UNIVERSITY OF WISCONSIN
Population Health Institute
Translating Research into Policy and Practice

Brief Report

Key Articles on Population Health Published in 2008

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This Brief Report provides a compilation of key population health articles that were published from January through December of 2008.

Vol. 4 Number 1
June 2009

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Introduction:
This Brief Report provides a compilation of key population health articles that were published from January through December of 2008. This list is not intended to be inclusive of all articles on population health but is representative of current research on health outcomes, the multiple determinants of health, and interventions and strategies to address these determinants.

Articles are listed by lead author under the following categories:

Articles (listed by category and author)

HEALTH OUTCOMES

Adler NE, Rehkopf DH. U.S. disparities in health: Descriptions, causes, and mechanisms. *Annu Rev Public Health* 2008; 29:235–52.
This article examines disparities associated with race/ethnicity and socioeconomic status, and discusses data structures and analytic strategies that allow causal inference about the health impacts of these and associated factors. Although health is consistently worse for individuals with few resources and for blacks as compared with whites, the extent of health disparities varies by outcome, time, and geographic location within the United States. Empirical work also demonstrates the importance of a joint consideration of race/ethnicity and social class. The article discusses potential pathways that serve as mechanisms by which social disadvantage results in health disparities. [Abstract from article]

Ezzati M, Friedman AB, Kulkarni SC, Murray CJL. The reversal of fortunes: Trends in county mortality and cross-county mortality disparities in the United States. *PLoS Med* 2008;5 (4): 557–68.
The authors examined death rates by county between 1961 and 1999 by gender and by disease-specific cause. Over these four decades, the overall US life expectancy increased from 67 to 74 years for men and from 74 to 80 years for women. Between 1961 and 1983 the death rate fell in both men and women, largely due to reductions in deaths from cardiovascular disease. During this same period, differences in death rates across counties also fell. However, beginning in the early 1980s the differences in death rates across counties began to increase. Counties that were already worse off no longer saw a reduction in death rates and, for many counties, mortality increased, especially for women. This stagnation was primarily caused by a slowdown in the reduction of deaths from cardiovascular disease and a moderate rise in a number of other diseases.

Koster A, Leitzmann M, Schatzkin A, Mouw T, Adams K, van Eijk J, Hollenbeck A, Harris T. Waist circumference and mortality. *Am J Epidemiol* 2008; 167: 1465–75
The authors examined the association between waist circumference and mortality in the NIH-AARP Diet and Health Study. The combined effects of waist circumference and BMI were also examined. The finding that persons with a normal BMI but a large waist circumference had a higher mortality risk in this study suggests that increased waist circumference should be considered a risk factor for mortality, in addition to BMI.

Kunitz SJ. Ethics in public health research: Changing patterns of mortality among American Indians. *Am J Public Health* 2008; 98(3): 404–11.
Mortality rates for American Indians declined for much of the 20th century, but since the mid-1980s, age-adjusted deaths for this population have increased both in absolute terms and compared with rates for the white American population. The author argues that inadequate funding for health services has contributed significantly to the increased death rate.

Lawes CM, Hoorn SV, Rodgers A. Global burden of blood pressure-related disease, 2001. *Lancet* 2008; 371: 1513–18.
This study quantified the global burden of heart disease related to high blood pressure. The authors found that most of the disease burden caused by high blood pressure is borne by low-income and middle-income countries, by people in middle age and by people with pre-hypertension. Prevention and treatment strategies

restricted to individuals with hypertension will mean missing blood pressure-related disease.

McFadden E, Ludben R, Bingham S, Wareham N, Kinmonth A, Kha K. Social inequalities in self-rated health by age: Cross-sectional study of 22,457 middle-aged men and women. *BMC Public Health* 2008; 8: 230.

This study reported a strong gradient of decreased self-rated health (SRH) with age in both men and women. The authors found a strong cross-sectional association between SRH and social class, which was independent of education and major health-related behaviors.

Nolte E, McKee CM. Measuring the health of nations: Updating an earlier analysis. *Health Aff* 2008; 27(1): 58–71.

This work measures the extent to which deaths from treatable conditions have been reduced among Organization for Economic Cooperation and Development (OECD) countries over time. Cause for concern can be seen in the authors' finding that despite being the most prolific health care spender, the United States is falling farther behind its peer nations in overall health system performance, as measured by what the authors term "amenable mortality."

Nyman JA, Barleen NA, Kirdruang P. Quality-adjusted life years lost from nonfatal motor vehicle accident injuries. *Med Decis Making* 2008; 28(819): 819–28.

Using Medical Expenditure Panel Survey (MEPS) data from 1997 to 2004, the authors estimated QALYs lost from the typical motor vehicle accident injury based on 1) data obtained through a standard preference elicitation procedure, 2) both permanent and nonpermanent injuries, and 3) a more realistic baseline quality-of-life level from which to determine the QALY decrement, using self-reported health status. The reference case decrement for an average motor vehicle accident injury is 0.0612 QALYs or 0.0360 QALYs, if discounted at 3%.

