, asthma and other conditions.	(Lieu et al., 2004)
Chronic Illness Management		
Chronic care model	Model for team-based, patient-centered care improves management of diabetes and other chronic conditions. National implementation through MacColl Center and Robert Wood Johnson-funded Improving Chronic Illness Care.	(Battersby et al., 2010) (Glasgow et al., 2001; Wagner et al., 2001a; Wagner et al., 1996)
Health Informatics		
Secure websites for patients and providers	Patient-focused health IT assists communication and streamlines clinical practice. MyGroupHealth has health-risk assessment profiles, electronic health records and other health IT used in the patient-centered medical home.	(Ralston et al., 2010)
Health Services and Economics		
Studies on health care	Health promotion programs (e.g. smoking	(Conrad et al.,

and economics	cessation) are an effective use of health care dollars. Findings comparing fee-for-service and Group Health model inform national health care decisions.	2008; Curry et al., 1998; Fishman et al., 2003; Wagner et al., 2001b)
Patient-centered medical home	Clinical care model that emphasizes preventive care and chronic disease management, improves collaboration and communication among medical team members, and gives patients greater access. Implemented at Group Health medical centers.	(Conrad et al., 2008; Larson and Reid, 2010; Reid et al., 2010; Reid et al., 2009; Tufano et al., 2008)
Immunization and Infectious Disease		
Primary care and AIDS	Primary care management increases survival. Leads to improved care for AIDS patients.	(Bluespruce et al., 2001)
Vaccine safety datalink (1990-)	Post-market surveillance of vaccines. Results improve detection of vaccine effectiveness and adverse events.	(Jackson et al., 2011)
Vaccine and treatment evaluation unit (2007-)	Clinical trials of nationally used vaccines and therapies including flu vaccines. Results disseminated through the National Institute of Allergy and Infectious Diseases.	(Jackson et al., 2010)
Vaccine hesitancy	Study and intervention features developed. Pilot programs launched to address parent concerns about vaccination.	(Opel et al., 2011)
Medication Use and Patient Safety		
Centers for Education and Research on Therapeutics (CERTS)	Studies to optimize safe use of medication and medical products funded by the Agency for Healthcare Research and Quality working with the Food and Drug Administration. Dissemination through the HMO Research Network.	(Boudreau et al., 2010)
Opioid safety	Risk of overdose linked to higher doses. Group Health initiates primary care-based individualized patient care plans to standardize opioid use for chronic non-cancer pain.	(Dunn et al., 2010; Trescott et al., 2011)
Mental Health		
Depression and mood disorders	New models for evidence-based patient-centered and collaborative care. At Group Health, individualized depression programs use new communication technology and are integrated with primary care.	(Simon et al., 2004)
Mental health care management	Simple, inexpensive care options (team-based primary care, telephone-based treatment) can improve mood disorders and treatment adherence. Findings integral to chronic care and patient-centered care	(Katon et al., 1995; Katon et al., 2010; Simon et al., 2011)

	models. Dissemination through national and international advisory boards.	
Obesity		
Cost-effectiveness and safety of obesity treatments	Multipronged analysis of intervention programs and shared decision-making for bariatric surgery. Results used to design optimal research and implementation methods for obesity treatment. Group Health implements shared decision-making patient aids.	(Arterburn et al., 2011)
Preventive Medicine		
Department of Preventive Care	Health promotion in clinical settings and investigations of surveillance systems and screening tests through a subspecialty in Group Health's medical staff. Physician-scientists conduct studies and develop innovations in care. Translation through collaboration with Group Health clinical quality improvement activities.	(Fishman et al., 2010; Grossman et al., 2011; Riter et al., 2008)
Women's Health		
Osteoporosis and bone health	Identification of factors that affect bone health (diet, hormone therapy, oral contraceptive use). Findings influence global health guidelines.	(Beasley et al., 2010; Scholes et al., 2002)
Menopause symptoms	Rigorous analysis of the effectiveness of alternative treatments. Evidence-based information available for Group Health members.	(Newton et al., 2006)
Chlamydia screening	Results on Chlamydia screening for at-risk women and pelvic inflammatory disease risk provide evidence for national guidelines.	(Scholes et al., 2006; Scholes et al., 1996)

