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EXPANDING THE CURRENT HEALTH CARE REFORM DEBATE: MAKING THE CASE FOR SOCIO-ECONOMIC INTERVENTIONS FOR LOW INCOME YOUNG ADULTS

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INTRODUCTION

Improving population health and reducing unjustifiable health disparities is heavily predicated on addressing the predisposing factors—the social determinants of health—that make people vulnerable to ill health.[1] Philosophers and policy experts alike have vigorously argued in favor of addressing the non-medical determinants of health within national health policy agendas.[2] However, a fully described package of socio-economic interventions targeted to meet the needs of a particular population, with an estimate of the actuarial cost of providing such a set of interventions, is usually absent from policy discussions.[3] In the United States

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1. *See infra* Part I.

2. *See infra* Parts II–III.

3. *See generally* Johan P. Mackenbach, *Socio-economic Inequalities in Health in Western Europe*, *in* SOCIAL INEQUALITIES IN HEALTH: NEW EVIDENCE AND POLICY IMPLICATIONS 223, 238–42 (Johannes Siegrist & Michael Marmot, eds., 2006) (contrasting the American focus on "contribution of specific factors to the explanation of health inequalities, not to the effectiveness of policies and

especially, considering the feasibility of providing a package of interventions is more pertinent than many assume.[4] Despite having the highest per capita health care expenditure in the world[5] and a remarkable biomedical infrastructure,[6] the U.S. lags behind forty-one countries in life expectancy and behind thirty-three countries in infant mortality,[7] both significant indicators of population health.[8] Although many of the major presidential candidates in the 2008 election emphasized expanding health care coverage as a major instrument in their health care reform plans,[9] it is likely that universal insurance alone will have only a slight impact on the health status of Americans.[10]

In this paper, we briefly reference the extensive literature on the socio-economic determinants of health (SEDH),[11] and outline some of the philosophical arguments justifying the public provision of a broad array of health-promoting socio-economic interventions.[12] We also cite evidence that policymakers and governments worldwide are incorporating non-medical interventions such as education, housing, and other services for low income populations, poverty reduction, early childhood education, and improved working conditions in their health policy programs.[13]

We then suggest a set of evidence-based health-promoting socio-economic interventions for adults aged 18–30 with incomes up to 200 percent of the federal poverty level.[14] The proposed socio-economic interventions[15] address the fundamental determinants of health among young adults—higher education,

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interventions tackling them," typified in the reports of the Acheson committee, with Dutch researchers' focus on assessing the "effectiveness of various intervention options" and discussing the options with policymakers).

4. *See infra* Part VIII.

5. SARAH BURD-SHARPS ET AL., THE MEASURE OF AMERICA: AMERICAN HUMAN DEVELOPMENT REPORT 2008–09, at 4 (2008), *available at* http://measureofamerica.org/wp-content/uploads/2008/07/ahdr-execsumm.pdf.

6. *See* Elias A. Zerhouni, *U.S. Biomedical Research: Basic, Translational, and Clinical Sciences*, 294 JAMA 1352, 1352–53, 1356–57 (2005) (describing the vast budget and capabilities of U.S. biomedical research networks, particularly the National Institutes of Health).

7. BURD-SHARPS ET AL., *supra* note 5, at 12.

8. Ken Judge et al., *Income Inequality and Population Health*, 46 SOC. SCI. & MED. 567, 567 (1998).

9. Edward Howard, Executive Vice President, Alliance for Health Care Reform & Commonwealth Fund, Address at Panel of Health Care in the 2008 Elections: Where Do the Candidates Stand on Promoting a High-Performance Health System? (Mar. 14, 2008), *available at* http://www.kaisernetwork.org/health_cast/uploaded_files/031408_alliance_elections_transcript.pdf.

10. *See infra* Parts I–II.

11. *See infra* Part I.

12. *See infra* Part II.

13. *See infra* Part III.

14. *See infra* pp. 22, 38–43 tbl.1.

15. *See infra* pp. 8, 38–43 tbl.1.

employment, family life, housing, and community.[16] Targeted interventions for improving the health and well-being of young adults are attractive policy options and a strategic investment in human capital.[17] Young adults are at a decisive juncture in their life trajectories: they make significant contributions to the national economy,[18] parent young children at critical developmental stages,[19] and can still acquire healthy habits that delay expensive chronic diseases.[20] We provide an actuarial estimate of the cost of such interventions to allow stakeholders—the public, policymakers, and politicians alike—to reflect on the feasibility of implementing a program focused on the social determinants of health.[21] We conclude with comments on the challenges of offering a broad combination of interventions to address the SEDH.[22]

I. THE SOCIO-ECONOMIC DETERMINANTS OF HEALTH

Medical care makes only a small contribution to health status.[23] A substantial part of the variation in the level and distribution of health in populations can be attributed to non-medical factors such as education, income, employment, and housing.[24] For instance, Woolf et al. estimate that correcting educational disparities would save eight times as many lives as advanced medical technologies and would confer myriad economic benefits.[25] They estimate that nearly 1.4 million early deaths were preventable between 1996 and 2002, based on the disparity between

16. *See* GAVIN TURRELL ET AL., SCH. OF PUB. HEALTH, QUEENSLAND UNIV. OF TECH., SOCIOECONOMIC DETERMINANTS OF HEALTH: TOWARDS A NATIONAL RESEARCH PROGRAM AND A POLICY AND INTERVENTION AGENDA 2–4 (1999), *available at* http://eprints.qut.edu.au/archive/00000585/01/turrell_health_inequalities.pdf.

17. *See infra* Part VIII.

18. Mitra Toossi, *Labor Force Projections to 2014: Retiring Boomers*, 128 MONTHLY LAB. REV., Nov. 2005, at 26 tbl.1 (2005) (showing that young adults aged 16–24 comprised 15.1% of the total civilian labor force in 2004).

19. *See* DĒMOS, AND BABY MAKES BROKE: RAISING A FAMILY IS A YOUNG ADULT ISSUE 1, 5 (2007).

20. *See* Melissa McCracken et al., *Health Behaviors of the Young Adult U.S. Population: Behavioral Risk Factor Surveillance System, 2003*, 4 PREVENTING CHRONIC DISEASE 1, 1–2 (2007), http://www.cdc.gov/PCD/issues/2007/apr/06_0090.htm.

21. *See infra* Part VII.

22. *See infra* Part VIII.

23. Nicole Lurie & Tamara Dubowitz, *Health Disparities and Access to Health*, 297 JAMA 1118, 1118–19 (2007). The contribution of health care to health status is approximately fifteen percent. *Id.* at 1119.

24. Finn Diderichsen et al. *The Social Basis of Disparities in Health*, *in* CHALLENGING INEQUITIES IN HEALTH: FROM ETHICS TO ACTION 12, 13–14 (Timothy Evans et al. eds., 2001); Michael Marmot, *Introduction* to SOCIAL DETERMINANTS OF HEALTH 1, *passim* (Michael Marmot & Richard G. Wilkinson eds., 1999).

25. Steven H. Woolf et al., *Giving Everyone the Health of the Educated: An Examination of Whether Social Change Would Save More Lives than Medical Advances*, 97 AM. J. PUB. HEALTH 679, 680 (2007).

mortality rates among adults with less than a high school education and college-educated adults.[26]

Universal health care will undoubtedly allow some of society's most vulnerable to seek treatment,[27] but its impact on disparities in health status will likely be quite modest given the association between health disparities and socio-economic status.[28] Data to support this contention are consistent across countries.[29] The *Black Report*, published in 1980 after a generation received universal healthcare,[30] revealed both persistent and, in some cases, widening health-related inequalities in the U.K.[31] The Canadian health care system also provides an opportunity to assess the impact of the availability of medical care on health. Even though the poorest groups make the most use of physicians and hospitals, they register fewer gains in health status than richer groups.[32]

In the U.S., men who have not completed high school can expect to live seven years fewer than men who completed sixteen or more years of schooling and women who have not completed high school on average live six years fewer than women with sixteen or more years of schooling.[33] Men with incomes under the federal poverty threshold on average live eight years fewer than men with incomes over 400 percent of the poverty threshold[34] and women with comparable differences in income can expect a 6.7 year difference in life expectancy.[35] These observations suggest that poverty and its accompanying socio-economic disadvantages must be addressed to improve health for low income groups.

Moreover, focusing on the social determinants of health allows policymakers to align health policy with other critical investments and national objectives, such

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26. *Id.*

27. *See* Robert J. Blendon et al., *Inequities in Health Care: A Five-Country Survey*, HEALTH AFF., May–June 2002, at 182, 182–83, 186 (finding that universal health care coverage mitigates the general inequities in access to health care).

28. *See* Nancy E. Adler & Katherine Newman, *Socioeconomic Disparities in Health: Pathways and Policies*, 21 HEALTH AFF., Mar.–Apr. 2002, at 60, 60, 68.

29. *See* Timothy Evans et al., *Introduction* to CHALLENGING INEQUITIES IN HEALTH: FROM ETHICS TO ACTION 2, 3–4 (Timothy Evans et al., eds., 2001) (finding that health disparities appear in nations across the world).

30. Dennis Raphael & Toba Bryant, *The State's Role in Promoting Population Health: Public Health Concerns in Canada, USA, UK, and Sweden*, 78 HEALTH POL'Y 39, 46 (2006).