Rubalcava LN, Teruel GM, Thomas D, Goldman N. The healthy migrant effect: New findings from the Mexican Family Life Survey. *Am J Public Health* 2008; 98(1): 78–84.

This study used nationally representative longitudinal data to determine whether recent migrants from Mexico to the US are healthier than other Mexicans in order to evaluate the "healthy migrant" hypothesis. The authors found generally weak support for the healthy migrant hypothesis.

Simon AE, Chan KS, Forrest CB. Assessment of children's health-related quality of life in the United States with a multidimensional index. *Pediatrics* 2008; 121(1): e118–26.

This study examined biological, medical system, and sociodemographic factors that are associated with health-related quality of life as measured by a multidimensional index that accounts for a wide range of child health domains. Health-related quality of life in the United States is poorest for children and youth in lower socioeconomic status groups, those with access barriers, adolescents compared with children, and individuals with medical conditions.

Stuckler D. Population causes and consequences of leading chronic diseases: A comparative analysis of prevailing explanations. *Milbank Q* 2008; 86(2): 273–326.

The mortality numbers and rates of chronic disease are rising faster in developing than in developed countries. This article compares prevailing explanations of population chronic disease trends with theoretical and empirical models of population chronic disease epidemiology and assesses some economic consequences of the growth of chronic diseases in developing countries based on the experiences of developed countries. [Abstract from article]

<u>HEALTH BEHAVIORS</u>

Baum C. The effects of cigarette costs on BMI and obesity. *Health Econ* 2008;18: 3–19

This paper examines the effects of cigarette costs on BMI and obesity and found that they have significant positive effects. This paper attempts to reconcile conflicting evidence in the literature by controlling more carefully for correlation with state-specific time trends using panel data. Results indicate that the net benefit to society of increasing cigarette taxes may not be as large as previously thought, though the authors state that this research in no way concludes that they should be decreased to prompt weight loss.

Christakis NA, Folwer JH. The collective dynamics of smoking in a large social network. *New Engl J Med* 2008; 358: 2249–58.

Network phenomena appear to be relevant to smoking cessation. Smoking behavior spreads through close and distant social ties, groups of interconnected people stop

smoking in concert and smokers are increasingly marginalized socially. These findings have implications for clinical and public health interventions to reduce and prevent smoking.

Khaw KT, Wareham N, Bingham S, Welch A, Luben R, Day N. Combined impact of health behaviours and mortality in men and women: The EPIC-Norfolk Prospective Population Study. *PLoS Med* 2008; 5(1): e12.
This paper is aimed to quantify the potential combined impact of four health behaviors—current non-smoking, not physically inactive, moderate alcohol intake (1-14 units a week), and plasma vitamin C >50 mmol/l indicating fruit and vegetable intake of at least five servings a day—on mortality in men and women living in the general community. When the four health behaviors are combined, they predict a four-fold difference in total mortality in men and women, with an estimated impact equivalent to 14 years in chronological age.

Menschik D, Ahmed S, Alexander MH, Blum RW. Adolescent physical activities as predictors of young adult weight. *Arch Pediatr Adolesc Med* 2008; 162(1): 29–33.
This cohort study examined the relationship between increased physical activity in adolescence and adult weight status. The results indicate that increasing participation in certain extracurricular physical activities and physical education decreases the likelihood of being overweight in young adulthood.

Warren C, Jones N, Peruga A, Chauvin J, Baptiste J, Costa de Silva V, et al. Global youth tobacco surveillance 2000–2007. *MMWR* 2008; 57(SS01): 1–21. The findings in this report suggest that interventions that decrease tobacco use among youth must be broad-based, focused on boys and girls, and have components directed toward prevention and cessation. If effective programs are not developed and implemented soon, future morbidity and mortality attributed to tobacco probably will increase.

HEALTH CARE

Blustein J. Who is accountable for racial equity in health care? *JAMA* 2008; 299(7): 814–16.
This commentary describes the de facto racial segregation in US hospitals and the resultant disparity in care that exists. Strategies are presented that address how to reduce the disparities seen in care.

Currie J, Decker S, Lin W. Has public health insurance for older children reduced disparities in access to care and health outcomes? *J Health Econ* 2008; 27: 1567–81.
The effects of expanding public health insurance are addressed in this paper. The authors find some evidence that Medicaid eligibility during early childhood leads to children with better health as they grow up.

Eggleston K, Shen Y, Lau J, Schmid CH, Chan J. Hospital ownership and quality of care: What explains the different results in the literature? *Health Econ* 2008; 17: 1345–62.
This paper is a systematic analysis of the factors leading to the diversity of findings on the relationship between hospital ownership and quality of care. The researchers find that the true relationship depends on the institutional setting, differences across regions, differences within markets, and differences over the course of time.

Fowler FJ, Gallager PM, Anthony DL, Larsen K, Skinner JS. Relationship between regional per capita Medicare expenditures and patient perceptions of quality of care. *JAMA* 2008; 299(20): 2406–12.
In a representative sample of Medicare beneficiaries living in households in the United States, no consistent association was observed between the mean per capita expenditure in a geographic area and the perceptions of the quality of medical care of the people who live in those areas.