References

- Arterburn, D.E., Westbrook, E.O., Bogart, T.A., Sepucha, K.R., Bock, S.N., and Weppner, W.G. (2011). Randomized trial of a video-based patient decision aid for bariatric surgery. *Obesity (Silver Spring)* 19, 1669-1675.
- Barlow, W.E., White, E., Ballard-Barbash, R., Vacek, P.M., Titus-Ernstoff, L., Carney, P.A., Tice, J.A., Buist, D.S., Geller, B.M., Rosenberg, R., *et al.* (2006). Prospective breast cancer risk prediction model for women undergoing screening mammography. *J Natl Cancer Inst* 98, 1204-1214.
- Battersby, M., Von Korff, M., Schaefer, J., Davis, C., Ludman, E., Greene, S.M., Parkerton, M., and Wagner, E.H. (2010). Twelve evidence-based principles for implementing self-management support in primary care. *Jt Comm J Qual Patient Saf* 36, 561-570.
- Beasley, J.M., Ichikawa, L.E., Ange, B.A., Spangler, L., LaCroix, A.Z., Ott, S.M., and Scholes, D. (2010). Is protein intake associated with bone mineral density in young women? *Am J Clin Nutr* 91, 1311-1316.
- Benedict, M.A., and Arterburn, D. (2008). Worksite-based weight loss programs: a systematic review of recent literature. *Am J Health Promot* 22, 408-416.
- Bluespruce, J., Dodge, W.T., Grothaus, L., Wheeler, K., Rebolledo, V., Carey, J.W., McAfee, T.A., and Thompson, R.S. (2001). HIV prevention in primary care: impact of a clinical intervention. *AIDS Patient Care STDS* 15, 243-253.
- Boudreau, D.M., Yu, O., and Johnson, J. (2010). Statin use and cancer risk: a comprehensive review. *Expert Opin Drug Saf* 9, 603-621.
- Buchner, D.M., Beresford, S.A., Larson, E.B., LaCroix, A.Z., and Wagner, E.H. (1992). Effects of physical activity on health status in older adults. II. Intervention studies. *Annu Rev Public Health* 13, 469-488.
- Buist, D.S., Anderson, M.L., Haneuse, S.J., Sickles, E.A., Smith, R.A., Carney, P.A., Taplin, S.H., Rosenberg, R.D., Geller, B.M., Onega, T.L., *et al.* (2011). Influence of annual interpretive volume on screening mammography performance in the United States. *Radiology* 259, 72-84.
- Buist, D.S., Anderson, M.L., Reed, S.D., Aiello Bowles, E.J., Fitzgibbons, E.D., Gandara, J.C., Seger, D., and Newton, K.M. (2009). Short-term hormone therapy suspension and mammography recall: a randomized trial. *Ann Intern Med* 150, 752-765.
- Buist, D.S., Porter, P.L., Lehman, C., Taplin, S.H., and White, E. (2004). Factors contributing to mammography failure in women aged 40-49 years. *J Natl Cancer Inst* 96, 1432-1440.
- Carney, P.A., Sickles, E.A., Monsees, B.S., Bassett, L.W., Brenner, R.J., Feig, S.A., Smith, R.A., Rosenberg, R.D., Bogart, T.A., Browning, S., *et al.* (2010). Identifying minimally acceptable interpretive performance criteria for screening mammography. *Radiology* 255, 354-361.
- Cherkin, D.C., Eisenberg, D., Sherman, K.J., Barlow, W., Kaptchuk, T.J., Street, J., and Deyo, R.A. (2001). Randomized trial comparing traditional Chinese medical acupuncture, therapeutic massage, and self-care education for chronic low back pain. *Arch Intern Med* 161, 1081-1088.
- Cherkin, D.C., Sherman, K.J., Kahn, J., Wellman, R., Cook, A.J., Johnson, E., Erro, J., Delaney, K., and Deyo, R.A. (2011). A comparison of the effects of 2 types of massage and usual care on chronic low back pain: a randomized, controlled trial. *Ann Intern Med* 155, 1-9.
- Chou, R., Qaseem, A., Snow, V., Casey, D., Cross, J.T., Jr., Shekelle, P., and Owens, D.K. (2007). Diagnosis and treatment of low back pain: a joint clinical practice guideline

from the American College of Physicians and the American Pain Society. *Ann Intern Med* 147, 478-491.

