ANTICIPATING THE IMPACT OF NAFTA ON HEALTH AND HEALTH POLICY[1]

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NAFTA is an agreement among Canada, the United States and Mexico to eliminate import restrictions and limitations on foreign ownership and investment starting January 1, 1994. (*U.S. Department of State Dispatch*, 1993).* Five years earlier, a similar Free Trade Agreement (FTA) between the United States and Canada preliminary to NAFTA had come into effect.[2] NAFTA is expected to change the way the North American nations do business and eventually lead to a broader regional economic integration. It already creates the world's largest free trade area comprised of 360 million people with an annual combined gross national product of over six trillion dollars. While not explicitly intended, NAFTA will also involve the domestic policies and the social agendas of its constituent members, including health. The three countries negotiated supplemental agreements on labor and the environment to accompany the NAFTA text which contain health-related issues.

*A list of acronyms used in this article is provided on page 33.

The three nations themselves are dissimilar. The United States contains a population nine times the size of Canada's and three times the size of Mexico's. Its GNP is eleven times Canada's and twenty times Mexico's. It is hoped that the agreement will lead to an improved standard of living in Mexico, where per capital income at $3,400 is about six or seven times less than that of the other two nations.

NAFTA's health effects vary by country, economic sector, and geographical region. While it is apparent that the agreement will have consequences for environmental health issues and that it will influence workplace conditions and occupational health, our interest here is also on the indirect health and health policy effects hitherto largely ignored. The agreement exerts an impact on health issues through the economy and to the extent that it affects legal and illegal cross-border migration. This essay also assesses NAFTA's impact on health policy, government regulation, social welfare issues, and the harmonization of licensing of medical professionals. It discusses NAFTA's potential impact on health as a business opportunity in the areas of medical technology, private health insurance, personal health services, and health care costs. We shall see that some groups are experiencing NAFTA in ways that result in diminished health status.

NAFTA's health impact is expected to be greater in Mexico than in the United States and Canada, in part because the former has the most room for improvement. For example, life expectancy is five to seven years lower in Mexico, and infant mortality four to five times higher than in its northern neighbors (Table 1). The United States spends more on health care and has more health resources such as

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physicians and hospital beds. It spends a higher portion of its GNP on health as well.

Table 1

Basic Health Indicators for Mexico, Canada, and the United States, Circa 1990

	Mexico	Canada	United States
Population ($1x10^6$)	81.1[a]	26.5[g]	249.2[g]
Overall fertility rate	3.2[b]	1.7[f]	1.8[f]
Life expectancy at birth, y			
Men	66.4[b]	73.4[h]	71.2[g]
Women	72.9[b]	79.8[h]	78.2[g]
Infant mortality rate	38.1[b]	7.3[h]	10.1[h]
% gross national product spent on health	4.0[c]	8.6[h]	12.2[h]
Health expenditure ($1x10^9$ dollars)	5.1[d]	50.4[g]	662.2[h]
Hospital beds per 1000 inhabitants	1.3[e]	6.8[f]	4.4[f]
Physicians ($1x10^3$)	130.0[f]	57.4[f]	585.6[f]

[a] *Resultados preliminares del XI Censo General de Poblacion y Vivienda.* Mexico City, Mexico: Instituto Nacional de Estadistica, Geografia e Informatica; 1991.

[b] *Programa Nacional de Poblacion 1989-1994.* Mexico City, Mexico: Consejo Nacional de Poblacion; 1991.

[c] *Programa Nacional de Salud 1990-1994.* Mexico City, Mexico: Secretaria de Salud; 1990:18.

[d] Includes only public sector health and social security expenditures. Fundacion Mexicana para la Salud, Fundacion Javier Barros Sierra, Carnegie Corporation of New York. *Perfiles de la Salud hacia el ano 2010.* Mexico City, Mexico: Fundacion Mexicana para la Salud; 1988. (6 553 466 million 1987 pesos at 1249 pesos/dollar=5 064 502 319 dollars.)

[e] Estimated figure. Sistema Nacional de Salud. Boletin de Informacion Estadistica (Mexico). 1991 (10).

[f] *Las Condiciones de Salud en las America.* Washington, DC: Pan American Health Organization; 1990.

[g] *World Health Statistics.* Geneva, Switzerland: World Health Organization; 1991.

[h] Long H. Health care in North America: resource allocation in Canada, the United States, and Mexico. Presented at the Seminar on Rationing and Use of Technology in Health in Mexico; November 4-5, 1991; Mexico City, Mexico.

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Some of NAFTA's health consequences will be evident only in the long term and are virtually impossible to predict in advance. Currency fluctuations of the peso will have an impact that we cannot fully take into consideration here. Our research goals are challenging because NAFTA has only been in effect for about a year. This leaves us with a question of how to proceed. What kind of methodology should we employ in our effort to study the health and health policy consequences of NAFTA?

In this paper we examine existing empirical statements and policy analyses. Our goal is to *suggest* trends and to *generate* relational hypotheses. What follows is *policy relevant* though we make no claim that it is *scientific*. Every effort has been made, however, to be as objective and as fair as possible. Because we look to several disciplines (economics, politics, comparative politics, sociology) for information and relate what we find to the topic of health and health policy, we hope to get a broader view, to draw attention to some relationships that have not been discussed widely, and to generate some tentative, qualified conclusions. We approach the known, the familiar, and what is taken for granted with the goal of shedding new light on our topic.

We consider the macro-level as well as the micro-level impacts of NAFTA — how it impinges on health from the point of view of the community and the individual. We focus on both its direct and indirect health consequences as well as its implicit and explicit significance for health policy and health reform. We look not just to the intuitively causal but also for mediated relationships that affect health through other sectors such as the economy and regulatory systems. Any substantive boundaries between areas of impact necessarily will be artificial and arbitrary. Nevertheless, for purposes of this analysis we will examine in succession NAFTA's influence on the economy, immigration and migration, workplace and occupational conditions, the environment, government regulations, and health as a business.

While the long-term impact of NAFTA on health may be positive in some areas, including environmental clean up, improved workplace conditions, and new business opportunities, we find little evidence of any gains during the first year of the agreement. In the short term, at least, NAFTA is exerting an indirect, negative health effect through its impact on the economy of Mexico and Canada and on U.S./Mexican migration and immigration issues. In the long run

some of its unfavorable outcomes regarding health may be reversed, but at the moment positive and negative health consequences probably cancel each other out.

I. THE IMPACT OF NAFTA ON THE ECONOMY AND ITS EFFECTS ON HEALTH

A. The relationship of the economy and health status: the theory

NAFTA will have direct and indirect consequences for health through its impact on the economy. Evidence has accumulated over two decades and throughout the industrialized world demonstrating that socio-economic status is related to health at both the community and the individual levels (Feinstein, 1993; Slater, Lorimor and Lairson, 1985; Blaxter, 1990; Kitagawa and Hauser, 1973; Wilkinson, 1992; Cella, *et al.*, 1991; Feldman *et al.*, 1989). At the level of the community it appears that when the economy improves unemployment is reduced, wages rise, and societal health status improves. At the societal level those in wealthier countries have a longer life expectancy than do people in poorer countries (Keeney, 1994). Countries with higher GDP generally spend a larger percentage of their wealth on health care, and life expectancy is greater in the wealthier countries. For the individual across a range of indicators, those with lower socio-economic status do less well in the health care system (Kitagawa and Hauser, 1973; Wildavesky, 1980, 1988; Pappas *et al.*, 1993; Graham *et al*, 1992; Feinstein, 1993). They have a shorter life expectancy and a reduced survival period after diagnosis and treatment for life-threatening illnesses. The exact mechanisms driving this relationship are complex and multi-dimensional. "Income and lower-status employment . . . restrict the choice of physician, health care plan, and treatment option (including pharmaceutical choice)" (Feinstein, 1993: 314). Those with lower levels of education appear to have reduced health awareness and attenuated decision-making skills concerning health behaviors (Feinstein, 1993: 314). "Cultural idiosyncrasies may make it more difficult to communicate with health care workers, trust physicians, and play the system" (Feinstein, 1993: 314). More income makes for a healthier diet and better nutrition (*Economist*, 1994a).[3] As income increases life itself is more pleasant, so avoiding negative health behavior such as smoking tobacco and excessive alcohol consumption makes more sense.