Hartman M, Catlin A, Lassman D, Cylus J, Heffler S. U.S. health spending by age, selected years through 2004. *Health Aff* 2008; 27(1): w1–12.
This paper examines variations in health spending by children, working-age adults, and seniors for selected years between 1987 and 2004. Seniors spent far more per person than children or working-age adults, but the relative gap between the age groups has not changed much since 1987 except for those aged 85 and older.

Scheuner MT, Sieverding P, Shekelle PG. Delivery of genomic medicine for common chronic adult diseases: A systematic review. *JAMA* 2008; 299(11): 1320–34.
The authors synthesized current information on genetic health services for common adult-onset conditions by examining studies that have addressed the outcomes,

consumer information needs, delivery, and challenges in integrating these services. Studies generally found modest positive effects of genomic medicine on psychological outcomes such as worry and anxiety, but behavioral outcomes demonstrated mixed results, and clinical outcomes were not well studied. Of the studies that assessed consumer information needs all found that genetics knowledge was reported to be low but that attitudes were generally positive. Articles that assessed barriers to genomic medicine delivery found that the most consistent barrier was the self-assessed inadequacy of the primary care workforce to provide these services. Additional identified barriers included lack of oversight of genetic testing and concerns about privacy and discrimination.

Schwitzer, G. How do U.S. journalists cover treatments, tests, products, and procedures? An evaluation of 500 stories. *PLoS Med* 2008; 5(5): e95.
Daily delivery of news stories about new treatments, tests, products, and procedures may have a profound and potentially harmful impact on health care consumers. Journalists usually fail to discuss costs, the quality of the evidence, the existence of alternative options, and the absolute magnitude of potential benefits and harms. Time, space, and training of journalists can provide solutions to many of these shortcomings.

van Baal PHM, Polder JJ, de Wit GA, et al. Lifetime medical costs of obesity: Prevention no cure for increasing health expenditure. *PLoS Med* 2008; 5(2): e29.
Although effective obesity prevention leads to a decrease in costs of obesity-related diseases, this decrease is offset by cost increases due to diseases unrelated to obesity in life-years gained. Obesity prevention may be an important and cost-effective way of improving public health, but it is not a cure for increasing health expenditures.

PHYSICAL AND BUILT ENVIRONMENT

Acevedo-Garcia D, Osypuk TL, McArdle N, Williams DR. Toward a policy-relevant analysis of geographic and racial/ethnic disparities in child health. *Health Aff* 2008; 27(2): 321–33.
Extreme racial/ethnic disparities exist in children's access to "opportunity neighborhoods." These disparities arise from high levels of residential segregation and have implications for health and well-being in childhood and throughout the life course. The fact that health disparities are rooted in social factors, such as residential segregation and an unequal geography of opportunity, should not have a paralyzing effect on the public health community. However, we need to move beyond conventional public health and health care approaches to consider policies to improve access to opportunity-rich neighborhoods through enhanced housing mobility, and to increase the opportunities for healthy living in disadvantaged neighborhoods. [Abstract from article]

Black JL, Macinko J. Neighborhoods and obesity. *Nutr Rev* 2008; 66(1): 2–20.
This literature review identifies studies using neighborhood determinants of obesity and lays out a conceptual framework for future inquiries in this area of research. The review found neighborhood determinants of obesity to have different influences. Neighborhood-level measures of economic resources were associated with obesity in 15 studies and neighborhood features that discourage physical activity were associated with increased body mass index. Based on the results of the review, the authors propose future areas of research.

Egan M, Tannahill C, Petticrew M, Thomas S. Psychosocial risk factors in home and community settings and their associations with population health and health inequalities: A systematic meta-review. *BMC Public Health* 2008; 8: 239.
The effects of psychosocial risk factors on population health and health inequalities has featured prominently in epidemiological research literature as well as public health policy strategies. This is a meta-review (a review of reviews) exploring how psychosocial factors may relate to population health in home and community settings. [Abstract from article]

Joshu CE, Boehmer TK, Brownson RC, Ewing R. Personal, neighbourhood and urban factors associated with obesity in the United States. *J Epidemiol Community Health* 2008; 62(3): 202–8.
Neighborhood environment and personal barriers differed in the strength of association with obesity across urbanization level. Personal barriers had the strongest relative influence on BMI followed by neighborhood barriers and then county sprawl. The impact of personal barriers on BMI was higher in more sprawling areas.

Mujahidl M, Diez-Roux A, Shen M, Gowda D, Sanchez B, Jacobs D, Jackson S. Relation between neighborhood environments and obesity in the Multi-Ethnic Study of Atherosclerosis. *Am J Epidemiol* 2008; 167(11): 1349–57.
This study investigated associations between neighborhood physical and social environments and body mass index in participants of the Multi-Ethnic Study of Atherosclerosis (MESA) aged 45-84 years and residing in Maryland, New York, and North Carolina. The neighborhood physical environment score combined measures of a better walking environment and greater availability of healthy foods. The neighborhood social environment score combined measures of grater aesthetic quality, safety and social cohesion and less violent crime. They concluded that improvement in the neighborhood physical environment should be considered for its contribution to reducing obesity.