Conrad, D., Fishman, P., Grembowski, D., Ralston, J., Reid, R., Martin, D., Larson, E., and Anderson, M. (2008). Access intervention in an integrated, prepaid group practice: effects on primary care physician productivity. *Health Serv Res* 43, 1888-1905.

Cook, A., Tiwari R.C., Wellman R.D., Heckbert S.R., Li, L., Heagerty P., Marsh, T., Nelson JC. (2012). Statistical approaches to group sequential monitoring of post-marketing safety surveillance data: Current state of the art for use in the Mini-Sentinel surveillance project. *Pharmacoepidemiology and Drug Safety. Pharmacoepidemiol Drug Saf.* 21 *Suppl* 1:72-81.

Curry, S.J., Grothaus, L.C., McAfee, T., and Pabiniak, C. (1998). Use and cost effectiveness of smoking-cessation services under four insurance plans in a health maintenance organization. *N Engl J Med* 339, 673-679.

Curry, S.J., Ludman, E.J., Graham, E., Stout, J., Grothaus, L., and Lozano, P. (2003). Pediatric-based smoking cessation intervention for low-income women: a randomized trial. *Arch Pediatr Adolesc Med* 157, 295-302.

Dublin, S., Anderson, M.L., Haneuse, S.J., Heckbert, S.R., Crane, P.K., Breitner, J.C., McCormick, W., Bowen, J.D., Teri, L., McCurry, S.M., *et al.* (2011). Atrial fibrillation and risk of dementia: a prospective cohort study. *J Am Geriatr Soc* 59, 1369-1375.

Dublin, S., Glazer, N.L., Smith, N.L., Psaty, B.M., Lumley, T., Wiggins, K.L., Page, R.L., and Heckbert, S.R. (2010). Diabetes mellitus, glycemic control, and risk of atrial fibrillation. *J Gen Intern Med* 25, 853-858.

Dunn, K.M., Saunders, K.W., Rutter, C.M., Banta-Green, C.J., Merrill, J.O., Sullivan, M.D., Weisner, C.M., Silverberg, M.J., Campbell, C.I., Psaty, B.M., *et al.* (2010). Opioid prescriptions for chronic pain and overdose: a cohort study. *Ann Intern Med* 152, 85-92.

Fenton, J.J., Elmore, J.G., Buist, D.S., Reid, R.J., Tancredi, D.J., and Baldwin, L.M. (2010). Longitudinal adherence with fecal occult blood test screening in community practice. *Ann Fam Med* 8, 397-401.

Fishman, P.A., Bonomi, A.E., Anderson, M.L., Reid, R.J., and Rivara, F.P. (2010). Changes in health care costs over time following the cessation of intimate partner violence. *J Gen Intern Med* 25, 920-925.

Glasgow, R.E., Orleans, C.T., and Wagner, E.H. (2001). Does the chronic care model serve also as a template for improving prevention? *Milbank Q* 79, 579-612, iv-v.

Green, B.B., Cook, A.J., Ralston, J.D., Fishman, P.A., Catz, S.L., Carlson, J., Carrell, D., Tyll, L., Larson, E.B., and Thompson, R.S. (2008). Effectiveness of home blood pressure monitoring, Web communication, and pharmacist care on hypertension control: a randomized controlled trial. *JAMA* 299, 2857-2867.