B. NAFTA's impact on the Canadian, Mexican and U.S. economies

If NAFTA were to improve the socio-economic conditions of populations and individuals, it could lead indirectly to improved health. NAFTA was predicted to have a largely positive influence on the economies of all three countries involved, at least in the long term. But short-run trends appear to be more complicated with both Mexico and Canada experiencing negative economic effects and the U.S. registering greater gains than expected (Behr, 1994).

Initially, the economic impact of NAFTA on Mexico appeared to be relatively minor. According to the *San Antonio Express-News* the Mexican government reported that from January to April, 1994, exports to the U.S. and Canada from Mexico increased 15 percent and Mexico's imports increased only 5 percent. But by August, 1994, American exports to Mexico were reported to be up 15.7 percent (Friedman, 1994: E4).[4] Mexican businesses, small and large, were finding competition with U.S. counterparts to be more difficult than originally thought. *El Financiero International Weekly* reported in October that Mexico's trade deficit with the U.S. had grown to nearly 600 million dollars in July, 1994. Unemployment rates along the border increased on the Mexican side (a 5.7 percent increase in the State of Chihuahua) and many medium-sized and small factories closed. The hardest hit sectors were dairy, meat, and poultry, where imports into Mexico increased nearly 20 percent in the first seven months of 1994 (Myerson, 1994A; Robberson, 1994: 21; Solis, 1994: R10). Mexican estimates are that "NAFTA is a two-edged sword"; while some jobs will be created, a more than equal number will be eliminated (*Nature*, 1994: 803). In addition, one unexpected trend was that after NAFTA went into effect the "boldest acquisitions" were made by Mexican companies in the United States (DePalma, 1994). It may be that some jobs and a certain amount of capital have moved from Mexico to the U.S. in the early months of NAFTA.

After the implementation of a Free Trade Agreement between the U.S. and Canada in 1989, Canada experienced a reduction in manufacturing jobs. Estimates vary widely but somewhere between 50,000 to 460,000 positions were lost during the first three years of their bilateral trade agreement (Jackson, 1993; 101,108-110; Farnsworth, 1993; Conroy and Glasmeier, 1992: 11, Anderson *et al.*, 1994;8).[5] Although the FTA went into effect just prior to Canada's experiencing an economic recession, this alone cannot account for the

disastrous impact on its fragile manufacturing sector. Andrew Jackson (1993: 101) argues that the job losses observed were "permanent, not temporary as would be the case if the recession were to blame." A third of the loss took place before the onset of the recession and was probably due to "relocation of production to lower-cost sites in the United States" (Conroy and Glasmeier, 1992: 11). Not only are wages in Canada higher than those in the U.S., but labor laws are much stronger in Canada (Uchitelle, 1993). Yet, it is unlikely that Canada would have experienced the recession without any job loss at all, even in the absence of the FTA.

The U.S. Commerce Department reports that in the first quarter of 1994 NAFTA promoted a 21 percent increase in American exports to Mexico. NAFTA was expected to result in some U.S. citizens losing their jobs as production moved to Mexico where labor costs were less, yet this has not happened to date (DePalma, 1994: D1; *Wall Street Journal*, 1994B, Section R). In fact, the U.S. Commerce Department reported in August, 1994, that NAFTA may have created 100,000 jobs in the U.S. during the first six months (Behr, 1994; Rowen, 1994).[6] While a program was set up before NAFTA's adoption by Congress to compensate and retrain dislocated workers, fewer than 10,000 U.S. citizens applied for "relief benefits" during the first several months of NAFTA (Myerson, 1994B: C4; Friedman, 1994; Solis, 1994: R10; Narisetti, 1994: R10). These figures surprised most experts and caused some to doubt the validity of the statistics or to suggest that they will be much worse in the long term (Faux, 1994: R13; Anderson *et al.* 1994: 6).

Overall, it will be hard to measure the exact economic impact of NAFTA in any of the three countries. While some jobs will be won, others will be lost. The net gain or loss due to NAFTA may be very difficult to assess because other political and economic effects on jobs, and subsequently health, cannot be held constant. The recession in Canada is an example. Similarly, political upheaval in Mexico immediately after the adoption of NAFTA (e.g., the Chiapas uprising and pre-election assassinations) gave pause to investors who might otherwise have reacted more positively toward investment in Mexico (Beachy, 1994A). How many failed businesses in Mexico resulted from NAFTA directly and how many from the indirect effect of reduced investment due to political turmoil?

In addition, secondary effects may offset primary outcomes and this is hard to assess. For example, jobs lost to one country may mean

increased employment in another NAFTA country that could eventually translate into greater income and improved demand for products from the original country. This could generate new jobs in the country that originally had lost positions (Uchitelle, 1993). A prosperous Mexico with a larger middle class would increase the market for goods and services from all member countries and at the same time reduce the incentives for illegal immigration (Samuelson, 1993: 55).

C. Health effects of NAFTA via economic impact

In the short term, NAFTA's impact on health through the economy has probably been largely negative for Mexico and Canada where unemployment has increased. But specific organizational features of a health system may function to reduce the indirect impact of the economy on health. In Canada, where financial barriers to health services have been removed, NAFTA's potential impact may be somewhat moderated because job loss does not result in deprivation of health insurance. Most people in Mexico (83.4 percent) obtain health insurance through public agencies (Laurell and Ortega, 1992:333; Roemer, 1991). Those in Mexico who have lost their jobs have more limited access to health insurance which, though publicly administered, is often linked to employment. But in the U.S. unemployment usually results in loss of health insurance. This would have a major impact on the availability of health care for many U.S. citizens. In the short term, however, NAFTA has not increased unemployment in the U.S. to any great extent.

D. Sector-specific and regionally-specific effects

NAFTA's economic impact within each of the countries is likely to be sector-specific as well as varying within different geographical regions. Short-term and long-run differences are probable. NAFTA's influence on health status may vary along these same dimensions.

If anticipated sector-specific, long-range changes are realized, then consequent health status changes that vary by economic sector can be expected. For example, semi-skilled workers in the U.S. textile industry would have higher unemployment rates and lower health status would result. We might predict that Americans working in the production of medical technology would see enhanced employment opportunities, perhaps wage increases, and subsequent improved health status. The same principles follow in other areas: the energy

industry in Texas is expected to benefit from NAFTA, as are electronics, computers, industrial machinery, and high technology services sectors (Rice, 1994; *Texas Cancer Mortality Statistics*, 1991: 7). Mexico anticipates gains in apparel products, leather, glass, and electrical machinery, while the U.S. as a whole will gain in chemicals, capital equipment, metals, rubber and plastic products. Big losers in the U.S. will be apparel and furniture,[7] and Mexico will have losses in the machinery industry (Weintraub, 1992). But opinions differ; some suggest that the expected advantage of Mexico in the apparel sector is more apparent than real (Hinojosa-Ojeda and Robinson, 1992: 103-104). High-tech workers, medical technology products, and road-building industries throughout the U.S. are expected to gain (Friedman, 1994; Conroy and Glasmeier, 1992: 16), but low-wage, low-productivity workers may experience losses. Farmers in all three countries will see changes depending on their commodity (Conroy and Glasmeier, 1992: 14). Variations among the countries are anticipated; automotive and textile sector jobs in the U.S. and Canada are likely to be reduced as production in these sectors moves to Mexico. Canadian beverage industries, rubber products, furniture, leather goods, textiles and clothing, iron and steel, electrical products, construction, and machinery industries have suffered large reductions in employment since the beginning of the U.S.- Canada Free Trade Agreement (Campbell, 1993b: 25; Statistics Canada, 1993: 125-140). Small farmers, especially basic grain producers in Mexico, are expected to suffer as traditional farmers, previously protected in Mexico by subsidies or tariffs, are required to compete with larger U.S. agricultural enterprises that use efficient, highly mechanized farming methods (Williams and Schulthies, 1993).[8]