31. *Id.*

32. *See* MARNI BROWNELL ET AL., MANITOBA CENTRE FOR HEALTH POL'Y, WHY IS THE HEALTH STATUS OF SOME MANITOBANS NOT IMPROVING? THE WIDENING GAP IN THE HEALTH STATUS OF MANITOBANS 71, 73–74 (2003), *available at* http://mchp-appserv.cpe.umanitoba.ca/reference/hlthgap.pdf.

33. PAULA BRAVEMAN & SUSAN EGERTER, ROBERT WOOD JOHNSON FOUND., OVERCOMING OBSTACLES TO HEALTH 15 (2008), *available at* http://www.commissiononhealth.org/PDF/ObstaclesToHealth-Report.pdf.

34. *Id.* at 16.

35. *Id.*

as education and infrastructure.[36] Improving health merely by expanding health care coverage and increasing the stock of available medical resources will precipitate trade-offs between health and other critical societal priorities.[37] On the other hand, investments in socio-economic interventions will register gains in health status as well as other important measures of a society's well-being. For instance, creating incentives to use public transportation would reduce pollution and traffic congestion.[38] Using public transportation also increases the physical activity individuals undertake,[39] which may have a positive impact on their health.[40]

II. PHILOSOPHICAL ARGUMENTS IN SUPPORT OF SHIFTING THE FOCUS FROM HEALTH INSURANCE TO HEALTH STATUS

In his historical review, Alan Derickson suggested that arguments in support of universal health insurance in the U.S. tend to cluster in three themes: needs, efficiencies, and rights.[41] The humanitarian approach focuses on the unmet needs of those without health care.[42] The practical approach emphasizes that offering everyone health care leads to a healthier workforce.[43] Efficiency arguments focus on the costs incurred by the health care system in caring for the uninsured.[44] The rights-based arguments advocate an expanded interpretation of individual rights to include an entitlement to health care.[45] Each argument for universal health insurance can be extended to justify a broader array of socio-economic interventions for the sake of health.

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36. *See* Adler & Newman, *supra* note 28, at 61, 67 (explaining that policies aimed at improving education and community infrastructure will likely improve community health).

37. Amy B. Bernstein & Anne K. Gauthier, *Choices in Health Care: What Are They and What Are They Worth?*, 56 MED. CARE RES. & REV. 5, 5, 7–9 (1999).

38. *See* AM. PUB. TRANSP. ASSOC., PUBLIC TRANSPORTATION: BENEFITS FOR THE 21st CENTURY 6–7 (2007), *available at* http://www.apta.com/gap/policyresearch/Documents/twenty_first_century.pdf.

39. *Id.* at 7.

40. James F. Sallis et al., *Active Transportation and Physical Activity: Opportunities for Collaboration on Transportation and Public Health Research*, 38 TRANSP. RES. PART A 249, 249–50 (2004).

41. ALAN DERICKSON, HEALTH SECURITY FOR ALL: DREAMS OF UNIVERSAL HEALTH CARE IN AMERICA, at xi (2005).

42. *See id.*

43. *See id.*

44. *See* LARRY GAGE ET AL., NAT'L ASS'N OF PUB. HOSPITALS & HEALTH SYS., AMERICA'S UNINSURED AND UNDERINSURED: WHO CARES? 19, 25 (1998) *available at* http://www.naph.org/naph/publications/whocares.pdf. In the current system, expenses for the uninsured are absorbed by the insured in the form of higher premiums. *See id.* at 19. Further, the financial burden absorbed by safety net hospitals in caring for the uninsured threatens their viability as a health care resource for all. *See* Rachel M. Werner et al., *Comparison of Change in Quality of Care Between Safety-Net and Non-Safety-Net Hospitals*, 299 JAMA 2180, 2185 (2008).

45. *See* DERICKSON, *supra* note 41, at xi.

The most notable justification that philosophers have extended from health care to other health-promoting measures is the argument for equal opportunity. In *Just Health Care*, Norman Daniels first argued that health is necessary to afford equal opportunity to life plans.[46] As the evidence grew that health care alone failed to guarantee health, and that socio-economic factors made a major contribution, Daniels modified his argument for equitable health care to assert that inequalities in health status between different socio-economic groups may be unjust.[47] Philosophers Marchand, Wikler, and Landesman have also argued that inequalities in health raise issues of justice independent of both the allocation of health care resources and the general distribution of income and wealth.[48]

Gopal Sreenivasan offered similar reasoning. Building on the evidence that socio-economic class contributes to undermining fair share of health, Sreenivasan argued that any commitment to a fair share of opportunity to life plans should lead to policies addressing these socio-economic factors even before offering universal health insurance.[49]

III. THE WORLDWIDE FOCUS ON SOCIO-ECONOMIC DETERMINANTS OF HEALTH

Citing the growing body of research,[50] public health experts—most notably the World Health Organization's (WHO) Commission on Social Determinants of Health—developed Knowledge Networks and urged governments to use a variety of strategies to address SEDH in their health policy programs (e.g. poverty reduction schemes, environmental safeguards, etc.).[51] The U.K., Sweden, the Netherlands, France, New Zealand, and the European Union explicitly incorporate elements of social, educational, economic, housing, transportation, or

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46. *See* NORMAN DANIELS, JUST HEALTH CARE 26–28, 57 (1985) (explaining that meeting health care needs helps people to "maintain normal species functioning" and carry out their life plans).

47. *See* Norman Daniels et al., *Why Justice Is Good for Our Health: The Social Determinants of Health Inequalities*, 128 DÆDALUS 215, 215, 225–33 (1999).

48. *See* Sarah Marchand et al., *Class, Health and Justice*, 76 MILBANK QUAR. 449, 449–50, 453–54 (1998). The authors suggest that "resourcist" theories of justice, following the influence of John Rawls, avoided interpersonal comparisons of welfare and turned instead to comparisons of the resources made available to individuals in society. *See id.* at 453. This approach lends itself to comparison of health care much more readily than to comparison of health status. The authors argue that it is possible to move to the intuition that health itself is special, and can in and of itself be fairly or unfairly distributed, if one believes (like Walzer) that there can be separate spheres of justice—different criteria for judging the distribution of various goods. *See id.* at 454.

49. Gopal Sreenivasan, *Health Care and Equality of Opportunity*, 37 HASTINGS CTR. REP., Mar.–Apr. 2007, at 21, 21, 27.

50. S. Leonard Syme et al., *Incorporating Socioeconomic Factors into U.S. Health Policy: Addressing the Barriers*, 21 HEALTH AFF., Mar.–Apr. 2002, at 113, 113.

51. *See* COMM'N ON SOC. DETERMINANTS OF HEALTH, WHO, ACHIEVING HEALTH EQUITY: FROM ROOT CAUSES TO FAIR OUTCOMES: INTERIM STATEMENT 2–3, 43–44 (2007), *available at* http://whqlibdoc.who.int/publications/2007/interim_statement_eng.pdf.

environmental policy into their health policies.[52] For instance, the U.K.'s New Labor Government responded to Acheson's *Independent Inquiry into Inequalities in Health*,[53] by establishing several new initiatives, including a number of interventions outside the health sector, such as neighborhood renewal programs, child and youth initiatives, a child tax credit, employment zones, a fuel poverty strategy, health action zones, a healthy schools program, increased national minimum wage, and increased working family tax credit.[54] Social scientists have examined the cost of ignoring inequalities in health.[55] In response, governments and organizations within the European Union have put forth substantial effort to coordinate broad policies.[56]

IV. DESIGNING A MORE EXPANSIVE PACKAGE OF INTERVENTIONS FOR THE SAKE OF HEALTH

In light of the empirical evidence, philosophical arguments, and worldwide interest among health policy experts, we consider a number of socio-economic interventions that accomplish two objectives that elude the current U.S. healthcare system: alleviating disparities and stemming the negative externalities arising from suboptimal population health.[57] These interventions span the social determinants of health, including nutrition, education, income, and the environment, and accommodate a variety of objectives beyond access to medical care, including improved health behaviors and nutrition; upward income mobility; gains in educational outcomes, public savings, employment, social cohesion; and reduced crime (see Table 1 for the list of interventions).

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52. Syme et al., *supra* note 50, at 113. Detailed information about the comprehensive approach taken by the European Union is reported by the University Medical Centre Rotterdam in EUROTHINE, TACKLING HEALTH INEQUALITIES IN EUROPE: AN INTEGRATED APPROACH (2007), *available at* http://ec.europa.eu/health/ph_projects/2003/action1/docs/2003_1_16_frep_en.pdf.

53. DONALD ACHESON ET AL., INDEPENDENT INQUIRY INTO INEQUALITIES IN HEALTH REPORT (1998).

54. Richard Horton, *What the UK Government Is (Not) Doing About Health Inequalities*, 360 LANCET 186, 186 (2002).

55. *See* JOHAN P. MACKENBACH ET AL., EUR. COMM'N, ECONOMIC IMPLICATIONS OF SOCIO-ECONOMIC INEQUALITIES IN HEALTH IN THE EUROPEAN UNION 10–23 (2007), *available at* http://ec.europa.eu/health/ph_determinants/socio_economics/documents/socioeco_inequalities_en.pdf. In an exploratory analysis, the authors calculate the frequency of ill health that is attributable to socioeconomic circumstances such as low education levels, occupational class, or income among the European population. *Id.* at 5. They estimate the number of deaths associated with health inequalities and assign a monetary value in terms of health care costs, social security costs, and lost labor productivity. *Id.* at 39 tbl.4, 41. The authors estimate that such losses may be valued at 9.5% of the GDP of the European Union. *Id.* at 41.