Grossman, D.C., Moyer, V.A., Melnyk, B.M., Chou, R., and DeWitt, T.G. (2011). The anatomy of a US Preventive Services Task Force Recommendation: lipid screening for children and adolescents. *Arch Pediatr Adolesc Med* 165, 205-210.

Jackson, L.A., Gaglani, M.J., Keyserling, H.L., Balsler, J., Bouveret, N., Fries, L., and Treanor, J.J. (2010). Safety, efficacy, and immunogenicity of an inactivated influenza vaccine in healthy adults: a randomized, placebo-controlled trial over two influenza seasons. *BMC Infect Dis* 10, 71.

Jackson, L.A., Yu, O., Nelson, J.C., Dominguez, C., Peterson, D., Baxter, R., Hambidge, S.J., Naleway, A.L., Belongia, E.A., Nordin, J.D., *et al.* (2011). Injection site and risk of medically attended local reactions to acellular pertussis vaccine. *Pediatrics* 127, e581-587.

Kaplan, R.C., Psaty, B.M., Kriesel, D., Heckbert, S.R., Smith, N.L., Gillett, C., and Golston, A.G. (1998). Replacing short-acting nifedipine with alternative medications at a large health maintenance organization. *Am J Hypertens* 11, 471-477.

Katon, W., Von Korff, M., Lin, E., Walker, E., Simon, G.E., Bush, T., Robinson, P., and Russo, J. (1995). Collaborative management to achieve treatment guidelines. Impact on depression in primary care. *JAMA* 273, 1026-1031.

Katon, W.J., Lin, E.H., Von Korff, M., Ciechanowski, P., Ludman, E.J., Young, B., Peterson, D., Rutter, C.M., McGregor, M., and McCulloch, D. (2010). Collaborative care for patients with depression and chronic illnesses. *N Engl J Med* 363, 2611-2620.

Knudsen, A.B., Lansdorp-Vogelaar, I., Rutter, C.M., Savarino, J.E., van Ballegooijen, M., Kuntz, K.M., and Zauber, A.G. (2010). Cost-effectiveness of computed tomographic colonography screening for colorectal cancer in the medicare population. *J Natl Cancer Inst* 102, 1238-1252.

Kukull, W.A., Higdon, R., Bowen, J.D., McCormick, W.C., Teri, L., Schellenberg, G.D., van Belle, G., Jolley, L., and Larson, E.B. (2002). Dementia and Alzheimer disease incidence: a prospective cohort study. *Arch Neurol* 59, 1737-1746.

Kukull, W.A., Hinds, T.R., Schellenberg, G.D., van Belle, G., and Larson, E.B. (1992). Increased platelet membrane fluidity as a diagnostic marker for Alzheimer's disease: a test in population-based cases and controls. *Neurology* 42, 607-614.

Kukull, W.A., Schellenberg, G.D., Bowen, J.D., McCormick, W.C., Yu, C.E., Teri, L., Thompson, J.D., O'Meara, E.S., and Larson, E.B. (1996). Apolipoprotein E in Alzheimer's disease risk and case detection: a case-control study. *J Clin Epidemiol* 49, 1143-1148.

Larson, E.B. (2008). Physical activity for older adults at risk for Alzheimer disease. *JAMA* 300, 1077-1079.

Larson, E.B., Kukull, W.A., Teri, L., McCormick, W., Pfanschmidt, M., van Belle, G., and Sumi, M. (1990). University of Washington Alzheimer's Disease Patient Registry (ADPR): 1987-1988. *Aging (Milano)* 2, 404-408.

Larson, E.B., and Reid, R. (2010). The patient-centered medical home movement: why now? *JAMA* 303, 1644-1645.

Larson, E.B., Shadlen, M.F., Wang, L., McCormick, W.C., Bowen, J.D., Teri, L., and Kukull, W.A. (2004). Survival after initial diagnosis of Alzheimer disease. *Ann Intern Med* 140, 501-509.

Larson, E.B., Wang, L., Bowen, J.D., McCormick, W.C., Teri, L., Crane, P., and Kukull, W. (2006). Exercise is associated with reduced risk for incident dementia among persons 65 years of age and older. *Ann Intern Med* 144, 73-81.