The border areas of the U.S. and Mexico are likely to experience economic gain and thus health improvement. Texas has more at stake than other American states. "Nearly half the nation's exports to Mexico, now running at $50 billion a year, come from this state, and more than three-quarters at least pass through Texas" (Myerson, 1994C: 5). It is too soon to assess the impact of NAFTA on the economy of the Texas border areas in any detail, but this geographical area starts out at a low economic base point and room for improvement is great by statistical definition alone. Average annual family income along the Texas border ($19,062) is below both the national average and the Texas average ($25, 962). Eighteen percent of border residents, one of the highest percentages in the U.S., live in

poverty (the national average is 13 percent) (Sharp, 1994: 5). The economic impact of NAFTA in the Rio Grande Valley of Texas over the first 6-9 months has been reported in newspapers to be spectacular, though statistical studies are lacking (Sixel, 1994). Some of this is due to increased trade and some to the increasing need to establish American suppliers of parts and production needs for *maquiladora*[9] plants based in Mexico. NAFTA's impact on other geographical areas in Texas has been less dramatic. If any geographical area is going to see improvement in its economy and the health of its citizens, this is surely one. To begin with, thirty-two percent have no health insurance (Sharp, 1994: 1). If individuals here see improvements in their standard of living, they may be able to afford health insurance or their employers may be able to provide it. No data are available to assess this hypothesis at present.[10]

II. MIGRATION and IMMIGRATION

NAFTA is expected to have an impact on immigration and migration and this in turn will influence health.[11] The geographical movement of populations, be it migration within Mexico or between the U.S. and Mexico for temporary purposes, or legal or illegal immigration from Mexico to the U.S., is closely tied to economic conditions. It is hoped that NAFTA will discourage illegal immigration into the U.S. from Mexico. If NAFTA succeeds in improving local economic conditions, thereby increasing the standard of living, it would reduce one important factor that drives illegal immigration: geographic mobility in search of employment (Verhovek, 1994B: A12).[12] Other reasons for illegal immigration certainly exist and not all are likely to be influenced by NAFTA, including complementary seasonal employment needs, population pyramid considerations, transnational support networks, etc.[13]

In recent months there has been growing anti-alien sentiment in the U.S. (Ayres, 1994: 1) and NAFTA may function against this trend. Proposition 187, approved by voters in California last fall, denies essential health services to illegal immigrants (CCH, 1994:8).[14] Immediately after it was adopted, medical experts pointed out that a public health emergency could result if preventive care, immunizations, and attention to infectious disease were barred. Governor Pete Wilson authorized health agencies to provide such public health services in order to protect the general public (CCH, 1994:8). And the

Republican party's "Contract with America" proposes to deny federally funded government health care to legal immigrants even though this group pays taxes and serves in the armed forces. (Pear, 1994: E5).

NAFTA may mediate against over-reactions that deny health care to those immigrants already living in the U.S. Its enormous economic benefits to Texas may be an important factor in calming the anti-alien sentiment in that state (Myerson, 1994C). Texas politicians, including recently elected Governor George W. Bush, the former U.S. president's son, are careful not to criticize Hispanics or raise the immigration issue (Ayres, 1994: 20). "Texans don't worry so much about aliens — except, maybe carpetbaggers from Ohio or New York" (Myerson, 1994C: 5). At the same time Texas has not hesitated to join with the other Southern border states to sue the federal government for more money to cope with immigrants (Verhovek, 1994a).

Coercive measures and negative incentives have not succeeded in discouraging illegal immigration from Mexico to the U.S. in the past. In 1986 the U.S. Congress passed the Immigration Reform and Control Act (IRCA, 1986) which penalized employers hiring undocumented workers. It also legalized immigrants living illegally in the United States since 1982. Finally, it established a program to grant permanent status to migrant farm workers (*Congressional Digest*, 1993). Demand for and supply of unskilled and semi-skilled labor in the U.S. continues to increase despite IRCA, especially in sections such as agriculture, construction, domestic service, small industry and food service where many undocumented workers have found employment (Cornelius and Martin, 1994; Kossoudji, 1992; Donato, Durand and Massey, 1992; Gomez, 1993; Rosas, 1993).

A. The relationship between immigration, migration, and health status - the theory

Health consequences of immigration and migration have been found to be substantial. Immigrant populations have health problems that are more serious than those of stable, less mobile communities. Migration is associated with psychological disorders (Salgado de Snyder, Cervantes, and Padilla, 1990), and it seems to increase the probability of communicable disease through associated social and ecological processes (Gellert, 1993). The direct health consequences of immigration and migration suggest that the characteristics of the

human beings involved — the poorest, those with the least education, and those with the highest levels of illiteracy — must contend with poor, temporary housing, which forces too many already stressed and sometimes ill individuals into very close proximity in an environment that increases the likelihood of disease spreading. Even *legal* migrant farm workers in the United States are prone to a variety of acute illnesses and chronic conditions, including but not restricted to kidney problems, diabetes, high blood pressure, heart attacks, cataracts and liver disease (Guarnaccia, et al., 1993; Rust, 1990). How much is due to a lack of stability and how much is a result of hazardous work environment is not known. Children's dental problems (Koday, et al., 1990) and the transmission of infectious diseases like cysticercosis, malaria and *Trypanosoma cruzi* (Ciesielski, et al., 1993) have been documented as well among this community. Social variables such as poverty, disadvantaged social status, lack of access to health services due to mobility (Lewin-Epstein, 1991), and lack of adequate health insurance have been shown to have a synergistic, negative effect on the health status of migrant workers. This population is at very high risk for health problems (Guarnaccia, et al., 1993; Rust, 1990).

B. The case of Mexico

The U.S.-Mexico border region supersedes national boundaries regarding infectious diseases, and NAFTA makes it worse by accentuating the already rapid, uncontrolled urban growth. *Colonias*, residential areas housing Mexican migrants, have arisen on both sides of the U.S.-Mexico border since the advent of the *maquiladoras* in 1967. Conditions in the U.S. *colonias* are difficult. Sometimes there is no electricity, safe running water, or adequate sanitation (Warner, 1991:242-43; *Economist*, 1993c). Problems of overcrowding and lack of adequate housing (many residences are constructed of cardboard) plague the *colonias* in Mexico (Robinson and Dabrowski, 1993). Efforts to improve conditions on the U.S. side are proving more complicated than anticipated, involving building code and zoning regulations and enforcement. Such efforts are far from successful to date (Pinkerton, 1994:A10). These conditions increase the likelihood of spreading infectious diseases as well as parasitic infections.

Because NAFTA will make for greater exchanges of goods and services, it will facilitate the flow of personnel and the travel of citizens from one NAFTA country to another. Diseases are spread by

travelers as well as by immigrants. Many who live in Mexico migrate daily to the U.S. for work (*Economist*, 1993c) and many U.S. citizens travel to border cities in Mexico for pleasure as well as for discount rates on purchases. As a result tuberculosis and HIV are transmitted across the border in both directions (Saint-Germain, 1994; Gonzalez and Hayes, 1991). Border cities and their "sister cities" in Mexico form several unified metropoltian centers that depend upon the same water sources. The health of the poor in the border region is far below even Mexico's standards, and many have never received medical attention (Brown, et al., 1993). From a health perspective the boundaries between the NAFTA countries are artificial. The three are interdependent and intertwined as far as infectious diseases and the possibility of epidemics are concerned (Altman, 1994). Ultimately, health is international in scope.[15]

Both internal migration within Mexico as well as back and forth across the U.S.- Mexico border may be influenced by NAFTA, and this, too, will have health effects on the population. Speculation about NAFTA's potential impact on Mexican emigration to the United States has given rise to several contradictory arguments. NAFTA might discourage illegal immigration by removing the incentives for it, yet the opposite case is also convincingly made. Another view is that NAFTA may neither increase nor decrease immigration but merely serve to change its pattern. Finally, one effort to reconcile these various views contends that NAFTA in the short run will function to increase illegal immigration, but that in the long term it will have the effect of reducing it (Hufbauer and Schott, 1993: 25; Commission for the Study . . . , 1990; *Congressional Digest*, 1993; Cornelius and Martin, 1994). Some have posited that NAFTA will have no effect because new jobs created in Mexico will be located far from the principal sources of migration and will pay wages too low to serve as a deterrent (Briggs, 1992; Calva, 1991). This would be the case if the *maquiladoras* move south for cheaper labor as costs rise along the border (Orme, 1993; Pastor, 1992).