56. *See generally* Welcome to the European Portal for Action on Health Equity, http://www.health-inequalities.eu/ (last visited Oct. 31, 2008) (providing information about a consortium of fifty-nine European Union governments, health bodies, networks, and other organizations working to improve health equity by focusing on socio-economic determinants of health).

57. *See infra* Part VI.

In this section, we consider the benefits of selectively targeting interventions to young adult low income populations. We focus on young adults for several reasons. First, evidence suggests that the accumulation of deficits over the lifespan leads to a greater burden of disease[58] and, conversely, that early intervention has the greatest impact on improving well-being over a lifetime.[59] Second, growing evidence suggests that young adults currently face unprecedented difficulty with life prospects.[60] Dwindling real income, coupled with rising costs of higher education, health care, and child care threaten the economic security of the millennial generation.[61] Average income for U.S. workers age twenty-five to thirty-four has declined during the course of a generation, except among women with college degrees.[62] For instance, typical earnings of young men fell 19 percent between 1975 and 2005.[63] During the same period, typical earnings for young women remained relatively flat, increasing by nearly 4 percent.[64] From 2001 to 2005, median annual earnings decreased or remained flat for young workers at all educational levels.[65] These dismal trends do not appear to be temporary. Economists predict that future job growth is likely to be concentrated in lower wage sectors of the economy.[66] Third, young adults are most likely to parent young children at critical developmental stages.[67] Thus, assisting young adults with parenthood may allow health systems to reach children in poverty.

V. WHICH SOCIO-ECONOMIC INTERVENTIONS DO YOUNG ADULTS NEED?

The combination of socio-economic interventions might be packaged in an approach that is akin to a GI Bill for young adults. Arguably one of the most

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58. *See* Gavin Turrell et al., *Socioeconomic Disadvantage in Childhood and Across the Life Course and All-Cause Mortality and Physical Function in Adulthood: Evidence from the Alameda County Study*, 61 J. EPIDEMIOLOGY & COMMUNITY HEALTH 723, 723, 725 (2007).

59. *See* McCracken et al., *supra* note 20, at 2; *see generally* Eric I. Knudsen et al., *Economic, Neurobiological, and Behavioral Perspectives on Building America's Future Workforce*, 103 PROC. NAT'L. ACAD. SCI. U.S. 10155, 10155, 10161 (2006) (concluding that early childhood development plays a key role in emotional, cognitive, and social ability later in life).

60. *See* TAMARA DRAUT, DEMOS, ECONOMIC STATE OF YOUNG AMERICA 1 (2008), *available at* http://www.demos.org/pubs/esya_web.pdf.

61. *See id.* at 3, 11–12, 22–37.

62. *Id.* at 6 tbl.1C.

63. *Id.* at 4 tbl.1A.

64. *Id.*

65. *Id.* at 6 tbl.1C.

66. *Id.* at 3; *see also* BUREAU OF LABOR STATISTICS, U.S. DEP'T LABOR, EMPLOYMENT PROJECTIONS, 2006–16, at 1 (2007), *available at* http://www.bls.gov/news.release/pdf/ecopro.pdf. The BLS estimates that service-providing industries will generate almost all of the employment gain from 2006 to 2016. *Id.* Further, for twenty-four of the thirty occupations projected to have the largest number of total job openings due to growth and net replacement, on-the-job training and work experience are the most significant source of postsecondary education or training. *Id* at 2.

67. *See* DEMOS, *supra* note 19, at 1, 5.

successful social provisions ever enacted in the U.S., the first GI Bill provided an array of benefits to World War II veterans.[68] Popularly known as the "Magic Carpet to the Middle Class,"[69] the bill enhanced economic security through benefits[70] such as financial assistance for education and training;[71] a home, farm, or business loan guarantee;[72] job-finding assistance;[73] and unemployment pay.[74] The impact of the GI Bill extended beyond the veterans to the entire citizenry, resulting in an increased general tax base and bolstered economic growth.[75] Similarly, the interventions proposed here could be tied to measurable long-term improvements in rates of poverty reduction, unemployment, and home ownership. Moreover, a robust effect of the program should be apparent in health indicators—reduction in health disparities, sick days, chronic diseases, poor health behaviors, and crime.[76]

Providing a comprehensive set of interventions simultaneously pre-empts unmet needs that would otherwise occur in a patchwork of uncoordinated interventions. For instance, a single mother may enroll in job training programs, but she will likely remain unemployed unless affordable child care for workers is available.[77] Her children will likely eat inadequately if her low wage job is not

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68. *See* EDWARD HUMES, OVER HERE: HOW THE G.I. BILL TRANSFORMED THE AMERICAN DREAM 26–39 (2006). The "G.I. Bill" is the popular name for the Servicemen's Readjustment Act of 1944, Pub. L. No. 78-346, 58 Stat. 284 (1944).

69. *E.g.*, Christian Davenport, *The Middle Class Rose, as Did Expectations*, WASH. POST, May 27, 2004, at B1.

70. *See* HUMES, *supra* note 68, at 306–07.

71. § 400, 58 Stat. at 287–91.

72. *Id.* §§ 500–03, 58 Stat. at 291–93.

73. *Id.* §§ 600–07, 58 Stat. at 293–95.

74. *Id.* §§ 700–1400, 58 Stat. at 295–300. The GI bill provided for college or vocational education for returning World War II veterans, and one year of unemployment compensation. *Id.* § 400, 58 Stat. at 288; *id.* § 700, 58 Stat. at 295. The bill also provided many different types of loans to returning veterans for buying homes and starting businesses. *Id.* §§ 500–03, 58 Stat. at 291–93.

75. *See* HUMES, *supra* note 68, at 306–07. As Humes notes, the Joint Economic Committee of the U.S. Congress performed a cost-benefit analysis of the G.I. Bill in 1988. *Id.* at 306. Translated into 2006 dollars, the educational cost of the bill was $51 billion; the return on investment was $260 billion in increased economic output from the educated G.I.s and $93 in additional paid taxes. *Id.* At $353 billion, this figure represented a seven-fold return on investment. *Id.* at 306–07.

76. *See* CAN. INST. FOR HEALTH INFO., NATIONAL CONSENSUS CONFERENCE ON POPULATION HEALTH INDICATORS 5 tbl.2, 6 tbl.3 (1999) (listing healthy behaviors, crime rate, chronic conditions, and living and working conditions as health indicators); Lurie & Dubowitz, *supra* note 23, at 1118–19 (noting the negative impact health disparities may have on overall health and citing ways to eliminate disparities in health by focusing on non-medical determinants such as health behaviors to reduce the prevalence of chronic disease); McCracken et al., *supra* note 20, at 1–2 (citing poor health behaviors among young adults as leading indicators of adulthood illnesses).

77. HEALTH, EDUC. & HUM. SERVS. DIV., U.S. GEN. ACCT. OFFICE, CHILD CARE: CHILD CARE SUBSIDIES INCREASE LIKELIHOOD THAT LOW-INCOME MOTHERS WILL WORK 2 (1994), *available at* http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/13/b7/41.pdf; *see also* Bruce Fuller et al., *Welfare Reform and Child Care Options for Low-Income Families*, 12 FUTURE OF CHILD. 97, 102, 105 (2002) (concluding that many mothers receiving welfare benefits previously stayed

supplemented by food stamps.[78] Additionally, a coordinated set of benefits might harmonize the varied objectives of intervention administrators and prevent preoccupation with a few indicators to the detriment of the "big picture." Here we discuss the rationale for and specific benefits offered by the interventions that might be included among a package of socio-economic interventions.

A. Access to Adult and College Education

Because earnings have dropped for workers who have only completed high school, a college education is crucial for upward economic mobility.[79] In 1980, an American with a college degree earned about 30 percent more than a high school graduate.[80] Today, however, a college graduate earns roughly 70 percent more than a person with only a high school education.[81] The premium associated with a graduate degree increased from roughly 50 percent in 1980 to well over 100 percent today.[82] The labor market rewards those with higher levels of education. At the same time, the inflation-adjusted cost of education has more than doubled since 1980.[83] In the last five years alone, tuition has increased 35 percent.[84] Between 2004 and 2006, the percentage of low income (Pell Grant-eligible) students declined at twenty-seven of the top thirty American universities and at twenty-six of the top thirty liberal arts colleges.[85] High-income students earn bachelor's degrees at more than three times the rate of low income students.[86]

Low income young adults lack the educational credentials[87] and access to financial aid to attend college.[88] High education costs prevent 22 percent of qualified, low income high school graduates from attending college within two years of graduation.[89] Between 2001 and 2010, two million qualified high school

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unemployed to care for their children and that many low-income parents seek subsidies and vouchers to pay for child care).

78. *See* NORMA B. COE ET AL., URBAN INST., DOES WORK PAY? A SUMMARY OF THE WORK INCENTIVES UNDER TANF 2 (1998), *available at* http://www.urban.org/UploadedPDF/anf28.pdf.

79. DRAUT, *supra* note 60, at 5 graph 1.1, 6 tbl.1C, 22.

80. Gary S. Becker & Kevin M. Murphy, *The Upside of Income Inequality*, AMERICAN, May–June 2007, at 20, 20.

81. *Id.*

82. *Id.*

83. *Id.* at 22.