Lash, T.L., Fox, M.P., Buist, D.S., Wei, F., Field, T.S., Frost, F.J., Geiger, A.M., Quinn, V.P., Yood, M.U., and Silliman, R.A. (2007). Mammography surveillance and mortality in older breast cancer survivors. *J Clin Oncol* 25, 3001-3006.

Li, L., Kulldorff M, Nelson JC, Cook AJ (2011). A propensity score-enhanced sequential analytic method for comparative drug safety surveillance. *Statistics in Biosciences* 3, 45-62.

Lieu, T.A., Finkelstein, J.A., Lozano, P., Capra, A.M., Chi, F.W., Jensvold, N., Quesenberry, C.P., and Farber, H.J. (2004). Cultural competence policies and other predictors of asthma care quality for Medicaid-insured children. *Pediatrics* 114, e102-110.

Lozano, P., Finkelstein, J.A., Carey, V.J., Wagner, E.H., Inui, T.S., Fuhlbrigge, A.L., Soumerai, S.B., Sullivan, S.D., Weiss, S.T., and Weiss, K.B. (2004). A multisite randomized trial of the effects of physician education and organizational change in chronic-asthma care: health outcomes of the Pediatric Asthma Care Patient Outcomes Research Team II Study. *Arch Pediatr Adolesc Med* 158, 875-883.

Ludman, E., Simon, G.E., Ichikawa, L.E., Operskalski, B.H., Arterburn, D., Linde, J.A., Jeffery, R.W., Rohde, P., and Finch, E.A. (2010a). Does depression reduce the effectiveness of behavioral weight loss treatment? *Behav Med* 35, 126-134.

McClure, J.B., Swan, G.E., Catz, S.L., Jack, L., Javitz, H., McAfee, T., Deprey, M., Richards, J., and Zbikowski, S.M. (2010). Smoking outcome by psychiatric history after behavioral and varenicline treatment. *J Subst Abuse Treat* 38, 394-402.

Miglioretti, D.L., and Heagerty, P.J. (2004). Marginal modeling of multilevel binary data with time-varying covariates. *Biostatistics* 5, 381-398.

Nelson, J., Cook AJ, Yu O, Zhao S, Dominguez C, Fireman B, Greene S, Jacobsen SJ, Weintraub E, Jackson LA (in press). Challenges in the design and analysis of sequentially-monitored post-licensure safety surveillance studies using observational health care utilization data. *Pharmacoepidemiology and Drug Safety*.

Nelson, J.C., Bittner, R.C., Bounds, L., Zhao, S., Baggs, J., Donahue, J.G., Hambidge, S.J., Jacobsen, S.J., Klein, N.P., Naleway, A.L., *et al.* (2009). Compliance with multiple-dose vaccine schedules among older children, adolescents, and adults: results from a vaccine safety datalink study. *Am J Public Health* 99 *Suppl* 2, S389-397.

Newton, K.M., Reed, S.D., LaCroix, A.Z., Grothaus, L.C., Ehrlich, K., and Guiltinan, J. (2006). Treatment of vasomotor symptoms of menopause with black cohosh, multibotanicals, soy, hormone therapy, or placebo: a randomized trial. *Ann Intern Med* 145, 869-879.

Opel, D.J., Taylor, J.A., Mangione-Smith, R., Solomon, C., Zhao, C., Catz, S., and Martin, D. (2011). Validity and reliability of a survey to identify vaccine-hesitant parents. *Vaccine* 29, 6598-6605.

Orleans, C.T., Schoenbach, V.J., Wagner, E.H., Quade, D., Salmon, M.A., Pearson, D.C., Fiedler, J., Porter, C.Q., and Kaplan, B.H. (1991). Self-help quit smoking interventions: effects of self-help materials, social support instructions, and telephone counseling. *J Consult Clin Psychol* 59, 439-448.