It has also been argued that NAFTA will increase illegal immigration through abrupt trade liberalization in formerly protected sectors of the Mexican economy (Castaneda, 1993: 74; Brown, *et al.*, 1992; Koechlin and Larudee, 1992; Hinojosa-Ojeda and Robinson, 1992). Mexico is experiencing a restructuring of its economy which may result in a migration of subsistence farmers and rural day laborers into urban areas (*Congressional Digest*, 1993; Cornelius and

Martin, 1994). If NAFTA results in new jobs developing along the border, there could be greater concentrations of the population in this already unhealthy and geographically congested region (Myerson, 1991).

Mexico has approximately three million subsistence farmers as well as another three million day laborers or sharecroppers (Cornelius and Martin, 1994). An immediate removal of trade barriers could result in displacement of these workers and uncompetitive farmers, potentially increasing emigration. Yunez-Naude and Blanno-Jasso (1991) estimate that displacement could involve up to thirty percent of Mexico's agricultural labor force. Other models support this argument; one indicates that immediate trade liberalization would result in the loss of 800,000 jobs in the rural sector, with 600,000 migrating to the U.S. (Robinson, *et al.*, 1991; Hinojosa-Ojeda and Robinson, 1992). Another suggests that a complete, non-phased trade liberalization would result in 700,000 new migrants (Levy and van Wijnbergen, 1992). NAFTA's tariff reductions will go into effect over a decade or more and, therefore, this worst case scenario is unlikely. But NAFTA is still one of the most rapid market integrations in recent history (Myerson, 1994A: C3).

Another position related to the job displacement thesis states that NAFTA will increase migration because the location of the majority of new employment opportunities in Mexico will be along the U.S. border in areas easily accessible to American markets. Jobs in agriculture will be created primarily in the Mexican northwest as production shifts to export-oriented fruits and vegetables. In addition, California's complementary harvesting season will make for an increase in U.S. immigration.[16] Others predict that an increase in U.S. immigration will occur as migrants travel to the Mexican border for work, but then find that wages and working conditions are even better in the United States (see Cornelius and Martin, 1994).

Many proponents of NAFTA take an alternative position and believe that the stimulation of the Mexican economy resulting from free trade could actually deter Mexican emigration. Cornelius and Martin (1994) argue that estimates of increased migration based on econometric models are likely to be upwardly biased because they attribute all rural migration in Mexico to NAFTA and ignore the diversity of sources of household income already present among rural Mexicans. Instead, economic recovery, if sustained in Mexico under NAFTA, will eventually create enough jobs for Mexico's expanding workforce (Philip Martin quoted in Cooper, 1994: R11).

III. NAFTA'S IMPACT ON LABOR AND OCCUPATIONAL HEALTH

U.S. and Canadian labor organizations strongly opposed NAFTA because they feared business in their respective countries would move to Mexico. Opposition also stemmed from concern that North American workplace safety standards would decline (*Congressional Digest*, 1993). The U.S. work environment is often less dangerous than regulatory guidelines require because occupational safety is negotiated periodically as a part of a collective bargaining agreement. It was argued that NAFTA would weaken labor's bargaining power as firms move to Mexico where labor is abundant and safety regulations are often not enforced (VanderMeer, 1993; *Economist*, 1993A). Mexican labor groups, on the other hand, viewed NAFTA positively because it would increase investment in Mexico, thereby stimulating economic growth and creating more jobs (*Congressional Digest*, 1993).

Occupational hazards are greater for immigrants who have little choice but to tolerate sub-standard working conditions. If NAFTA was to increase migrant and immigrant labor within Mexico and into the U.S., then it might *indirectly* diminish the health status of the populations involved. For farm workers, injuries may result from accidents involving falls, farm machinery, and chronic exposure to pesticides and sunlight. Migrant farm workers in the field often lack adequate sanitation and potable water (Guarnaccia, et al., 1993; Rust, 1990; Benavides-Vaello and Setzler, 1994). Although working conditions for farm labor are regulated within the United States, many laborers report violations of state and federal regulations concerning pesticide exposure (Ciesielski, et al., 1993).

NAFTA may increase the number of Mexicans working in *maquiladoras*, but the health effects are complex. One could argue that working in a *maquiladora* industry on the border is detrimental to health. Laborers often receive the Mexican minimum wage, fifty-eight cents per hour, and work under appalling conditions that include poor ventilation, few rest periods, excessive noise levels, unsafe machinery, long hours of assembly work using microscopes, and exposure to toxic chemicals including carcinogens (Robinson and Dabrowski, 1993). Furthermore, production requires high quotas and repetitive tasks which, coupled with a lack of autonomy and often poor supervisory relationships, add to stressful work conditions (Guendelman and Silberg, 1993: 37).[17] The workforce some-

times includes children who labor under the same hazardous conditions as adults (Walker, 1992).

Although research to date has been unable to determine the causes, health problems of Mexican workers vary according to the type of manufacturing. For example, textile and apparel workers experience high rates of lung, eye and skin disorders and are at risk of hand injuries and musculo-skeletal disorders, while those working in electronic assembly plants are likely to experience eye problems, headaches, allergies and adverse pregnancy outcomes (Guendelman and Silberg, 1993). When injuries are accurately reported, worker's compensation is limited to $10,127, even if the disability is permanent. Death benefits are capped at $6,720 (Robinson and Dabrowski, 1993). But at least one analysis suggests that the health impact of *maquiladoras* employment is not entirely negative. This study maintains that the options made available by *maquiladoras* contribute to the independence of women who are employed there and offer them an alternative to the unpleasant and oppressive role reserved for them in traditional Mexican society (Guendelman, 1991; Guendelman and Silberg, 1993).

While the minimum wage in Mexico is one-tenth that of the U.S. or Canada, labor protection standards in Mexico are much higher than in the U.S. at least on paper. (Barry, 1992: 183; Pastor, 1992: 187). In almost every substantive area from vacations to laws prohibiting businesses from hiring non-union replacements during strikes, Mexican and Canadian workers are better protected. Enforcement, however, in Mexico is much lower than in the U.S., and in reality, then, working conditions are worse. On the one hand it is feared that NAFTA will reduce the hard-won gains of labor in the U.S. and Canada (Pastor, 1992: 187-88). On the other hand American labor unions are acting under the provisions of NAFTA to organize new trade unions in Mexico despite opposition from Mexican government officials, American firms, and the dominant Mexican unions (Myerson, 1994B). Their efforts, encouraged to some extent by the NAFTA supplemental agreement on labor cooperation, have been largely unsuccessful to date. Although sanctions are provided under the NAFTA labor supplemental agreement for violations "in the area of child labour, minimum wages, and occupational safety and health," they are not "provided in cases concerning freedom of association, the right to bargain collectively, and forced labour" (*International Labour Review*, 1994: 118).

IV. NAFTA AND ENVIRONMENTAL HEALTH ISSUES

The environment is an area where NAFTA's health impact is direct in nature and potentially substantial in character. Environmental laws have a beneficial impact on health. In order to control the effluents of industrial and agricultural activities along the border, efforts have been made to harmonize the environmental statutes of Mexico and the U.S. in conjunction with the adoption of NAFTA. Cooperation and plans from the side agreements are not always binding, but they do set the stage for adjustment and improvement.

Canadians feared that NAFTA would reduce environmental standards, resulting in negative health consequences (Swenarchuk, 1993). As a result of a side agreement NAFTA provides for an international committee to use risk assessment as a criterion for determining health and environmental standards. One limiting factor is that any measure will be balanced against its possible economic effects. Because the motivation is to minimize negative trade effects, pressure could be exerted to lower existing standards (Magraw, 1994; Sanchez, 1993; Swenarchuk, 1993). Furthermore, "U.S. and Canadian investors could gain new access to natural resources such as forests, fisheries and minerals without concern for long-term conservation or the people who depend on them" (Sanchez, 1993: 30).