84. DRAUT, *supra* note 60, at 23.

85. Roger Lehecka & Andrew Delbanco, *Ivy-League Letdown*, N.Y. TIMES, Jan. 22, 2008, at A21.

86. *Id.*

87. *See* Melanie E. Corrigan, *Beyond Access: Persistence Challenges and the Diversity of Low-Income Students*, 121 NEW DIRECTIONS FOR HIGHER EDUC., Spring 2003, at 25, 27 (discussing risk factors associated with the preparation levels of low-income high school students).

88. *See* ADVISORY COMM. ON STUDENT FIN. ASSISTANCE, COMM. ON HEALTH, EDUC., LABOR, & PENSIONS, EMPTY PROMISES: THE MYTH OF COLLEGE ACCESS IN AMERICA 9 (2002) (finding that shortfalls in financial aid are a barrier to college enrollment for low-income students).

89. *See id.* at 21 (discussing impact of unmet financial need on college enrollment).

graduates from families with incomes below $50,000 will not have enrolled in a four or two-year college.[90] In 2004, average student debt for college graduates was $19,200.[91] Because tuitions have exceeded family income and federal student loan limits, college education may be prohibitively expensive for low income college candidates.[92] Thus, a major socio-economic intervention featured in a coordinated benefit package is a program enabling young adults to earn a GED, making them eligible to then earn an associate or bachelor's degree. High school graduates would receive financial aid, covering up to 80 percent of tuition for college-level and vocational education courses at a local community college.

B. Promoting Job Quality

Political scientist Jacob Hacker noted that the median drop in income increased from about 25 percent in the 1970s to 40 percent in the 1990s.[93] Hacker contends that greater income volatility and personal bankruptcy rates show that families face greater risks in today's turbulent economy.[94] Job retention programs would provide an important benefit to assist young adults to meet the challenges of rapidly changing workplaces. Additionally, young adults could enroll in job training and placement programs at the beginning of their careers or after job loss, rather than facing long-term unemployment. Acquiring job skills may enhance the employability of low income young adults, and allow them to move to safer, better-compensated, or less stressful jobs.[95]

Between 1974 and 2004, the percentage of young workers in "bad jobs" grew from 34.7 percent to 40.8 percent, the largest increase among any age group.[96] This finding was based on defining a "bad job" as a job that pays less than $16 per hour and offers no health insurance or pension plan.[97] Young adults between the ages of nineteen and twenty-nine represent the largest and fastest growing segment of the population without health insurance, and are uninsured at almost twice the rate of

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90. *Id.* at 28 fig.16.

91. PROJECT ON STUDENT DEBT, QUICK FACTS ABOUT STUDENT DEBT 1 (2007), *available at* http://projectonstudentdebt.org/files/File/Debt_Facts_and_Sources.pdf.

92. Goldie Blumenstyk, *The $375-Billion Question: Why Does College Cost So Much?*, CHRON. HIGHER EDUC. (Wash., D.C.), Oct. 3, 2008, at 6.

93. JACOB S. HACKER, BROOKINGS INST., UNIVERSAL INSURANCE: ENHANCING ECONOMIC SECURITY TO PROMOTE OPPORTUNITY 5–6 (2006), *available at* http://www.brookings.edu/~/media/Files/rc/papers/2006/09useconomics_hacker/200609hacker.pdf.

94. *Id.*

95. *See id.* at 7–8 (postulating that greater economic security for parents will encourage investment in children's education); Edward E. Potter, *Improving Skills and Employability in the 21st Century*, 55 INDUS. & LAB. REL. REV. 739, 741 (2002) (noting the consistent growth of high-paying jobs requiring skilled workers).

96. DRAUT, *supra* note 60, at 10, 10 tbl.4A.

97. *Id.* at 10.

adults ages thirty to sixty-four.[98] Over half (54 percent) of young adults ages nineteen to twenty-nine below the federal poverty level are uninsured and 42 percent of those between 100 percent and 200 percent of the poverty level are uninsured.[99] A generation ago, young workers were much more likely to have health insurance from their employer.[100] Sixty-three percent of recent high school graduates in 1979 had employer-provided health insurance, compared to 33.7 percent in 2004.[101] During the same period, the percentage of college graduates with employer-provided health insurance dropped from 77.7 percent to 63.5 percent.[102] For low and middle income Americans between the ages of eighteen and thirty-four, average credit card debt is 79 percent higher ($13,303 versus $7,450) for those who reported a major medical expense in the previous three years and those who reported medical expenses as a contributor to their current level of credit card debt.[103] Thus, young adults who do not receive employer-based health insurance require it not only to access medical care during sickness, but also to escape insolvency or high loads of debt.[104]

While we have argued that health insurance alone is insufficient, it should be included among the broader array of necessary benefits. Besides comprehensive health insurance that includes prescription, dental, and mental health coverage, a comprehensive package for young adults would include a healthy behavior program. Enrollment in preventive health initiatives such as a weight loss,[105] cardiac health,[106] blood pressure control,[107] smoking cessation,[108] and exercise programs[109] would be rewarded with financial or in-kind incentives such as

98. SARA R. COLLINS ET AL., COMMONWEALTH FUND, RITE OF PASSAGE? WHY YOUNG ADULTS BECOME UNINSURED AND HOW NEW POLICIES CAN HELP 2, 12 tbl.2 (2006), *available at* http://www.commonwealthfund.org/usr_doc/Collins_riteofpassage2006_649_ib.pdf?section=4039.

99. *Id.* at 4.

100. DRAUT, *supra* note 60, at 11.

101. *Id.*

102. *Id.*

103. CINDY ZELDIN & MARK RUKAVINA, DÊMOS, BORROWING TO STAY HEALTHY: HOW CREDIT CARD DEBT IS RELATED TO MEDICAL EXPENSES 6, 6 tbl.3 (2007), *available at* http://www.accessproject.org/adobe/borrowing_to_stay_healthy.pdf.

104. *Id.* at 2–3, 8.

105. *See* Lauren P. Svetkey et al., *Comparison of Strategies for Sustaining Weight Loss: The Weight Loss Maintenance Randomized Controlled Trial*, 299 JAMA 1139, 1139–40 (2008) (explaining that weight control reduces risk of cardiovascular disease).

106. *See* Frank B. Hu & Walter C. Willett, *Optimal Diets for Prevention of Coronary Heart Disease*, 288 JAMA 2569, 2573–74 (2002) (explaining that a healthy diet and lifestyle helps to reduce the risk of Coronary Heart Disease).

107. *See* Paul K. Whelton et al., *Primary Prevention of Hypertension: Clinical and Public Health Advisory from the National High Blood Pressure Education Program*, 288 JAMA 1882, 1882, 1884 (2002) (explaining that control of high blood pressure reduces risk of cardiovascular disease).

108. *See* Sharon Parmet, *Smoking and the Heart*, 290 JAMA 146, 146 (2003).

109. *See* Michael Pratt, *Benefits of Lifestyle Activity vs. Structured Exercise*, 281 JAMA 375, 375 (1999).

discounts on groceries. Reducing the economic burden of disease is dependent on combating preventable behaviors among young adults; especially tobacco use, poor diet and physical inactivity contribute to half of the deaths in the USA.[110] A Milken Institute report estimated that the avoidable costs of treating major chronic diseases (such as cancer, diabetes, hypertension, stroke, heart disease, pulmonary conditions, and mental disorders) in the U.S. will be $1.6 trillion from 2004 to 2023.[111] Expenditure on chronic disease reduces the feasibility of investing in education and physical capital, and may even inhibit average annual economic growth by 0.3 percent between 2005 and 2050.[112] This foregone growth is substantial, given that real GDP growth has averaged 3.0 percent annually over the past twenty years.[113] Chronically ill workers on sick leave strain labor supply and lower the GDP.[114] "Presenteeism"—lower productivity among ill workers—results in losses several times greater than the losses sustained during worker absenteeism.[115]

C. Assisting Young Parents

"Most parents with children under the age of six are in their late 20s or early 30s."[116] For young families already burdened by college debt or high mortgage and rent payments, reduced income right after childbirth and additional childcare expenses may be a source of stress and financial instability.[117] Although the federally funded Child Care and Development Fund (CCDF) was created to subsidize the cost of child care for low income parents,[118] it covered only one out of seven children in families eligible for the child care subsidy in 2003.[119] The cost of child care outpaces inflation; the average monthly child care fees for two children exceed the median rent in nearly every state.[120] On average, families with an employed mother and a child under age five spend 9 percent of the family's

110. Ali H. Mokdad et al., *Actual Causes of Death in the United States, 2000*, 291 JAMA 1238, 1242–43 (2004).

111. ROSS DEVOL & ARMEN BEDROUSSIAN, MILKEN INST., AN UNHEALTHY AMERICA: THE ECONOMIC BURDEN OF CHRONIC DISEASE: CHARTING A NEW COURSE TO SAVE LIVES AND INCREASE PRODUCTIVITY AND ECONOMIC GROWTH 19, 92 tbl. (2007), *available at* http://www.milkeninstitute.org/pdf/ES_ResearchFindings.pdf.

112. *Id.* at 30, 30 fig.18.

113. *See id.* at 30.

114. *See id.* at 127, 130.

115. *Id.* at 127.

116. DĒMOS, *supra* note 19, at 1.

117. *See id.* at 2–3.

118. 42 U.S.C. § 9801 (2006); *see also* DĒMOS, *supra* note 19, at 3 (discussing a block grant awarded to CCDF under the Community Economic Development Act of 1981, 42 U.S.C. § 9801–9877 (2006)).