Suglia SF, Gryparis A, Wright RO, Schwartz J, Wright RJ. Association of black carbon with cognition among children in a prospective birth cohort study. *Am J Epidemiol* 2008; 167(3): 280–6.
The authors examined the relation between black carbon, a marker for traffic particles, and cognition among 202 Boston, Massachusetts children in a prospective birth cohort study. They found an association between long-term concentrations of black carbon particles from mobile sources and decreased cognitive test scores.

Woodruff TJ, Darrow LA, Parker JD. Air pollution and postneonatal infant mortality in the United States, 1999–2002. *Environ Health Perspect* 2008; 116(1): 110–5.
The goal of this study was to analyze the relationship between cause-specific postneonatal infant mortality and chronic early-life exposure to particulate matter and gaseous air pollutants across the country. The study concludes that particulate matter air pollution is a risk factor for respiratory-related postneonatal mortality and suggests that ozone may be associated with SIDS.

SOCIAL DETERMINANTS

Childhood influences

Feinstein L, Sabates R, Sorhaindo A, Rogers I, Herric D, Northstone K, Emmett P. Dietary patterns related to attainment in school: The importance of early eating patterns. *J Epidemiol Community Health* 2008; 62: 734–40.
Using data available in the Avon Longitudinal Study of Parents and Children (ALSPAC), authors tested the impact of dietary intake at several time points in childhood on children's school attainment. They investigated whether any differences in school attainment between children who ate packed lunches or school meals was due to who these children were, their dietary patterns, or to what they ate at school. The key finding at age 3 was that a "junk food" dietary pattern had a negative association with the level of school attainment. The authors did not find evidence that eating packed lunches or eating school meals affected children's attainment, once the impact of junk food dietary patterns at age 3 were accounted for in the model. They concluded that early eating patterns have implications for attainment that appear to persist over time, regardless of subsequent changes in diet.

Galobardes B, J W Lynch JW, Smith GD. Is the association between childhood socioeconomic circumstances and cause-specific mortality established? Update of a systematic review. *J Epidemiol Community Health* 2008; 62: 387–90.
Individual-level studies examining childhood socioeconomic circumstances and adult overall and cause-specific mortality published between 2003 and April 2007 confirmed that mortality risk for all causes was higher among those who experienced poorer socioeconomic circumstances during childhood. A greater proportion of new studies included women and showed that a similar pattern is valid for both genders. In addition, the new studies show that this association persists among younger birth cohorts, despite temporal general improvements in childhood conditions across successive birth cohorts. Not all causes of death were equally related to childhood socioeconomic circumstances. [Abstract from article]

Larson K, Russ SA, Crall JJ, Halfon N. Influence of multiple social risks on children's health. *Pediatrics* 2008; 121(2): 337–44.
This study examined the strength of association of eight social risk factors, both individually and as part of a cumulative social risk index, on parent-reported child health status. The authors found that multiple social risk factors have a cumulative effect on parent-reported child health status across physical and socioemotional domains, demonstrating a very strong risk gradient effect.

Mensah FK, Hobcraft J. Childhood deprivation, health and development: Associations with adult health in the 1958 and 1970 British prospective birth cohort studies. *J Epidemiol Community Health* 2008; 62: 599–606.
Cognitive and behavioral development in childhood along with socioeconomic deprivation, family background, and childhood health were found to be important indicators of future adult health and mental wellbeing.

Middlebrooks JS, Audage NC. *The Effects of Childhood Stress on Health Across the Lifespan.* Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2008.
This report summarizes the research on childhood stress and its implications for adult health and well-being. Stress caused by child abuse, neglect and repeated exposure to intimate partner violence is an area of focus.

Whincup PH, Kaye SJ, Owen CG, et al. Birth weight and risk of type 2 diabetes: A systematic review. *JAMA* 2008; 300(24): 2886–97.
The authors conducted a quantitative systematic review examining published evidence on the association of birth weight and type 2 diabetes in adults. Of 327 reports identified during literature review, 31 were found to be relevant. Inverse birth weight–type 2 diabetes associations were observed in 23 populations and positive associations were found in 8. Despite great heterogeneity among the study populations, birth weight was inversely related to type 2 diabetes risk among the majority of studies examined.

Yang S, Lynch J, Schulenberg J, Diez-Roux A, Raghunathan T. Emergence of socioeconomic inequalities in smoking and overweight and obesity in early adulthood: The National Longitudinal Study of Adolescent Health. *Am J Public Health* 2008; 98(3): 468–77.
Socioeconomic inequalities in smoking emerge in early adulthood according to socioeconomic position. Among women, inequalities in overweight or obesity were already evident by family socioeconomic position and strengthened by their own socioeconomic position. The relative importance of family background and current socioeconomic circumstances varied between smoking and overweight or obesity.