NAFTA and the side agreements seek to harmonize Mexican and U.S. environmental laws and to encourage enforcement (Friedman, 1994).[18] All NAFTA countries have the right to maintain, adopt, and enforce any standard they consider appropriate. However, a standard must be applied equally to foreign and domestic products and it must be based on sound scientific methods. Nonconforming products can be banned by a country. NAFTA encourages the harmonization of health, safety, and environmental standards to the highest common denominator, though the treaty itself emphasizes that this is a non-binding form of harmonization with no country actually forced to comply (*Congressional Quarterly*, 1993: 3178). State and local governments may impose tougher environmental standards, yet international environmental agreements are protected and prevail if there is any inconsistency. Under NAFTA, all three countries are committed to maintain union rights and to refrain from lowering health, safety, or environmental standards in an effort to attract investment. A country may impose stringent regional environmental requirements in order to prevent the creation of "pollution havens."

NAFTA will influence the already existing air[19] and water[20] pollution problems that have substantial health significance on the border between Mexico and the U.S. For example, lack of potable water constitutes one of the primary determinants of disease along the border (Cech and Essman, 1992). Nuevo Laredo dumps 24 million gallons of untreated sewage into the Rio Grande daily. In Ciudad Juarez, 55 million gallons of sludge flow each day through an 18-mile canal paralleling the Rio Grande. (Bath, 1991; Robinson and Dabrowski, 1993). People living in the Ciudad Juarez-El Paso region depend upon two aquifers for clean drinking water, and officials are concerned because the water table is dropping at the rate of 10 feet per year (Cech and Essman, 1992; Robinson and Dabrowski, 1993). El Paso is engaged in the rather unorthodox experiment of injecting treated waste water into the ground to alleviate pressure on the aquifers (Cech and Essman, 1992). Ciudad Juarez, a Mexican city of over one million residents, has no wastewater treatment facilities. Residents of the *colonias* sometimes resort to using irrigation water or water taken directly from the Rio Grande for drinking (Bath, 1991; Cech and Essman, 1992; *Economist*, 1993c; Robinson and Dabrowski, 1993). The hepatitis rate in El Paso is five times the U.S. norm and birth defects may also be related to the environment (Robinson and Dabrowski, 1993). Parasitic infections are an issue as well, resulting in a variety of gastrointestinal problems (Cech and Essman, 1992).

Industrial development along the border was one of the major sources of environmental health problems in the pre-NAFTA period, and the impact of NAFTA on future industrial growth in this area will influence the health of those living on both sides of the border. Historically, *maquiladoras* have affected the environment in health-related ways. Electronics and plastics firms, as well as others, create carcinogenic wastes which include solvents, acid and alkaline wastes and heavy metals (San Antonio Express-News, 1993; Monroy, 1991). By law, *maquiladoras* must ship their toxic wastes into the United States for disposal. Yet an estimated thirty percent remains in Mexico (*Economist*, 1993c) even though that nation's capacity to deal with this waste is inadequate (D. J. Wilson, 1994: 13).[21]

The North American Agreement on Environmental Cooperation (NAAEC), a supplement to NAFTA, sets up a new Commission on Environmental Cooperation among all three countries that is charged with considering the environmental implications of production and process techniques, including such trans-national conse-

quences as air and water pollution along the Rio Grande.[22] The commission is also mandated to promote public awareness about hazardous substances and provided expertise in the settlement of disputes (*Business America*, 1993; *U.S. Department of State Dispatch.* 1993; Zarsky, 1994). "NAFTA is the first international trade agreement that addresses the environmental consequences of trade between developed and newly industrializing economies" (Orme, 1993: 8).

Health related environmental problems along the Mexico-U.S. border are not due to a lack of legislation or regulation. While environmental pollution may be greater in Mexico than in the U.S. and Canada, Mexico's environmental protection laws are generally "quite similar to those in the United States" (VanderMeer, 1993: 230). The high levels of air, soil, and water pollution along the Mexico-U.S. border are essentially due to poor compliance and weak enforcement of existing Mexican laws. These regulations are considered to be so broadly written that they are either ineffective or difficult to enforce (Schwenker, 1993; Gonzalez and Rodriguez, 1991.) Additionally, citizen suits are not allowed under Mexican environmental laws, thereby reducing the effectiveness of their enforcement (Miller, 1987); in the United States citizen suits are a fundamental part of assuring compliance with environmental requirements (Schwenker, 1993: 1367). But Mexico's greatest problem is a lack of resources to enforce its environmental regulations.[23]

Indirectly, NAFTA establishes mechanisms for funding enforcement of environmental standards and cleanup. United States pressure alone will result in stricter enforcement of environmental laws in Mexico (Krugman, 1993; Sanchez, 1993; Sheehan, 1993), and accelerating economic growth in Mexico will increase the resources available to improve enforcement of existing laws (Becker, 1993; Charnovitz, 1994; *Business America*, 1993: 26; *Economist*, 1993c; Sanchez, 1993; Pastor, 1992). In addition, NAFTA opens up Mexican service industries to American investors, providing funding for much needed construction of infrastructure such as water and sewage treatment plants. "Estimates of public works projects planned for the next five years exceed $100 billion" (Orme, 1993: 5). The U.S. and Mexico have also agreed to pay $225 million over four years to a new North American Development Bank, leveraging $2 billion for loans and guarantees (Cloud, 1993), and the Environmental Protection Agency

has set an annual goal of $200 million to fund border cleanup programs (*Audubon*, 1993).

Another mechanism for dealing with a country's lax enforcement of environmental laws is the dispute settlement process. In the event of allegations of lax enforcement of a national environmental law, a panel may be formed to address the problem. "NAFTA's Dispute Settlement Panel may [even] assign `action plans' to national governments compelling them to more strictly enforce environmental or labor regulations" (Sheehan, 1993: A21). Trade sanctions or fines are allowed, but only as a last measure. The burden of proof in disputes is placed on the party challenging the lax enforcement of an environmental regulation.

The United States and Mexico have also entered into a special bilateral agreement to resolve environmental problems along the border through a Border Environmental Cooperation Commission (BECC) and a North American Development Bank. The BECC is to focus on the more serious public health concerns facing the border areas such as provision of clean drinking water, treatment of waste water, and management of hazardous wastes (*Congressional Digest*, 1993: 263-4; Magraw, 1994). Its goal is to solve environmental problems by working with state and local governments. It is charged with providing needed expertise for projects but will not develop or manage them itself. Additionally, the BECC will certify environmental infrastructure projects that are to be financed by a North American Development Bank. Capitalization for the projects will come from both the U.S. and Mexican governments; estimates for controlling pollution on the border have ranged from six to sixteen billion dollars (*Economist*, 1993c: 50).

Border cleanup has the potential to improve health dramatically. Programs such as water and sewage treatment plants will have an immediate impact; however, there are no short-term solutions to the environmental crisis along the U.S.-Mexico border. Obstacles that impede immediate environmental improvement include the expense and time involved in land remediation. Poverty in the *colonias* is also a problem. Even when water quality is improved and land remediation is underway, overcrowding and poor nutrition will still remain. In addition, the average length of schooling for Mexicans is only five years (Brown, et al., 1993), making health promotion difficult. A lack of information about polluters, pollutants and risks to

local populations poses another significant barrier to improved enforcement of environmental laws (Sanchez, 1993).

Another obstacle may lie in the organization and implementation of cleanup programs on the border. Several programs will fall under the auspices of public service. Although NAFTA focuses on private interests, the public sector will play an important role in determining its success or failure, since it provides the infrastructure necessary for private investment. A study of public officials in the twin border cities of El Paso and Ciudad Juarez found that there are several barriers to overcome when developing binational cooperative programs. Language and cultural differences are cited most commonly as barriers to cooperation, but differences in initiative and public administration as well as in government and politics are also apparent (Saint-Germain, 1994).

There are conditions under which NAFTA will exacerbate pollution caused by the concentration of industrial facilities along the border which reduce the health status of the population. This will be the case if NAFTA encourages the growth and expansion of *maquiladoras* in these geographical areas and if the environmental side agreements signed under NAFTA fail to have their intended effect. More industries and new investment could result in an increase in hazardous wastes. Many *maquiladoras* exert a high demand for water, increasing pressure on an already short supply.