119. DĒMOS, *supra* note 19, at 3.

120. DRAUT, *supra* note 60, at 32.

monthly income on child care. However, families living in poverty spend 26 percent of their income on child care.[121] Single parents are still more burdened by the cost of care for a pre-school age child, spending anywhere from 20 to 49 percent of the state median income on child care.[122] In 2003, the average two-parent family with two children under age five spent 11 percent of their budget on child care, as compared to 1 percent in 1960.[123]

Providing well-designed child care and education programs may not only improve labor market participation for parents of enrolled children, but may also generate returns to society.[124] A RAND Corporation Research Brief found that returns to society from well-designed early childhood interventions could range from $1.80 to $17.07 per dollar spent.[125] The CDC's Task Force on Community Preventive Services "strongly recommends publicly funded, center-based, comprehensive early childhood development programs for [low income] children aged three to five years."[126] Childcare and education-related interventions might feature pre-kindergarten education, after-school programs in low-performing schools, as well as day-care for low income children during summer vacations.

Early childhood pre-kindergarten education mitigates the risks faced by low income children and engenders improved outcomes in academic achievement, behavior, educational progression and attainment, delinquency and crime, and labor market success.[127] High-quality pre-school care obviates the need for expensive and often ineffective remediation and rehabilitation through special education, adult education, unemployment assistance, welfare payments, and incarceration.[128] The magnitude of these savings could be enormous. Childhood poverty costs the U.S. about $500 billion per year, or the equivalent of nearly 4 percent of GDP.[129] The

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121. *Id.* at 35.

122. *Id.* at 37.

123. DÊMOS, *supra* note 19, at 2, 2 fig.1.

124. *See* HEALTH, EDUC. & HUM. SERVS. DIV., *supra* note 77 at 4–5, 7, 8 fig.1 (finding that affordable child care is a "decisive factor" in encouraging poor and near-poor mothers to seek and keep jobs, thus making child care subsidies an important element in efforts to move low-income mothers from welfare to work).

125. LYNN A. KAROLY ET AL., RAND CORP., EARLY CHILDHOOD INTERVENTIONS: PROVEN RESULTS, FUTURE PROMISE 109 tbl.4.4, 112, 132–33 (2005), *available at* http://www.rand.org/pubs/monographs/2005/RAND_MG341.pdf.

126. Laurie M. Anderson et al., *Community Interventions to Promote Healthy Social Environments: Early Childhood Development and Family Housing: A Report on Recommendations of the Task Force on Community Preventive Services*, MORBIDITY & MORTALITY WKLY. REP., Feb. 1, 2002, at 6.

127. *See* ALAN SINCLAIR, THE WORK FOUND., 0-5: HOW SMALL CHILDREN MAKE A BIG DIFFERENCE 26–28 (2007), *available at* http://www.theworkfoundation.com/assets/docs/publications/26_0-5%20how%20small%20children%20make%20a%20big%20difference.pdf.

128. HARRY J. HOLZER ET AL., CTR. FOR AM. PROGRESS, THE ECONOMIC COSTS OF POVERTY IN THE UNITED STATES: SUBSEQUENT EFFECTS OF CHILDREN GROWING UP POOR 3–4, 18 (2007), *available at* http://www.americanprogress.org/issues/2007/01/pdf/poverty_report.pdf.

129. *Id.* at 17.

amount of foregone earnings is about 1.3 percent of GDP; poverty raises the costs of fighting crime by 1.3 percent of GDP, and of health expenditures by 1.2 percent of GDP.[130] Moreover, a statistical model developed by Nobel prize-winning economist James Heckman[131] suggests that continuing systematic interventions throughout childhood and adolescence could maintain early gains and build on them.[132]

Interventions aimed at improving health through better nutrition among low income families are also among the advantageous programs to incorporate into a package. These incentives include food stamps, reduced-price school meals, and incentives for locating grocery stores in underserved areas. Food stamps, the Special Supplemental Food Program for Women, Infants, and Children (WIC), and school nutrition programs are known to provide food assistance to low income children.[133] The WIC program has improved the nutrition of program participants and helped reduce the prevalence of iron deficiency in participating infants and children.[134] School nutrition programs provide free or low-cost meals to most school-age children, improving the dietary content of their breakfasts and lunches.[135] Poor availability of healthy foods, fewer supermarkets, and a higher density of unhealthy food outlets are observed in low income neighborhoods.[136] Increasing the number of retail food outlets in poor areas and closing the "grocery gap" may provide opportunities for families to adopt a healthy diet.[137]

D. Affordable Housing and Community Development

In 2002, young adults' median rent payment constituted 22 percent of pre-tax income, compared to 17 percent in 1970.[138] In 2000, 32 percent of young adults ages twenty-five to thirty-four spent more than 30 percent of pre-tax income on rent (a standard measure of affordability), up from 18.1 percent in 1970.[139] The

130. *Id.*

131. Nobelprize.org, The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2000, http://nobelprize.org/nobel_prizes/economics/laureates/2000/ (Sept. 22, 2009).

132. *See* Flavio Cunha & James Heckman, *The Technology of Skill Formation*, 97 AM. ECON. REV. 31, 31, 35, 43–44 (2007).

133. 7 U.S.C. § 2011 (2006); 42 U.S.C. § 1786 (2006); *see also* Barbara L. Devaney et al., *Programs that Mitigate the Effects of Poverty on Children*, FUTURE OF CHILD., Summer–Fall 1997, at 88, 89, 92, 94, 96.

134. Devaney et al., *supra* note 133, at 107.

135. *Id.*

136. Latetia V. Moore & Ana V. Diez Roux, *Associations of Neighborhood Characteristics with the Location and Type of Food Stores*, 96 AM. J. PUB. HEALTH 325, 325, 329 (2006).

137. *See id.* at 329–30 (finding that in the U.S., the presence of a large supermarket "may be an adequate marker for the availability of affordable healthy foods").

138. DÉMOS, THE HIGH COST OF PUTTING A ROOF OVER YOUR HEAD: YOUNG ADULTS FACE UNAFFORDABLE RENTAL AND HOUSING MARKETS IN MAJOR CITIES ACROSS THE U.S. 2 (2006), *available at* http://www.demos.org/pubs/yaes_web_housing.pdf.

139. *Id.* at 2–3.

percentage of young adults ages twenty-five to thirty-four spending more than 30 percent of their income on their mortgage each month rose from 10.5 percent in 1980 to 14.5 percent in 2000.[140] Given rising housing costs and declining real incomes, vouchers that assist young, low income adults with house rental and purchase are included among the interventions we suggest. These programs are valuable not only because the rental and purchase markets are unaffordable for young adults,[141] but also because housing and neighborhood quality are intimately connected to well-being.[142] A study of over fifteen hundred children found that witnessing gun violence more than doubled the likelihood that a youth perpetrated serious violence over the following two years.[143]

Rental vouchers allow families to seek safer neighborhoods and reduce their exposure to violence.[144] Therefore, CDC's Task Force on Community Preventive Services recommends housing subsidy programs for low income families.[145] Housing mobility programs that assist low income families in relocating to better neighborhoods include initiatives such as the Gautreaux program in Chicago, the Moving to Opportunity (MTO) policy demonstrations in five U.S. metropolitan areas, and regional housing mobility programs in Baltimore, Dallas, and Westchester County, New York.[146] Despite limited research, evidence from MTO shows mental health benefits associated with moving to more affluent neighborhoods.[147]

Beyond securing affordable housing, a package should also include community development programs that offset risks endemic to poor neighborhoods. Because poor individuals are relatively clustered within specific urban neighborhoods or economically depressed rural communities,[148] economies of scale can be realized by providing community level benefits.[149] Additionally,

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140. *Id.* at 5.

141. *Id.* at 2.

142. Anderson et al., *supra* note 126, at 1, 2.

143. Jeffrey B. Bingenheimer et al., *Firearm Violence Exposure and Serious Violent Behavior*, 308 SCIENCE 1323, 1324, 1326 (2005).

144. Anderson et al., *supra* note 126, at 6.

145. *Id.*

146. Dolores Acevedo-Garcia et al., *Toward a Policy-Relevant Analysis of Geographic and Racial/Ethnic Disparities in Child Health*, 27 HEALTH AFF. 321, 329 (2008).

147. *See* Dolores Acevedo-Garcia et al., *Does Housing Mobility Policy Improve Health?*, 15 HOUSING POL'Y DEBATE 49, 77, 80 (2004) (citing the deficiencies of the MTO studies); LARRY ORR ET AL., U.S DEP'T OF HOUS. & URBAN DEV., MOVING TO OPPORTUNITY INTERIM IMPACTS EVALUATION: FINAL REPORT 78 (2003).

148. Bruce A. Weber, *Rural Poverty: Why Should States Care and What Can State Policy Do?*, 37 J. REGIONAL ANALYSIS & POL'Y 48, 48 & n.1 (2007).

149. *See id.* at 50 (explaining that programs to reduce poverty, particularly in rural areas, may include initiatives that encourage economic development).

people are better at adapting to change in supportive environments.[150] Research on individual behavioral change has shown that "[c]ognitive-behavioral interventions that focus primarily on the individual rather than the social environment may have limited long-term effectiveness, especially if peer norms," role models, and reinforcement do not simultaneously support personal behavior change efforts.[151] The most effective interventions change individual behavior and also enable communities and social networks of at-risk persons to provide environmental and normative support for sustained change.[152] Therefore, a program might offer group counseling for substance abuse, anger management, gambling, anxiety, and stress reduction. At-risk youth could also enroll in mentoring programs to keep them in school and steer them away from risky behaviors like drug and alcohol abuse, unsafe sexual practices, and crime.