Education and literacy

Kimbro RT, Bzostek S, Goldman N, Rodríguez G. Race, ethnicity, and the education gradient in health. *Health Aff* 2008; 27(2): 361–72.
Using pooled data from the 2000–2006 National Health Interview Survey, the authors document how the relationship between education and a broad range of health measures varies by race/ethnicity and nativity. Education proved to be a more powerful determinant of health behaviors and outcomes for some groups than for others. In addition, the education differentials for foreign-born groups are typically more modest than those for corresponding native-born populations. Further, the education-health relationship varies across Hispanic and Asian subgroups. [Abstract from article]

Meara ER, Richards S, Cutler DM. The gap gets bigger: Changes in mortality and life expectancy, by education, 1981–2000. *Health Aff* 2008; 27(2): 350–60.
This paper examines educational disparities in mortality and life expectancy among non-Hispanic blacks and whites in the 1980s and 1990s. Despite increased attention and substantial dollars directed to groups with low socioeconomic status, within race and gender groups, the educational gap in life expectancy is rising, mainly because of rising differentials among the elderly. With the exception of black males, all recent gains in life expectancy at age 25 have occurred among better-educated groups, raising educational differentials in life expectancy by 30 percent. Differential trends in smoking-related diseases explain at least 20 percent of this trend. [Abstract from article]

Poverty, income, and income inequalities

Krueger PM, Chang VW. Being poor and coping with stress: Health behaviors and the risk of death. *Am J Public Health* 2008; 98(5): 889–96.
The authors linked data from the 1990 NHIS Health Promotion and Disease Prevention supplement to prospective National Death Index mortality data through 1997 to examine whether smoking, alcohol use, and physical inactivity moderate the relationship between perceived stress and the risk of death in the US population as a whole and across socioeconomic strata. They found that a combination of high stress levels and high levels of former smoking or physical inactivity is especially harmful among those with low-SES.

Sanders A, Lim S, Sohn W. Resilience to urban poverty: Theoretical and empirical considerations for population health*. Am J Public Health* 2008; 98: 1101–06.
This was a study of African American families with incomes below 250% of the federal poverty level. A high resilience to poverty was supported by protective factors in the built and social environments. It was concluded that when poverty itself cannot be eliminated, improving built and social environments will foster resilience to its harmful health effects.

Wilkinson RG, Pickett KE. Income inequality and socioeconomic gradients in mortality. *Am J Public Health* 2008; 98(4): 699–704.
The authors used multilevel models in a regression analysis of 10 age- and cause-specific US county mortality rates on county median household incomes and on state income inequality to investigate the association between income inequality and population health. Mortality rates more strongly associated with county income were also more strongly associated with state income inequality. Although mortality rates with steep socioeconomic gradients were more sensitive to income distribution than rates with flatter gradients, narrower income differences benefit people in both wealthy and poor areas and may do little to reduce health disparities.

Social integration and discrimination

Barnes LL, de Leon CF, Lewis TT, Bienias JL, Wilson, RS, Eans DA. Perceived discrimination and mortality in a population-based study of older adults. *Am J Public Health* 2008; 98: 1241–7.
This study examined the relationship of individual-level perceived discrimination to mortality in a biracial, population-based sample. The authors found that perceived discrimination was associated with increased mortality risk in a general population of older adults from the Chicago Health and Aging Project. Subjective experience of interpersonal mistreatment is toxic in old age.

Ertel KA, Glymour M, Berkman LF. Effects of social integration on preserving memory function in a nationally representative U.S. elderly population. *Am J Public Health* 2008; 98: 1215–20.
This study tested whether social integration protects against memory loss and other cognitive disorders late in life in a nationally representative US sample of elderly adults. Evidence showed that social integration is important in delaying memory loss amongst the elderly.

Hillemeier MM, Weisman CS, Chase GA, Dyer A. Mental health status among rural women of reproductive age: Findings from the Central Pennsylvania Women's Health Study. *Am J Public Health* 2008; 98: 1271–9.
Farm residence was found to be protective of general mental health for women of reproductive age, but residence in isolated rural areas may decrease access to mental health screening and treatment, resulting in fewer diagnoses of depression or anxiety.

Osypuk T, Acevedo-Garcia D. Are racial disparities in preterm birth larger in hypersegregated areas? *Am J Epidemiol* 2008; 167(11): 1295–1304.
The causes of the racial/ethnic disparity in preterm birth (PTB) remain largely unknown; traditional risk factors such as smoking and prenatal care fail to account for it. Living in a hypersegregated metropolitan area had a more pronounced association with PTB among older black women and racial disparities in PTB were larger in hypersegregated areas among older mothers ($p < 0.001$). Since over 40% of black childbearing women live in hypersegregated areas, residential segregation may be an important social determinant of racial birth disparities.