It is possible that NAFTA will disperse *maquiladora* industrial production over a broader geographical area. Since the signing the motives for concentrating industrial production along the border have been reduced and new incentives are coming into play.[24] By moving industries to central Mexico, labor costs may be reduced. If this proves true, then the environmental and health effects will no longer be clustered on the border but scattered instead throughout Mexico (Sanchez, 1993; Becker, 1993). While pollution *concentrations* would be reduced in this scenario, at the same time the *total amount* of pollution might be increased.

Overall, NAFTA is likely to improve environmental conditions across the U.S.-Mexico border, but implementation will be slow. As critics have observed, at the close of the first year of its existence none of the agencies established by the NAFTA side agreements is fully implemented yet. No loans to clean up the environment along the Mexico-U.S. border were granted in 1994, though money was made available to the North American Development Bank by Mexico and

the U.S. in September. Differences over implementation have meant that staff were not immediately appointed (*San Antonio Express-News*, October 1, 1994). Environmentalists are discouraged and timing still remains uncertain (Noah, 1994: R8). But once underway, NAFTA-created institutions should improve the environmental quality along the border and the health of those living there. Clean water and sewage treatment are two priorities in the region, and implementation of treatment plants will have an immediate effect on health. Funding should also be available for research into health-related effects of environmental contaminants as well as to finance campaigns to promote public awareness.

V. NATIONAL HEALTH POLICY AND GOVERNMENT REGULATION

Regional trade agreements such as NAFTA accelerate the process of regulatory harmonization among members even when that is not explicitly intended. In the case of NAFTA some Canadians argue that no programs can be taken out of competition (Drache, 1994; Grinspun and Cameron, 1993). If they are correct, NAFTA may influence health status through changes in health system organization and national health policy. NAFTA has already brought about changes in national regulatory policy in Canada (pharmaceuticals and patents), and the evolution of health policy in Mexico is likely to be influenced as well. In the best circumstance NAFTA could improve "norms and standards" of health care in Mexico, lead to the integration of health care systems, and raise the level of technology and health care "modalities" (Hernandez, 1994: 3). But there are fears in both Canada and Mexico that NAFTA will reduce government commitment to public sector health services (Laurell and Ortega 1992; Cameron and Watkins, 1993; Clark, 1993). While health care is a right in Canada and Mexico, it is not yet in the U.S. (Frenk *et al.* 1994; Begin, 1988). Although it may be years before any assessment can be made, in the short run some trends are beginning to be apparent.

NAFTA "encourages" the equalization of regulations governing health professionals (including licensing and certification) in the three countries. At the same time it does "nothing to jeopardize each state's authority to regulate . . . " (Wann, 1994: 20). The requirements at some Mexican medical schools are below those in the U.S. and Canada. With freer movement of professionals across the border, there is already pressure on Mexico to raise standards up to those

now existing among its free trade partners. (Frenk *et al.*, 1991). Licensing, especially as concerns primary care physicians in Mexico, is voluntary, and registration rather than certification is largely dependent only on passing a university degree program (National Academy of Medicine - Mexico, 1993: 48; Frenk *et al.*, 1994). In Canada and the U.S. universities award degrees, but provincial and state authorities license physicians, usually on the basis of a rigorous examination. There is substantial pressure on Mexico to upgrade or replace its registration system with a certification licensing program. This is especially important because some Mexican university degree programs are of questionable value, and admissions to medical school may be on the basis of particularistic as much as universalistic criteria.

While NAFTA may have eased regulations for health professionals to work in other member countries, it appears that low market demand will restrain mobility in the near future. The requirement that foreigners pass licensing exams before being permitted to practice in the U.S. and Canada also discourages geographical mobility. Little data exist and long term trends in cross-licensing and practice are difficult to predict. Reports suggest that only fifteen nurses from Mexico or Canada sought to be licensed in Texas in 1992 and seven passed the exam (29 Indian and the 216 Filipino applicants also passed the tests) (Wann, 1994: 20). There are very few if any positions opening up for nurses in the tightly cost-controlled Canadian system at the moment, and the U.S. market is shrinking as well.

Canada, Mexico and the U.S. have very different social welfare systems and cultural attitudes about social programs, including health policy. One argument against NAFTA that received attention in Canada was the suggestion that the trade agreement would require that Canada give up its popular and quite successful single-payer health care system. The argument was that a "leveling" would occur and that Canada would have to change its health system organization and other social welfare systems to conform to those existing in the U.S. and Mexico. The fear was that NAFTA would "remove or weaken (in the name of competitiveness) the social services that give expression to values which have defined [Canada] as a more caring society" (Campbell, 1992: 15). Canadian NAFTA critics contended that Canada would have to change its health policy and give up its universal, single-payer health care system by lowering standards, privatizing health care, and introducing user fees.

(Cameron and Watkins, 1993: Clark, 1993). However, there is no empirical evidence of this taking place to date.

The public sector Canadian health care system is in financial trouble and it has experienced budget cuts, removals of procedures from the covered benefits program, reduction in the number of hospital beds, etc. The Canadian federal government has dramatically reduced its payments to the provinces for health care (Federal Bill C-69 in 1990, C-20, in 1991). Rumors are that federal funding for Canadian medicare is scheduled to be phased out entirely in some provinces by the late 1990s (Clark, 1993: 4). Many provinces have been unable to make up the missing funds and services have diminished. While this coincided with the adoption of NAFTA, it would be unfair to attribute it to NAFTA as much as to a general fiscal crisis of the state (Campbell, 1993a: 71).

But there is a strong case to be made concerning NAFTA's impact on pharmaceutical policy in Canada (Diebel, 1993). Under NAFTA's provisions U.S. pharmaceutical companies will be able to "participate in the standards development processes of Canada and Mexico," and this presents certain advantages to U.S. interests (Perry, 1994: 6). Bill C-91, adopted by the Canadian parliament in June of 1992, was required under the U.S.-Canada FTA. It compelled Canada to bring its laws into conformity with those existing in the U.S. regarding patents for name brand pharmaceuticals (Tancer, 1993). It amounted to extending the duration of Canadian patents anywhere from three to twenty years depending on the product. This reduced competition with generic drugs and in effect raised prices on prescription medication substantially (Fuller, 1993; Howell, 1993). Prior to the adoption of Bill C-91, prescription drugs cost less in the Canada than in the U.S. (GAO, 1992). Because many provinces provide prescription drug coverage as part of the public, universal health insurance, this NAFTA-related legislation will increase provincial health costs. Provinces that provide pharmaceutical benefits will have to remove certain medications from the list of those they cover as prices increase in order to stay within already strained budgets (Freudenheim, 1992). This may have the effect of reducing health status if it means some individuals will have to do without needed medication.

Certain medications require prescriptions in the U.S. but are available over the counter in Mexico and Canada. In the long term, informal pressure for harmonization is in place even where not

legally allowed under the terms of NAFTA. Maintaining different regulations inside a regional trade area requires substantial investments in surveillance and enforcement; therefore, *de facto* harmonization may occur.

The Canada-U.S. Free Trade Agreement included a section (Chapter 14) dealing with commercial services in the U.S. and Canada. It requires that health care management services (defined very broadly) be reserved to private sector development in Canada in the future (Annex II -C-2: social services of non-conforming provisions). This would prohibit Canadian provinces from adding such services to the government organized health care system. New health services would be reserved to private sector development. The U.S. health insurance companies, because of their experience in this area, have an advantage over Canadian private sector insurance companies and would be likely to dominate. In addition, since the Canada health care system is organized around a public collection of fees and the government payment of providers, Chapter 14 may interfere with the future public sector development of managed care systems. Many Canadians see this as a NAFTA-related infringement on their freedom to determine their own health care policies (Clark, 1993; Cameron and Watkins, 1993).

VI. HEALTH AS BUSINESS OPPORTUNITY - HEALTH RELATED GOODS AND SERVICES

NAFTA will have a direct impact on the business of health and the sale of health care goods and services. Under NAFTA's provisions U.S. providers can trade with Mexico and Canada. This includes the right to sell services to the Mexican and Canadian governments and their publicly-owned enterprises, to invest and repatriate profits, to establish a business "on an equal footing with national firms," and to protect intellectual property (Walsh, 1994: 26-27). NAFTA facilitates the entry of professionals into other NAFTA countries. This type of business activity has a direct impact on health, independent of its influence via the economy. Areas involved include construction (new health care facilities), management and consultant services, medical personnel, education, health insurance, pharmaceuticals, technology (medical equipment), and professional services.