Psaty, B.M., Heckbert, S.R., Koepsell, T.D., Siscovick, D.S., Raghunathan, T.E., Weiss, N.S., Rosendaal, F.R., Lemaitre, R.N., Smith, N.L., Wahl, P.W., *et al.* (1995). The risk of myocardial infarction associated with antihypertensive drug therapies. *JAMA* 274, 620-625.

Psaty, B.M., Koepsell, T.D., Wagner, E.H., LoGerfo, J.P., and Inui, T.S. (1990). The relative risk of incident coronary heart disease associated with recently stopping the use of beta-blockers. *JAMA* 263, 1653-1657.

Ralston, J.D., Coleman, K., Reid, R.J., Handley, M.R., and Larson, E.B. (2010). Patient experience should be part of meaningful-use criteria. *Health Aff (Millwood)* 29, 607-613.

Reid, R.J., Coleman, K., Johnson, E.A., Fishman, P.A., Hsu, C., Soman, M.P., Trescott, C.E., Erikson, M., and Larson, E.B. (2010). The group health medical home at year two: cost savings, higher patient satisfaction, and less burnout for providers. *Health Aff (Millwood)* 29, 835-843.

Reid, R.J., Fishman, P.A., Yu, O., Ross, T.R., Tufano, J.T., Soman, M.P., and Larson, E.B. (2009). Patient-centered medical home demonstration: a prospective, quasi-experimental, before and after evaluation. *Am J Manag Care* 15, e71-87.

Richardson, L.P., Russo, J.E., Lozano, P., McCauley, E., and Katon, W. (2010). Factors associated with detection and receipt of treatment for youth with depression and anxiety disorders. *Acad Pediatr* 10, 36-40.

Riter, D., Maier, R., and Grossman, D.C. (2008). Delivering preventive oral health services in pediatric primary care: a case study. *Health Aff (Millwood)* 27, 1728-1732.

Rutter, C.M., Knudsen, A.B., and Pandharipande, P.V. (2011a). Computer disease simulation models: integrating evidence for health policy. *Acad Radiol* 18, 1077-1086.

Rutter, C.M., Zaslavsky, A.M., and Feuer, E.J. (2011b). Dynamic microsimulation models for health outcomes: a review. *Med Decis Making* 31, 10-18.

Schaie, K.W., Willis, S.L., and Caskie, G.I. (2004). The Seattle longitudinal study: relationship between personality and cognition. *Neuropsychol Dev Cogn B Aging Neuropsychol Cogn* 11, 304-324.

Scholes, D., Grothaus, L., McClure, J., Reid, R., Fishman, P., Sisk, C., Lindenbaum, J.E., Green, B., Grafton, J., and Thompson, R.S. (2006). A randomized trial of strategies to increase chlamydia screening in young women. *Prev Med* 43, 343-350.

Scholes, D., LaCroix, A.Z., Ichikawa, L.E., Barlow, W.E., and Ott, S.M. (2002). Injectable hormone contraception and bone density: results from a prospective study. *Epidemiology* 13, 581-587.

Scholes, D., Stergachis, A., Heidrich, F.E., Andrilla, H., Holmes, K.K., and Stamm, W.E. (1996). Prevention of pelvic inflammatory disease by screening for cervical chlamydial infection. *N Engl J Med* 334, 1362-1366.

Simon, G.E., Ludman, E.J., Tutty, S., Operskalski, B., and Von Korff, M. (2004). Telephone psychotherapy and telephone care management for primary care patients starting antidepressant treatment: a randomized controlled trial. *JAMA* 292, 935-942.

Simon, G.E., Ralston, J.D., Savarino, J., Pabiniak, C., Wentzel, C., and Operskalski, B.H. (2011). Randomized trial of depression follow-up care by online messaging. *J Gen Intern Med* 26, 698-704.

Swan, G.E., McAfee, T., Curry, S.J., Jack, L.M., Javitz, H., Dacey, S., and Bergman, K. (2003). Effectiveness of bupropion sustained release for smoking cessation in a health care setting: a randomized trial. *Arch Intern Med* 163, 2337-2344.