INTERVENTIONS & STRATEGIES

Bentley T, Effros R, Palar K, Keeler E. Waste in the U.S. health care system: A conceptual framework. *Milbank Q* 2008; 86: 629–59.
This article proposes a conceptual framework to guide researchers and policymakers in evaluating waste, implementing waste-reduction strategies and reducing the burden of unnecessary health care spending. Waste is caused by factors such as health insurance and medical uncertainties that encourage inefficient and low-value services. Successful reduction strategies must integrate the administrative, operational, and clinical components of care, and proceed by identifying goals, changing systemic incentives, and making specific process improvements.

Butler R. New model of health promotion and disease prevention for the 21st century. *BMJ* 2008; 331: 149–50.
Many countries have aging populations and are facing increased prevalence of age related diseases and escalating healthcare costs. The authors argue that a

concerted effort to slow biological processes of aging would provide a broad strategy for primary prevention that would greatly enhance and accelerate improvements in health at all ages.

Countdown to 2015 Core Group. Countdown to 2015 for maternal, newborn, and child survival: The 2008 report on tracking coverage of interventions. *Lancet* 2008; 371(April 12): 1247–58.
The Countdown to 2015 for Maternal, Newborn, and Child Survival initiative monitors coverage of priority interventions to achieve the Millennium Development Goals (MDG) for reduction of maternal and child mortality. The authors analyzed country-specific data for maternal and child mortality and coverage of selected interventions. Of the 68 priority countries, 16 were on track to meet MDG 4. Coverage of different interventions varied widely both between and within countries. Interventions that can be routinely scheduled, such as immunization and antenatal care, had much higher coverage than those that rely on functional health systems and 24-hour availability of clinical services. The most rapid increases in coverage were seen for immunization, which also received significant investment during this period. [Abstract from article]

Farrelly MC, Pechacek TF, Thomas KY, Nelson D. The impact of tobacco control programs on adult smoking. *Am J Public Health* 2008; 98(2): 304–9.
This study is a systematic assessment of the association between adult smoking, funding for state tobacco control programs, and state cigarette excise taxes. It finds that state tobacco control program expenditures are independently associated with overall reductions in adult smoking prevalence, stressing the importance of funding for tobacco cessation programs.

Freudenberg N, Galea S. The impact of corporate practices on health: Implications for health policy. *J Public Health Policy* 2008; 29: 86–104.
Case studies of three products – transfat, a food additive and a preservative; Vioxx, a pain killer; and sports utility vehicles – are used to illustrate the role of corporate practices in the production of health and disease and the implications for health policy. In recent years, public health advocates, researchers, and lawyers have used strategies to reduce the adverse health impact of corporate practices. Systematic analysis of these experiences yields insights that can guide the development of health policies that increase opportunities for primary prevention by discouraging harmful corporate practices. [Abstract from article]

Frumkin H, Hess J, Luber G, Malilay J, McGeehin M. Climate change: The public health response. *Am J Public Health* 2008; 98(3): 435–45.
The authors propose a public health approach to climate change, based on the essential public health services, that extends to both clinical and population health services and emphasizes the coordination of government agencies (federal, state, and local), academia, the private sector, and nongovernmental organizations.

Gehlert S, Sohmer D, Sacks T, Mininger C, McClintock M, Olopade O. Targeting health disparities: A model linking upstream determinants to downstream interventions. *Health Aff* 2008; 27(2): 339–49.
Social and environmental factors may put some groups at risk for negative health outcomes, creating health disparities. The authors offer a causal model that uses psychological and behavioral responses to link population level attributes and disease. This approach identifies how specific social environments cause disease, illustrated by the disparity in breast cancer mortality between white and black women.

Gollust SE, Schroeder SA, Warner KE. Helping smokers quit: Understanding the barriers to utilization of smoking cessation services. *The Milbank Q* 2008; 86(4): 601–27.
This article provides an analysis of stakeholders' perspectives on smoking cessation services to provide strategies for the advancement of smoking cessation policy. The research suggests that public policy efforts should take on a greater role for smoking cessation at both the state and federal levels.

McGuire TG, Miranda J. New evidence regarding racial and ethnic disparities in mental health: Policy implications. *Health Aff* 2008; 27(2): 393–403.
Minorities have, in general, equal or better mental health than white Americans, yet they suffer from disparities in mental health care. This paper reviews the evidence for mental health and mental health care disparities, comparing them to patterns in health. Strategies for addressing disparities in health care, such as improving access to and quality of care, should also work to eliminate mental health care disparities. In addition, a diverse mental health workforce, as well as provider and

patient education, are important to eliminating mental health care disparities. [Abstract from article]