A. Medical equipment, high technology, and health care facilities

Although very few medical supplies are actually produced in Mexico, U.S. sales of medical technology have been restrained by tariffs between 40 percent and 100 percent. As a result of NAFTA tariffs are now dramatically reduced, and there is a "large and expanding opportunity for sales of major equipment" since demand is high (Beachy, 1994a). Even though Mexico is a poor country and offers what is considered by international suppliers to be a small market for new medical equipment, it is of great interest because the U.S. market is said to be "saturated." The Mexican market for expensive "new" equipment is quite restricted, but it is expected to be brisk for less expensive "new" medical technologies (Beachy, 1994a). Mexico offers the U.S. and Canada another sector for complementary development in reusable medical devices such as rebuilt heart pacemakers. Recycled pacemakers are perfectly safe, but demand in the U.S. or Canada is almost nonexistent and most are sold abroad.

U.S. participation in expanding Mexican health care facilities through joint ventures is expected, in part, due to NAFTA. U.S. "developers, doctors, bankers, insurance companies, and many other health-oriented groups" all hope to play an important role. Opportunities for investment are likely to be great in "planning, construction and management of private facilities" (International Medical. . . , 1994: 2).

Development of markets in Mexico for U.S. producers of medical equipment, high technology and the construction of medical facilities is contingent on funds for these purchases becoming available. Business analysts offer somewhat contradictory expectations. On one hand, they argue that new "contracts for high technology services will increasingly go to private facilities due to severe financial restraints in the public sector." On the other hand, they contend that the Mexican government will increasingly subsidize the private health sector by permitting those with government health insurance to seek care in the private sector and be reimbursed for what they spend (International Medical . . . . 1994:13).

B. Private health insurance

NAFTA opens up business opportunities for health insurance companies. This will be an advantage for U.S.-based companies

because they have the most experience in private sector insurance of the three NAFTA countries. Here again, since the U.S. health insurance market is already "saturated," new opportunities offered by NAFTA to sell health insurance in Mexico are appreciated by U.S. firms (Beachy, 1994a). The Canadian case was discussed above. It appears that NAFTA will permit U.S. companies to develop and market health services not already reserved to the public sector (Clark, 1993). U.S. insurance companies are anticipating a market for supplemental insurance products in Canada. Bill Gradison of the Health Insurance Association of America (1994) points out that in many industrialized countries public sector health insurance is being "pinched by rising costs." He anticipates that "benefits are likely to be curtailed and national companies privatized." This, he says, will mean opportunities for American companies (Gradison, 1994: 44).

Mexico's public sector health care system provides health insurance for most citizens (70-80 percent) but U.S. business analysts believe this is changing. They feel that the Mexican government is committed to privatizing Mexico's health care system (Laurell and Ortega, 1992; International Medical... 1994:2). Should this take place, they argue, the sale of private health insurance would increase and U.S. health insurance companies would benefit. The health insurance market in Mexico was protected prior to NAFTA and foreign-owned companies were not allowed to participate (Warner and Reed, 1993: 120), but NAFTA permits wholly-owned U.S. companies to sell health insurance in Mexico by the year 2000 (*Wall Street Journal*, 1994A). Joint American-Mexican owned companies may sell insurance in the meantime (*U.S. Department of State Dispatch*, 1993; Beachy, 1994a). At the moment, few Mexicans have the disposable income necessary to purchase private health insurance, but this may change if the average income of Mexican citizens increases over time. Insurance industry representatives in the U.S. are hopeful that NAFTA will increase the size of Mexico's middle class. Should this occur, they argue, more Mexican citizens will have the money to buy the private health insurance policies which they intend to make available (Thomas, 1994).

C. Personal health services

NAFTA may increase the number of patients coming to the U.S. for health care. Fifteen thousand patients already come from other countries to the Texas Medical Center alone for treatment every year.

This testifies to the opportunities of the international market. As a result of NAFTA, both the Methodist Hospital and M.D. Anderson Cancer Center of Houston have set up offices in Mexico City to facilitate arrangements for patients wishing to come to the U.S. for medical treatment (Myerson, 1994C: 5). If NAFTA expands this market, it could augment employment in the U. S. health care sector.

While NAFTA does not establish a labor "common market," it does improve the possibilities for health professionals to seek education, licensing and employment within the free trade area (Pastor, 1992: 188-89; *NAFTA Digest*, 1992: 10). Movement of labor (defined as a resource) across borders in North America will be facilitated by NAFTA. "Intercompany transferees will be allowed" to enter a country if they have worked for the company in question for more than one year in the three previous years (Hufbauer and Schott, 1993: 24). NAFTA set in place a simplified visa procedure which enables professionals to obtain a temporary work permit to look for employment or take up a position once they receive a job offer. Foreigners must still obtain a "green card" to reside and work in the U.S. permanently. NAFTA also permits the entry of business persons who are citizens of the NAFTA countries.[25]

If the Mexican government expands public payment of some private sector health services, it will enhance the investment environment of U.S. and Canadian companies in Mexico by enlarging the market for private health services. As explained above, "governmental policy changes that will permit patients to select certain types of private care at government expense" are viewed favorably by the U.S. health care industry (International Medical . . . , 1994: 5). If developments along this line continue, it would lead to an increase in demand for private sector medical care facilities, services, and technology (International Medical . . . , 1994: 5). While the U.S. health sector is available to assist in this expansion, the overall impact on the health of the Mexican population is unknown.

Cooperative ventures between health services providers in the U.S. and Mexico are likely to increase because of NAFTA. U.S. medical educational institutions already provide training and continuing education opportunities to their Mexican counterparts. In exchange, Mexican physicians and hospitals refer complex cases to their U.S. partners. Methodist Hospital and Baylor College of Medicine in Houston are good examples. In the near future, new types of joint activities are expected to become available through teleconfer-

encing to exchange information, expand patient care and improve the quality and availability of consultation for difficult cases. Some U.S. hospitals have already established parallel facilities in Mexico such as Sharps Health Care in San Diego, and others are likely to do so in the future (International Medical . . . , 1994: 2, 6, 30-31).

It is hard to predict the overall impact of these activities and those anticipated due to NAFTA. Nor are they considered by all to be entirely positive. There is some evidence that U.S. private sector initiatives have been viewed with hostility in Mexico in the past. For example, in some instances local community physicians in Mexico have boycotted U.S.-owned facilities (International Medical . . . . 1994:6-7).

D. Health care costs

To the extent that NAFTA directly or indirectly permits and facilitates communication, transportation and trade between member countries, it will have subtle but certain consequences for health care costs and the availability of pharmaceuticals. Pressure exists on prices. Since medications are cheaper in Mexico and Canada than in the U.S., people already cross the border to make purchases (Hilts, 1992; Beachy, 1993; Warner, and Reed, 1993: Chapters 6 and 7). The U.S. emphasizes the use of competition to control health care costs, and this is having an impact in the health care policy climate of both Canada and Mexico, especially at a point in time when there are serious demands on the health care systems and increasing government deficits.

Cross-border migration in search of cheaper medical and dental care is also likely to increase in the next decade, and NAFTA contributes to this trend (National Academy. . . , 1993; Denman and Nichols, 1991: 8-10). Such migration has always existed for wealthy citizens in Mexico who came to the U.S. for up-to-date medical technology when confronted by a serious illness. But migration on the part of the poor, the uninsured and even the middle class in all NAFTA countries is increasing. Studies indicate that a worrisome number of U.S. citizens use the "free" Canadian health care system illegally. Uninsured U.S. citizens living along the U.S. - Mexico border go to Mexico to see a doctor if they cannot afford care in the U.S. (Hilts, 1992; Jasis-Silber and Guendelman, 1991). Thus increased market competition is likely to emerge on this border.[26]

The consequences of NAFTA as regards "health as a business opportunity" are mixed. So far the U.S. is likely to benefit from increased sales and Mexico from lower prices for its purchases and greater accessibility to products. There is the possibility that all will profit. But there is also the prospect that "inequalities and deficiencies present in the American health care system" will be carried over into the Mexican health care system (National Academy of Medicine 1993:46). There is strong sentiment in Mexico that if it is to benefit from NAFTA, equity in the health sector must be protected (Frenk *et al.*, 1994: 1595).