Another behavioral factor implicated in poor health is physical inactivity.[153] The majority of U.S. adults do not engage in physical activities consistent with the recommendation of a minimum of thirty minutes of moderate intensity activity on five or more days of the week[154] Both the Surgeon General and *Healthy People 2010* report that low income individuals are at greater risk of being inactive.[155] Low income residents are more likely to report unsafe neighborhoods, absence of sidewalks, and expensive recreational facilities as barriers to physical activity.[156] An ecological model of physical activity implies that environmental factors (such as neighborhood safety or the presence of sidewalks or sports fields) influence the amount and type of physical activity people choose to undertake.[157] A recent study

150. *See* Kathleen J. Sikkema et al., *Outcomes of a Randomized, Controlled Community Level HIV Prevention Intervention for Adolescents in Low-Income Housing Developments*, 19 AIDS 1509, 1510 (2005) (finding that in the context of an HIV prevention study "[i]nterventions designed not only to change the behavior of individuals, but also the social networks and communities that reinforce the risk avoidance efforts of population members, are more likely to be effective").

151. *Id.*

152. *See id.*

153. DIV. OF ADOLESCENT & SCH. HEALTH, CTRS. FOR DISEASE CONTROL & PREVENTION, PHYSICAL ACTIVITY AND THE HEALTH OF YOUNG PEOPLE (2006), *available at* http://www.cdc.gov/HealthyYouth/physicalactivity/pdf/facts.pdf.

154. C.A. Macera et al., CTRS. FOR DISEASE CONTROL & PREVENTION, *Prevalence of Physical Activity, Including Lifestyle Activities Among Adults - United States, 2000—2001*, at 52 MORBIDITY & MORTALITY WKLY. REP. 764, 767, 767 tbl.2 (2003), *available at* http://www.cdc.gov/mmwr/PDF/wk/mm5232.pdf.

155. DEP'T OF HEALTH & HUMAN SERVS., HEALTHY PEOPLE 2010: UNDERSTANDING AND IMPROVING HEALTH 27 (2000), *available at* http://www.healthypeople.gov/Document/pdf/uih/2010uih.pdf; SURGEON GENERAL, U.S. DEP'T OF HEALTH & HUMAN SERVS., PHYSICAL ACTIVITY AND HEALTH 3 (1996), *available at* http://www.cdc.gov/NCCDPHP/SGR/pdf/sgraag.pdf; *see also* Lisa M. Powell et al., *The Relationship Between Community Physical Activity Settings and Race, Ethnicity and Socioeconomic Status*, 1 EVIDENCE-BASED PREVENTIVE MED. 135, 136 (2004).

156. Powell et al., *supra* note 155, at 137.

157. *See id.*

indicated that high poverty communities in the U.S. have significantly fewer sports areas, parks, green spaces, and bike paths as compared to communities with higher median income.[158] Relocating from a high poverty area (10 percent poverty rate) to a low poverty area (1 percent rate) is associated with a 50 percent increase in the availability of physical activity opportunities.[159] To improve access to physical activity settings for adults residing in low income areas, the package of socio-economic interventions would provide improvements in the built environment. Such measures include creating or upgrading parks, bike trails, and recreational areas, and facilitating pedestrian use of existing infrastructure because amenities allow adults and children to exercise within their community. Moreover, the program might provide young adults with vouchers that cover the monthly cost of traveling to work on public transportation. Commuting on public transportation increases the likelihood of walking and biking to transit stations, increasing physical activity.[160] Reducing private means of transportation eases traffic congestion and vehicular emissions; reducing traffic-related stress and exposure to air pollution for individuals.[161] Moreover, the vouchers provide a small financial incentive to working adults.[162]

VI. ESTIMATING THE COSTS OF A COMBINED PACKAGE OF INTERVENTIONS FOR YOUNG ADULTS

Because cost is such an important part of any policy debate,[163] we consider the cost of offering this combination of interventions to low income young adults. We provide an actuarial estimate for the population of young adults ages eighteen to thirty with incomes under 200 percent of the poverty threshold residing in Washington, D.C.[164] The combined cost of offering the interventions suggested

158. *Id.* at 142.

159. *Id.* at 143.

160. AM. PUB. TRANSP. ASSOC., *supra* note 38, at 7.

161. *See id.* at 6–7.

162. *See infra* p. 41 tbl.1.

163. *See* Michael Foster, *Don't Sacrifice the Tort System on the Altar of Health Care Reform*, 68 FLA. B. J. 22, 22 (1994) (stating that cost containment, justice, and access are important parameters in health policy debate).

164. *See* Letter from Arther L. Baldwin, Milliman Inc., to Marion Danis (July 18, 2008) (on file with University of Maryland Journal of Health Care Law & Policy). The actuarial analysis presented here was prepared by Arthur Baldwin III, FSA, MAAA and Ben Diederich, FSA, MAAA of Milliman, Inc. They were assisted by Amy Tiedemann, Ph.D. of the Institute for Health, Health Care Policy and Aging Research at Rutgers, the State University of New Jersey, Health Policy, Health Reform, and Performance Improvement, http://www.commonwealthfund.org/bios/bios_show.htm?doc_id=259062 (last visited Sept. 22, 2009), and by Yvonne Chueh, Ph.D. of Central Washington University, who reviewed available literature to identify existing benefits that were similar to the desired interventions described here. The material presented here represents the summary of the report prepared for the National Institute of Health entitled *Cost Analysis Report for Intervention Programs to Address Socio-Economic Determinants of Health.* Arthur L. Baldwin III & Ben Diederich, Cost Analysis Report for

here is estimated to be $1,034 per participant per month.[165] This total cost includes the cost of traditional medical interventions such as health insurance, dental care, and counseling ($231) and the socio-economic interventions ($803).[166]

Estimates of per capita costs were developed by selecting existing program benefits that are closest to the interventions listed in Table 1.[167] In some cases we combined benefits or selected an average cost of two benefits.[168] Table 2 shows the costs of researched programs and those interventions we have selected for inclusion here. We then trended costs from the date of the benefit to 2007. Finally, we made adjustments to reflect design differences between the scope of existing benefits derived from research, and the scope of the interventions included and described here. The remainder of this section describes considerations for each included intervention.

The targeted program cost per capita were converted to a per member per month (PMPM) cost for each intervention by multiplying the percentage of eligible households, the estimated number of members per household, and the percentage rate of utilization for the program.

Table 3 shows the demographic assumptions for each intervention. The PMPM intervention costs, shown in Table 1, were calculated from the product of assumptions shown in Tables 2 and 3. The target intervention per capita from Table 2 multiplied by the Table 3 factors and divided by 12 equals the PMPM from Table 1.

Assumed distribution of households under 200 percent FPL, under 100 percent FPL and between 100 percent and 200 percent FPL respectively are provided by Milliman in the full report. These distributions form the basis for some of the estimates in Table 3. The percentage of households with children, the average adults, children, or members per household, and the percentage of households under 100 percent FPL are all assumptions based on these distributions.

The distributions are based on the U.S. Census Bureau's Current Population Survey (CPS). The CPS can be restricted by a given percentage FPL, which also provides an estimate of the average household size and average number of children per household in that income range. In reviewing the CPS output, several high income households were reported under the 200 percent FPL. These households as well as those households with unrelated adults were removed from the raw CPS

Intervention Programs to Address Socio-Economic Determinants of Health (Oct. 9, 2007) (unpublished report on file with University of Maryland Journal of Health Care Law & Policy).

165. *See infra* tbl.1.

166. *Id.*

167. *See infra* notes 199–214 and accompanying text.

168. Baldwin & Diederich, *supra* note 164, at 9. The following materials are drawn directly from the report by Baldwin & Diederich, *supra* note 164. Until the end of the section, footnotes will denote a new page.

data to develop the assumed distributions. All of the 2005 household income levels were then inflated to 2007 figures.

The Milliman report also includes a 2007 living wage estimate from a Pennsylvania State University web site.[169] The relative gap between the 2007 average living wage and the 2007 average household income was initially used for a reasonability benchmark for the total household cost of all interventions.[170]

VII. LIKELY CHALLENGES AND FEASIBILITY

Undoubtedly, the implementation of such a package of socio-economic interventions is resource intensive and requires massive inter-sectoral coordination.[171] Such a program would need to be tested before it could be offered at a statewide level. A plausible financing option for local and state governments is to combine various federal block grants to pay for this package of interventions. "Block grants are fixed-sum federal grants to state and local governments."[172] These grants are to used for specific purposes (e.g. facilitating community development, mental health services), but states and local governments have broad flexibility in designing and implementing programs as long as they accomplish these objectives.[173] Examples of block grants include the Community Development Block Grant (CDBG),[174] Temporary Assistance for Needy Families Block Grant (TANFBG),[175] Community Services Block Grant (CSBG),[176] the Social Services Block Grant (SSBG),[177] Preventive Health and Health Services Block Grant (PHHSBG),[178] Community Mental Health Services Block Grant (CMHSBG),[179] Substance Abuse, Prevention and Treatment Block Grant (SAPTBG),[180] Maternal and Child Health Block Grant (MCHBG),[181] Child Care and Development Block Grant (CCDBG),[182] HOME (Affordable Housing Block Grant),[183] Energy and

169. *Id.* at 12; *see id.* at 15–17.