Swan, G.E., McClure, J.B., Jack, L.M., Zbikowski, S.M., Javitz, H.S., Catz, S.L., Deprey, M., Richards, J., and McAfee, T.A. (2010). Behavioral counseling and varenicline treatment for smoking cessation. *Am J Prev Med* 38, 482-490.

Taplin, S.H., Ichikawa, L., Buist, D.S., Seger, D., and White, E. (2004a). Evaluating organized breast cancer screening implementation: the prevention of late-stage disease? *Cancer Epidemiol Biomarkers Prev* 13, 225-234.

Taplin, S.H., Ichikawa, L., Yood, M.U., Manos, M.M., Geiger, A.M., Weinmann, S., Gilbert, J., Mouchawar, J., Leyden, W.A., Altaras, R., *et al.* (2004b). Reason for late-stage breast cancer: absence of screening or detection, or breakdown in follow-up? *J Natl Cancer Inst* 96, 1518-1527.

Teri, L., McCurry, S.M., Logsdon, R.G., Gibbons, L.E., Buchner, D.M., and Larson, E.B. (2011). A randomized controlled clinical trial of the Seattle Protocol for Activity in older adults. *J Am Geriatr Soc* 59, 1188-1196.

Thompson, D.C., Rivara, F.P., and Thompson, R. (2000). Helmets for preventing head and facial injuries in bicyclists. *Cochrane Database Syst Rev*, CD001855.

Thompson, R., T.S., Carter AP, Schnitzer F, Anderman C, Anderson E, White E, Wagner EH (1988). A risk-based breast cancer screening at Group Health Cooperative of Puget Sound. *HMO Pract* 2, 177-191.

Thompson, R.S., Rivara, F.P., and Thompson, D.C. (1989). A case-control study of the effectiveness of bicycle safety helmets. *N Engl J Med* 320, 1361-1367.

Trescott, C.E., Beck, R.M., Seelig, M.D., and Von Korff, M.R. (2011). Group Health's initiative to avert opioid misuse and overdose among patients with chronic noncancer pain. *Health Aff (Millwood)* 30, 1420-1424.

Tufano, J.T., Ralston, J.D., and Martin, D.P. (2008). Providers' experience with an organizational redesign initiative to promote patient-centered access: a qualitative study. *J Gen Intern Med* 23, 1778-1783.

Wagner, E.H., Aiello Bowles, E.J., Greene, S.M., Tuzzio, L., Wiese, C.J., Kirlin, B., and Clauser, S.B. (2010). The quality of cancer patient experience: perspectives of patients, family members, providers and experts. *Qual Saf Health Care* 19, 484-489.

Wagner, E.H., Austin, B.T., Davis, C., Hindmarsh, M., Schaefer, J., and Bonomi, A. (2001a). Improving chronic illness care: translating evidence into action. *Health Aff (Millwood)* 20, 64-78.

Wagner, E.H., Austin, B.T., and Von Korff, M. (1996). Organizing care for patients with chronic illness. *Milbank Q* 74, 511-544.

Wagner, E.H., Greene, S.M., Hart, G., Field, T.S., Fletcher, S., Geiger, A.M., Herrinton, L.J., Hornbrook, M.C., Johnson, C.C., Mouchawar, J., *et al.* (2005). Building a research consortium of large health systems: the Cancer Research Network. *J Natl Cancer Inst Monogr*, 3-11.

Wagner, E.H., LaCroix, A.Z., Buchner, D.M., and Larson, E.B. (1992). Effects of physical activity on health status in older adults. I: Observational studies. *Annu Rev Public Health* 13, 451-468.

White, E., Miglioretti, D.L., Yankaskas, B.C., Geller, B.M., Rosenberg, R.D., Kerlikowske, K., Saba, L., Vacek, P.M., Carney, P.A., Buist, D.S., *et al.* (2004). Biennial versus annual mammography and the risk of late-stage breast cancer. *J Natl Cancer Inst* 96, 1832-1839.