Nicholson S, Pauly MV, Wu Anita YJ, Murray JF, Teutsch SM, Berger ML. Getting real performance out of pay-for-performance. *Milbank Q* 2008; 86(3): 435–57.
This article offers a paradigm for evaluating how pay-for-performance (P4P) programs should be structured and how effective they are likely to be. Three conditions must be in place for outcomes-based P4P programs to improve the quality of care: (1) health insurers must not fully understand what medical processes improve health (i.e., the health production function); (2) providers must know more about the health production function than insurers do; and (3) health insurers must be able to measure a patient's risk-adjusted health. Only the first two of these conditions currently exist. The authors conclude that in three general situations, P4P will have a different impact on quality and costs and should be structured accordingly. When the conditions they are outline are incomplete, P4P payments should be kept small, should be based on outcomes rather than processes, and should target physicians' practices and health systems. As information improves, P4P incentive payments could be increased, and may be replaced entirely by "optimal fee-for-service." [Modified abstract from article]

Satcher D, Higginbotham EJ. The public health approach to eliminating disparities in health. *Am J Public Health* 2008; 98(3): 400–3.
This commentary describes the historical background for recognizing and addressing disparities in health, various factors that contribute to disparities, how the public health approach addresses such challenges, and two successful programs that apply the public health approach to reducing disparities in health.

Story M, Kaphingst KM, Robinson-O'Brien R, Glanz K. Creating healthy food and eating environments: Policy and environmental approaches. *Annu Rev Public Health* 2008; 29: 253–72.
Food and eating environments likely contribute to the increasing epidemic of obesity and chronic diseases, over and above individual factors such as knowledge, skills, and motivation. Environmental and policy interventions may be among the most effective strategies for creating population-wide improvements in eating. This review describes an ecological framework for conceptualizing the many food environments and conditions that influence food choices, with an emphasis on current knowledge regarding the home, child care, school, work site, retail store, and restaurant settings. Important issues of disparities in food access for low-income and minority groups and macro-level issues are also reviewed. The status of measurement and evaluation of nutrition environments and the need for action to improve health are highlighted. [Abstract from article]

Taylor S, Maradi A. Social determinants of health and the design of health programmes for the poor. *BMJ* 2008; 337: a290.
Social determinants heavily influence people's demand for, access to, and use of health services. Healthcare systems and services can promote health equity if designed to maximize the "fit" between patients and providers. The authors use examples of health programs from low, middle and high income countries to show how designing health services to take account of and work with wider socioeconomic determinants can improve health equity by enhancing service delivery and promoting uptake, particularly among the poor.

Wakefield MA, Durkin S, Spittal MJ, Siahpush M, Scollo M, Simpson JA, Chapman S, White V, Hill D. Impact of tobacco control policies and mass media campaigns on monthly adult smoking prevalence. *Am J Public Health* 2008; 98: 1443–50.
The authors sought to assess the impact of several tobacco control policies and televised antismoking advertising on adult smoking prevalence. Increases in the real price of cigarettes and tobacco control mass media campaigns broadcast at sufficient exposure levels and at regular intervals are critical for reducing population smoking prevalence.

Zulman DM, Vijan S, Omenn GS, Hayward RA. The relative merits of population-based and targeted prevention strategies. *Milbank Q* 2008; 86(4): 557–80.
This study used risk factor data from the National Health and Nutrition Examination Survey III to simulate a population of more than 100 million Americans aged thirty or older with no history of cardiovascular disease. Three strategies that could affect future cardiovascular disease and mortality were examined: (1) a population-based strategy that treated all individuals with a low- or moderate-intensity intervention, (2) a targeted strategy that treated individuals in the top 25 percent based on a single risk

factor, and (3) a risk-targeted strategy that treats individuals in the top 25 percent based on overall cardiovascular disease risk. The authors found that a population-based prevention strategy would be an ideal option if an intervention has almost no adverse effects. If the intervention resulted in even slight adverse effects, a targeted approach using multivariable risk prediction would prevent more morbidity and mortality.

POPULATION HEALTH THEORY & METHODS

Ahern J, Jones M, Bakshis E, Galea S. Revisiting Rose: Comparing the benefits and costs of population-wide and targeted interventions. *Milbank Q* 2008; 86: 581–600.

This paper examines Geoffrey Rose's two principal approaches to public health intervention: (1) targeted strategies focusing on individuals at a personal increased risk of disease and (2) population-wide approaches focusing on the whole population. This article uses mathematical simulations to model the benefits and costs of the two approaches.

Buchanan, DR. Autonomy, paternalism, and justice: Ethical priorities in public health. *Am J Public Health* 2008; 98(1): 15–21.

This paper argues against the ethical justification for paternalistic interventions that override individual autonomy in public health. On empirical and ethical grounds, public health should seek instead to expand individual autonomy to improve population health. To promote autonomy, the field should redirect current efforts toward clarifying principles of justice.

Frohlich KL, Potvin L. The inequality paradox: The population approach and vulnerable populations. *Am J Public Health* 2008; 98(2): 216–21.

Using the concept of vulnerable populations, this study analyzes how disparities in health may be exacerbated by population-approach interventions. It then proposes intervention principles to mitigate the health disparities associated with population-approach interventions.

Guyatt GH, Mills EJ, Elbourne D. In the era of systematic reviews, does the size of an individual trial still matter? *PLoS Med* 2008; 5(1): e4.