170. *Id.* at 12.

171. PUB. HEALTH AGENCY OF CAN., CROSSING SECTORS—EXPERIENCES IN INTERSECTORAL ACTION, PUBLIC POLICY AND HEALTH 4, 30–32 (2007), *available at* http://www.phac-aspc.gc.ca/publicat/2007/cro-sec/pdf/cro-sec_e.pdf.

172. KENNETH FINEGOLD ET AL., URBAN INST., BLOCK GRANTS: HISTORICAL OVERVIEW AND LESSONS LEARNED 1 (2004), *available at* http://www.urban.org/UploadedPDF/310991_A-63.pdf.

173. *See* U.S. GEN. ACCT. OFF., BLOCK GRANTS: CHARACTERISTICS, EXPERIENCES, AND LESSONS LEARNED 27–28 (1995), *available at* http://www.gao.gov/archive/1995/he95074.pdf.

174. 42 U.S.C. §§ 5301–5321 (2006).

175. *Id.* §§ 601–619.

176. *Id.* §§ 9901–9926.

177. *Id.* §§ 1397–1397f.

178. *Id.* §§ 300w–300w-10.

179. *Id.* §§ 300x–300x-9.

180. *Id.* §§ 300x-21–300x-35.

181. *Id.* §§ 701–731.

182. *Id.* §§ 9858–9858q.

Environmental Block Grant (EEBG),[184] and Low Income Home Energy Assistance Block Grant (LIHEABG).[185]

While some might argue that the provision of socio-economic interventions for low income young adults would reduce incentives to work, the proposed policy package is meant to function as a set of "work supports" for low wage young adults and their families. A well-designed set of eligibility criteria should reward work, while ensuring that full-time workers and their families have a minimally adequate standard of living.[186] Interventions should be phased out gradually rather than cutting them off completely as earnings rise. The intervention will initially increase with higher earnings, reach a plateau (where benefit is not reduced as earnings increase), and then phase out gradually. When the individual ultimately loses access to the intervention, the benefit loss is small. Coordinating eligibility criteria and phase-outs across interventions is also important to ensure that individuals receiving multiple interventions do not lose them all at the same times because of small increases in earnings. Tax incentives can also be used to reward working young adults, just as the Earned Income Tax Credit (EITC) rewards working parents or caregivers currently.[187]

CONCLUSION

In the U.S., redistributive policies are controversial.[188] Health researchers are wary of making socio-economic policy prescriptions, limiting their suggestions to improvements in medical care and delivery.[189] However, improving the health status of young Americans can be tackled without a radical disruption of entrenched political values.[190] A long series of steps link social circumstances to health status and it is possible to deploy politically conciliatory and cost-effective interventions at critical intermediate steps.[191] For instance, successful socio-

183. *Id.* §§ 12721–12840.

184. Energy and Environmental Block Grant Act of 2007, H.R. 2447, 110th Cong. (2007).

185. 42 U.S.C. §§ 8621–8629.

186. *See, e.g.*, ISABEL SAWHILL & RON HASKINS, BROOKINGS INST., WELFARE REFORM AND THE WORK SUPPORT SYSTEM 2–3 (2002), *available at* http://www.brookings.edu/es/wrb/publications/pb/pb17.pdf.

187. 26 U.S.C. § 32 (2006); *see* ANNIE E. CASEY FOUND., EARNED INCOME TAX CREDIT: LESSONS LEARNED 5 (2007), *available at* http://www.aecf.org/~/media/Pubs/Initiatives/Family%20Economic%20Success/E/EarnedIncomeTaxCreditsLessonsLearned/FES3622H5022%20pdf.pdf.

188. SUSAN J. BUCK, UNDERSTANDING ENVIRONMENTAL ADMINISTRATION AND THE LAW 44 (3d ed. 2006).

189. *See* Syme et al., *supra* note 50, at 115 (stating that U.S. public health experts prefer the "specific yet limited steps of expanding access and improving behavior that are within their own purview").

190. *See id.* at 114.

191. Acevedo-Garcia et al., *supra* note 146, at 322.

economic interventions such as early childhood intervention programs have a return of four to five times of the initial investment.[192]

The current generation of young adults in the United States faces financial hardships[193] that make this moment an opportune one for considering policies to address the socio-economic determinants of health. If health policy is to improve overall health for young adults, it must confront the powerful socio-economic determinants of health.[194] Moreover, sound health policy should strengthen valuable national investments such as infrastructure and education, rather than precipitate divestment in these critical areas. Current estimates, however, "suggest . . . that each new dollar in state Medicaid spending crowds out higher education appropriations by about six to seven cents."[195] In fact, "the expansion in state spending on Medicaid between 1988 to 1998 can explain approximately 80 percent of the decline in state spending on higher education over the same time period."[196] Meanwhile, Medicare expenses constituted about 1.2 percent of GDP in 2007, but are expected to equal 2.8 percent of the GDP by 2030.[197] A policy proposal that offers wide-ranging socio-economic interventions is likely to promote investment in human capital broadly, and also yield gains in health status. The aim of socio-economic interventions is not only to foster a relatively healthier generation of retirees with manageable health expenses, but to enable a productive generation of young adults to pursue personal and national development, and exhibit responsible parenting.

TABLE 1: DESCRIPTION OF SOCIO-ECONOMIC INTERVENTIONS AND ASSOCIATED ACTUARIAL ESTIMATES OF COSTS[198]

EDUCATION	
Adult Education[199] includes financial assistance to complete secondary-level education (GED) and up to 80% tuition	**$103**

192. SINCLAIR, *supra* note 127, at 5.

193. TAMARA DRAUT & JAVIER SILVA, DÊMOS, GENERATION BROKE: THE GROWTH OF DEBT AMONG YOUNG AMERICANS 2 (2004), *available at* http://archive.demos.org/pubs/Generation_Broke.pdf.

194. *See supra* Part II.

195. THOMAS J. KANE & PETER R. ORSZAG, BROOKINGS INST., HIGHER EDUCATION SPENDING: THE ROLE OF MEDICAID AND THE BUSINESS CYCLE 3 (2003), *available* at http://www.brookings.edu/~/media/Files/rc/papers/2003/09useconomics_kane/pb124.pdf.

196. *Id.*

197. *Id.* at 5.

198. The information in this table and the accompanying notes is found in Baldwin & Diederich, *supra* note 164.

reimbursement for college-level advanced degree courses or professional certification courses at a local community college. Continuing financial assistance will be subject to successful completion of previous courses.	
Childhood Education[200] covers children from preschool age through grade 9. It covers enrollment in a school-readiness program or in kindergarten for younger children. For older children attending low-performing schools the intervention includes academic enrichment programs, such as after-school arts education.	**$59**
Language and Literacy Training[201] provides language education to adults and children for whom English is a second language as well as adults with no formal education or low levels of literacy.	**$145**
EMPLOYMENT	
Job Training Programs[202] provides vocational training and professional development in-service or in the absence of a job. The programs will help people add to or strengthen the specialized knowledge and skills which enhance performance,	**$56**

199. Benefits similar to that described in Adult Education include Pell Grants, 42 U.S.C. §§ 1070–1070f-6 (2006), and an estimate for the reimbursement of community college tuition (which we assumed to be $1,250). Each of these benefits is needs-based currently, requiring some portion of the adult education cost to be paid by the enrollee. The Pell Grant per capita cost estimate was averaged with an estimated community college tuition benefit. Description of tax credits and Pell Grants are available from the American Council on Education. *See* Am. Council on Educ., Improving Lives: Federal Programs for Low-Income Adults, http://www.acenet.edu/AM/Template.cfm?Section=Improving_Lives2&Template=/CM/ContentDisplay.cfm&ContentID=11227 (last visited Sept. 22, 2009).

200. Childhood Education focused on the most costly education benefits, the federal Head Start program, 42 U.S.C. §§ 9831–9852a (2006). This benefit cost was added to half the cost for benefits from the Adult Education and Family Literacy Act, Pub. L. No. 105-220, 112 Stat. 1059 (1998). Figures were derived from the Administration of Children and Families, Dep't of Health and Human Services. *See* U.S. Dep't Health & Hum. Servs., Federal and State Funding for Early Care and Education, http://www.nccic.org/poptopics/ecarefunding.html (last visited Sept. 22, 2009).

201. Language and Literacy Training started with the other half of cost from the Adult Education and Family Literacy Act benefits and included the cost of the Even Start Family Literacy benefits, 20 U.S.C. §§ 6311–6438 (2006). Detailed descriptions are available online. U.S. Dep't Educ., Adult Education and Family Literacy Act: Program Facts, http://www.ed.gov/about/offices/list/ovae/pi/AdultEd/aeflaprogfacts.doc (last visited Sept. 22, 2009).

202. Job Training Programs are similar to the Workforce Investment Act benefits. Adult Education and Family Literacy Act, Pub. L. No. 105-220, 112 Stat. 936 (1998); *see also* Carl D. Perkins Act Implementation, ACTE Online, http://www.acteonline.org/perkins.aspx (last visited Sept. 22, 2009).

job retention, and advancement. This may help people gain knowledge which allows them to move to another similar job or to a managerial position.	
Job Placement Programs[203] focus on preparing adults for employment, helping them find a job, stay employed, and advance with their current set of skills.	**$95**
Day Care for Working Parents[204] provides free or subsidized day-care (up to age 7) to a maximum of $450 a month and after-school programs (up to age 16). Day care and summer enrichment programs are considered in this benefit during the summer.	**$62**
HEALTH CARE	
Health Care is a health coverage plan similar to a Medicaid or DC Healthcare Alliance program.[205]	**$208**
Dental Care[206] is an individual or group insurance plan which helps pay the costs of routine dental care. Routine dental care includes periodic cleanings, oral evaluations, and diagnostic x-rays. There is no coverage for restoration or extraction of affected teeth.	**$12**

203. Job Placement Programs are similar to the benefits from Welfare-to-Work grants. 42 U.S.C. §§ 603–603a (2006); *see also* IRMA PEREZ-JOHNSON ET AL., MATHEMATICA POLICY RESEARCH, INC., UNDERSTANDING THE COSTS OF THE DOL WELFARE-TO-WORK GRANTS PROGRAM (2002), *available at* http://aspe.hhs.gov/HSP/wtw-grants-eval98/costs02/report.pdf.

204. Day Care for Working Parents is closest to the benefits provided by the Child Care Development Fund, 42 U.S.C. §§ 9858–9859f (2006).

205. The Washington, D.C. Medicaid program was unable to share their direct experience in providing basic Health Care services to low income individuals in Washington, D.C. Milliman serves as the state actuary for several western Medicaid Programs. A survey of the 2007 capitation rates in these states was performed and area adjusted using the Milliman Health Cost Guidelines to an estimated PMPM cost in Washington, D.C. for Medicaid benefits.

206. The second health care intervention is the coverage of basic Dental Care similar to benefits provided through the DC Healthcare Alliance. The DC Healthcare Alliance is a preventive and diagnostic benefit. For further information on the DC Healthcare Alliance, see PROVIDER RELATIONS DEP'T, DC HEALTHCARE ALLIANCE, PROVIDER MANUAL (2002). The cost was estimated by Milliman from a survey of western state Medicaid programs.

Counseling Programs[207] include group counseling for substance abuse, anger management, gambling, anxiety and stress reduction. At-risk youth will also be eligible for mentoring programs to keep them in school and steer them away from risky behaviors like drug and alcohol abuse, unsafe sexual practices, and criminal activities.	**$12**
HEALTHY BEHAVIOR	
Directed Preventative Coverage[208] allows enrollees to participate in health promotion programs (such as weight control, hypertension management, smoking cessation). The expected savings in the future medical expenses of these may be provided as small income subsidies.	**$13**
HOUSING	
Vouchers for Rent and Mortgage Payments[209] will provide financial assistance toward the purchase of housing, renovation, and or repair of current housing.	**$80**

207. This intervention is closest to the benefits of cognitive behavioral therapy delivered in a group setting. Initially, this intervention was to incorporate a much broader spectrum of benefits. The lack of comparable community center programs forced the generalization of this benefit from specific interventions to reduce violence, domestic abuse, substance abuse, and mental health.

208. The Healthy Behavior intervention is based on a program of Directed Preventative Coverage for Medicaid enrollees. 42 U.S.C. §§ 1396a–1396v (2006). This intervention involves offering an enhanced benefit package to Medicaid participants in exchange for a preventative treatment plan covering several costly chronic conditions. The enhanced benefit package goes beyond coverage for the chronic care management and includes enhanced pharmacy benefits and integrated mental health coverage. The state of West Virginia adopted this benefit strategy on a pilot basis in 2007 and served as a model for this intervention. *See* MOUNTAIN HEALTH CHOICE, MEDICAID BENEFITS AT A GLANCE (2007), *available at* http://www.wvdhhr.org/bms/oAdministration/Medicaid_Redesign/redesign_BenGlanceAdult20070126.pdf.

209. The housing category included Vouchers for Rent and Mortgage Payments, which are most like the benefits included in the federal Housing Choice Voucher Program, 42 U.S.C. § 1437f (2006). The local cost for the Washington, D.C. area was only available for the year 2000, and so the national amount of the subsidy per household for 2005 was used for the estimate of per capita costs. This amount was the per capita household estimate with the per capita estimate being the household voucher divided by the average number of persons per household.

MOBILITY AND TRANSPORTATION	
Reduced Public Transportation Fares provide vouchers to cover the monthly cost of traveling to work on public transportation in the Washington D.C. area using the METRO system.[210]	**$38**
NUTRITION	
Grocery Store Incentive Locations[211] is a corporate incentive program to increase the number of grocery stores located in low income areas. This will allow low income families to buy healthful foods easily within their own community.	**$6**
Food Stamps and Supplemental Nutrition[212] is combination of the Food Stamp benefit and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). These benefits provide a source of funds for low income families and households to have nutritious meals.	**$134**
School Breakfast[213] assures school aged children do not go hungry. This intervention provides a healthy breakfast and lunch year round at a free or reduced-price.	**$10**

210. Washington D.C. area public transit system includes multiple options. The Reduced Public Transportation Fares were selected to apply only to the Metro System, which includes both bus and rail transportation.

211. For the nutrition interventions, the Grocery Store Incentive Locations was the most challenging to tease out of the literature. The incentives provided by the Pennsylvania Fresh Food Initiative are the closest example with $40,000,000 in grants across the entire city of approximately 1.5 million people in the year of the award. Pennsylvania spread these investments across the entire city and so the per capita adjustment could not be adjusted to only those individuals under 200 percent FPL. Using this per capita cost required the assumption of a similar percentage of low-income beneficiaries between the two cities.

212. Food Stamp Program and Supplemental Nutrition has direct parallel benefits in the federal Food Stamp Program, 7 U.S.C. §§ 2011–2035 (2006), and Supplemental Nutrition for Women, Infants and Children (WIC), 42 U.S.C. § 1786 (2006).

213. School Breakfast and Lunch are also active federal programs, 42 U.S.C. §§ 1751–1791 (2006), for which direct research was available. For descriptions of all the above food and nutrition programs, see U.S. Dep't Agric., Food & Nutrition Service Home Page, http://www.fns.usda.gov/fns/default.htm (last visited Sept. 22, 2009).

COMMUNITY DEVELOPMENT[214]	
Neighborhood Improvement will create or enhance parks, bike trails and recreation areas in and around low income areas. This along with facilitating increasing pedestrian use of existing infrastructure will allow adults and kid to exercise safely within their community.	**$8**
TOTAL	**$1,041**

214. Community development was originally conceived to be similar to current community center programs. The benefits from Neighborhood Improvement (called Healthy Living Improvements in the full Milliman Inc. report) were not originally included in any of the research areas. An abbreviated research effort discovered a few comparable programs funded with the intention of improving health, but the per capita cost of these benefits could not be estimated. This benefit seemed most comparable to the capital program for grocery store incentives. Thus, the per capita cost was estimated relative to this benefit. Community Block Development Grants could be used for this and several other benefits, so as a general source of capital funding for these benefits it is difficult to allocate the grant into any one particular intervention.

TABLE 2: REVIEWED AND SELECTED INTERVENTION PER CAPITA BENEFIT COST[215]

Intervention Category	Intervention	Reviewed (Cost in $)[216]	2007 Target[217] (Cost in $)
Education	Adult Education	1,723	2,185
	Childhood Education	7,689	2,242
	Language, and Literacy Training	2,382	2,417
Employment	Job Training Programs	2,233	2,370
	Job Placement Programs	3,607	4,063
	Day Care for Working Parents	2,974	3,064
Health Care	Health Care	1,257	1,218
	Dental Care	88	79
	Counseling	1,020	255
Healthy Behavior	Directed Preventative Coverage	289	289
Housing	Vouchers for Rent and Mortgage Payments	3,166	840
Mobility and Transportation	Reduced Public Transportation Fares	2,088	418
Nutrition	Grocery Stores Incentive Locations	27	34
	Food Stamp Program and Supplemental Nutrition	1,576	1,600
	School Breakfast	481	488
Community Development	Neighborhood Improvements	50	50

215. The information in this table and the accompanying notes is found in Baldwin & Diederich, *supra* note 164.

216. Costs shown here are annual per capita costs found for programs researched, reviewed, and found to be akin to the programs we selected for inclusion in the package of interventions in our analysis.

217. These costs are derived by taking costs of reviewed programs estimated for the year 2007.

TABLE 3: ADJUSTMENTS TO TARGETED PER CAPITA INTERVENTION COST[218]

Intervention Category	Intervention	Eligible Households	Members per Household	Utilization Rate
Education	Adult Education	100%	1.13	50%
	Childhood Education	45%	1.08	65%
	Language, and Literacy Training	43%	2.21	75%
Employment	Job Training Programs	100%	1.13	25%
	Job Placement Programs	100%	1.13	25%
	Day Care for Working Parents	45%	1.08	50%
Health Care	Health Care	100%	2.21	100%
	Dental Care	100%	2.21	85%
	Counseling	100%	1.13	50%
Healthy Behavior	Directed Preventative Coverage	100%	2.21	25%
Housing	Vouchers for Rent and Mortgage Payments	60%	2.21	97%
Mobility and Transportation	Reduced Public Transportation Fares	100%	1.13	97%
Nutrition	Grocery Stores Incentive Locations	100%	2.21	100%
	Food Stamp Program and Supplemental Nutrition	60%	2.21	85%
	School Breakfast	45%	1.08	50%
Community Development	Neighborhood Improvements	100%	3.03	85%

218. The information in this table and the accompanying notes is found in Baldwin & Diederich, *supra* note 164. The assumptions are based on the number of households with incomes under 200 percent FPL, their household size, the number of children per household.