Systematic reviews that combine high-quality evidence from several trials are now widely considered to be at the top of the hierarchy of clinical evidence. Given the primacy of systematic reviews—and the fact that individual clinical trials rarely provide definitive answers to a clinical research question—some commentators question whether the sample size calculation for an individual trial still matters. Others point out that small trials can still be potentially misleading.

Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, Schünemann HJ. GRADE: An emerging consensus on rating quality of evidence and strength of recommendations. *BMJ* 2008; 336(April 26): 924–6.

The editors of the British Medical Journal have requested that authors use the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system for grading evidence when submitting clinical guidelines for an article. The GRADE system assesses evidence along two dimensions: quality of evidence (high, moderate, low, and very low) and strength of recommendation (strong versus weak). The quality of evidence is determined by the certainty of effect—if further research is unlikely to change the estimate of effect, the evidence is of high quality, whereas evidence in which the estimate of effect is uncertain is considered low quality. The strength of recommendations is based on quality of evidence, level of uncertainty about the balance of desirable and undesirable effects, and level of uncertainty about whether the intervention is a wise use of resources.

Hebert P, Sisk JE, Howell EA. When does a difference become a disparity? Conceptualizing racial and ethnic disparities in health. *Health Aff* 2008; 27(2): 374–82.

Definitions of racial and ethnic disparities fall along a continuum from differences with little connotation of being unjust to those that result from overt discrimination. Where along this continuum one decides that a racial difference becomes a disparity is subjective, but the magnitude of the injustice is generally proportional to how much control a person is perceived to have over the cause of the difference in health. The degree to which one sees environmental factors and social context as shaping choices has important implications for the measurement of disparities and ultimately for directing efforts to eliminate them. [Abstract from article]

Hewitt CE, Mitchell N, Torgerson DJ. Listen to the data when results are not significant. *BMJ* 2008;336 (7634): 23–5.

Unexpected non-significant results from randomized controlled trials have the risk of being interpreted in a biased manner. The study investigated the problem of

interpretive bias in a sample of recently published trials with findings that did not support the study hypothesis.

Krieger N. Proximal, distal, and the politics of causation: What's level got to do with it? *Am J Public Health* 2008; 98(2): 221–30.
Causal thinking in public health routinely employs the terminology of *proximal* (or *downstream*) and *distal* (or *upstream*). The author argues that the use of these terms is problematic and adversely affects public health research, practice, and causal accountability. At issue are distortions created by conflating measures of space, time, level, and causal strength.

Messer LC. Invited commentary: Measuring social disparities in health—What was the question again? *Am J Epidemiol* 2008; 167(8): 900–4.
Monitoring social disparities in health is not a straightforward project. Defining what constitutes a disparity is challenging, and multiple measures have been proposed to track changes in disparity over time. The author proposes that increased attention to the scale at which disparities are measured, the interpretations attached to the various measures used, and the way in which these measures are assembled on the basis of conceptual models would increase the capacity to communicate research findings to the public and policy-making consumers of disparity-related research. [Abstract from article]

Patz J, Campbell-Lendrum D, Gibbs H, Woodruff R. Health impact assessment of global climate change: Expanding on comparative risk assessment approaches for policy making. *Annu Rev Public Health* 2008;29:27–39.
Climate change is projected to have adverse impacts on public health. Cobenefits may be possible from more upstream mitigation of greenhouse gases causing climate change. To help measure such cobenefits alongside averted disease-specific risks, a health impact assessment (HIA) framework can more comprehensively serve as a decision support tool. HIA also considers health equity. The authors suggest that new choices for energy must be made carefully considering such effects as additional pressure on the world's forests through large-scale expansion of soybean and oil palm plantations, leading to forest clearing, biodiversity loss and disease emergence, expulsion of subsistence farmers, and potential increases in food prices and emissions of carbon dioxide to the atmosphere. Investigators should consider the full range of policy options, supported by more comprehensive, flexible, and transparent assessment methods. [Abstract from article]

Peppard PE, Kindig DA, Dranger E, Jovaag A, Remington PL. Ranking community health status to stimulate discussion of local public health issues: The Wisconsin County Health Rankings. *Am J Public Health* 2008; 98(2): 209–12.
The University of Wisconsin Population Health Institute developed the Wisconsin County Health Rankings from the United Health Foundation's model that ranks states from "least healthy" to "healthiest." A survey taken of Wisconsin county health officers found that they plan to use the rankings for needs assessment, program planning, and discussion with county health boards.

Starfield B, Hyde J, Gervas J, Heath I. The concept of prevention: a good idea gone astray? *J Epidemiol Community Health* 2008;2: 580–3.
Over time, the definition of prevention has expanded so that its meaning in the context of health services is now unclear. As risk factors are increasingly considered to be the equivalent of "diseases" for purposes of intervention, the concept of prevention has lost all practical meaning. This paper reviews the inconsistencies in its utility, and suggests principles that it should follow in the future: a population orientation with explicit consideration of attributable risk, the setting of priorities based on reduction in illness and avoidance of adverse effects, and the imperative to reduce inequities in health. [Abstract from article]