VII. SUMMARY AND CONCLUSION

It is too early to make any definitive statement about the health consequences of NAFTA. But in the short term, trends can already be observed. NAFTA's impact on health is complex. It varies by country, economic sector, and geographical region. Examining its health impact via the economy, immigration/migration, environment/workplace legislation, government regulation and new health business opportunities, we observe that some have benefited and others have not. The long-term health impact of NAFTA may be quite positive. In the meantime, it is important to consider the negative as well as the positive short-term trends.

If NAFTA results in economic growth, then it will improve health; if NAFTA's economic effect is negative, then the population's health also will be diminished. In the short term and using employment as the chief indicator, NAFTA has had a negative impact on the economies of Mexico and Canada and a positive effect on that of the U.S. Health status in Canada and Mexico probably suffered because of the economic setback that NAFTA represents. But health system features in Canada and Mexico such as a large role for the public sector and near universal coverage may moderate NAFTA's negative impact on health via the economy. Will this trend for Canada and Mexico be reversed in the long term and will the economies of all three countries benefit from NAFTA? Will this in turn mean improved health status across the whole of North America?

NAFTA will have a positive impact on health if it discourages illegal immigration into the U.S. by providing a higher standard of living within Mexico, thus removing the incentives to migrate internally and emigrate to the U.S. Health will be improved if immigration and migration are reduced because immigrant populations have

health problems that are more serious than those of stable, less mobile communities. In the short term, NAFTA may have negative health consequences if Mexican subsistence farmers are forced off their land because they cannot compete with modern U.S. farming techniques and migrate to urban areas, the border regions, and eventually to the U.S. in search of employment.

Enforcement of already existing environmental and occupational regulations is the key to improving health status for workers and the general population. NAFTA is likely to increase the population workforce exposed to occupational health hazards in the short term. But the regulatory and legal mechanisms for improving occupational health are in place and should prove effective in the long run. Overall, NAFTA is likely to improve environmental conditions on the Texas-Mexico border, thus indirectly improving the health of those living there. Clean water and sewage treatment are two priorities in the region, and implementation of treatment plants will have an immediate effect on health. Funding will also be available for research into health-related effects of environmental contaminants as well as financing for campaigns to promote public awareness. But if competition between the three NAFTA countries results in lowering legal requirements (or failure to enforce those already existing) as regards occupational health and environmental health standards in order to attract industry, then the impact on health will be negative. It will be several years before definitive statements about these trends can be made.

NAFTA is already influencing health policy in Canada, the U.S. and Mexico in both the public and private sectors. Trends are beginning to appear in several sectors: pharmaceutical policy, licensing of health professionals, social welfare issues, and health system organization. Formal and informal harmonization of health regulations and health policy seems likely. Increased health sector business opportunities improve health status as they augment the diffusion of up-to-date medical technologies, at least for those who can afford to pay for them. Government and official sector representatives of all three countries are optimistic, believing that the costs of medical technology and health services will decline as a result of NAFTA, and that this will make for "greater access to health care . . . , especially for the less advantaged socioeconomic sectors" (Perry, 1994: iii, 3). NAFTA has opened up new markets for health-related goods and services in the private sector. Private health insurance is already

more readily available in Mexico and it may be expanded into Canada in the future. Again, this is positive in as much as it results in improved health care for those who purchase it. But if NAFTA leads to the privatization of health services in Canada and Mexico, and if this eliminates universally available, publicly financed health care services, then NAFTA's impact in Canada and Mexico could be largely negative as those with low incomes find access reduced and higher financial barriers to health services imposed.

GLOSSARY

BECC	Border Environmental cooperation Commission
FTA	Free Trade Agreement between U.S. and Canada implemented on 1 January 1989
GDP	gross domestic product
GNP	gross national product
IRCA	U.S. Immigration Reform and Control Act 1986
	maquiladoras U.S. branch plants in Mexico located mostly near the U.S. border
NAAEC	North American Agreement on Environmental Cooperation
NAFTA	North American Free Trade Agreement between the U.S., Canada, and Mexico implemented on 1 January 1994

REFERENCES

Altman, Lawrence K. 1994. "Infectious Diseases on the Rebound in the U.S., A Report Says." *The New York Times.* May 10: B7.

Anderson, Sarah, John Cavanagh, David Ramey, and Paul Schwalb. 1994. *NAFTA's First Year, Lessons for the Hemisphere.* Washington D.C.,: Institute for Policy Studies.

Audubon. 1993. "Better NAFTA Than Not." (November/December).

Ayres, B. Drummond. 1994. "Anti-Alien Movement Spreading in Wake of California's Measure." *New York Times.* December 4: 1, 20.

Barry, Tom ed. 1992. *Mexico: A Country Guide.* Albuquerque, New Mexico: Inter-Hemispheric Resource Center.

Bath, C. Richard. 1991. "Environment: U.S. Perspective." In *U.S.-Mexican Industrial Integration.* Edited by Sidney Weintraub, Jose Rubio and Allen Jones. Boulder: Westview.

Beachy, Debra. 1993 "Medical Industry Looking South of Border." *The Houston Chronicle.* May 29: 1F, 8F.

Beachy, Debra. 1994a. "Savings Over the Border." *The Houston Chronicle.* Jan. 1E, 3E.

Beachy, Debra. 1994b. "Trade Pact's Pull Is Being Felt Both Ways; Firms Add Workers as Other Jobs Go South." The *Houston Chronicle.* July 19: 1C, 5C.

Becker, Gary S. 1993. "NAFTA: The Pollution Issue is Just a Smokescreen." *Business Week.* August 9: 16.

Begin, Monique. 1988. *Medicare: Canada's Right to Health.* Translated by David Homel and Lucille Nelson. Montreal: Optimum Publishing International, Inc.

Behr, Peter. 1994. "In the NAFTA math, Some Texas-Sized Gains." *The Washington Post National Weekly Edition.* August 29 - September 4: 19.

Benavides-Vaello, and H. Setzler. 1994. "Migrant and Seasonal Farmworkers: Health Care Accessibility." Working Paper Series, Lyndon B. Johnson School of Public Affairs, The University of Texas at Austin.

Blaxter, M. 1990. *Health and Lifestyles.* London, England: Routledge.

Briggs, V. M. 1992. *Mass Immigration and the National Interest.* New York: M.E. Sharpe.

Brown, Drusilla K., Alan V. Deardorff and Robert M. Stern. 1992. "North American Integration." *The Economic Journal.* November: 1507-18.

Brown, George E. Jr., William J. Goold and John Cavanagh. 1993. "Making Trade Fair." *World Policy Journal: 309-27.*

Business America. 1993. "Completing the Package: Supplemental Agreements on Environment, Labor, and Import Surges." October 18: 26-7.

Calva, J. L. 1991. *Probables efectos de un tratado de Libre comercio en el campo mexicano*. Mexico City: Fontamara.

Cameron, Duncan. 1993. "Introduction." in Duncan Cameron and Mel Watkins, eds. 1993. *Canada Under Free Trade.* Toronto: Lorimer.

Cameron, Duncan and Mel Watkins, eds. 1993. *Canada Under Free Trade.* Toronto: Lorimer.

Campbell, Bruce. 1992. *Canada under Siege: Three Years into the Free Trade Era.* Ottawa, Canada: Canadian Centre for Policy Alternatives.

Campbell, Bruce. 1993a. "A Canadian Labour Perspective on the North American Free Trade Agreement." In *Sectoral Labor Effects of North American Free Trade*. Edited by Rafael Fernandez de Castro, Monica Verea Campos, and Sidney Weintraub. Austin Texas: U.S.-Mexican Policy Studies Program and El Centro de Investigaciones Sobre Estados Unidos de America, Universidad Nacional Autonoma de Mexico.

Campbell, Bruce. 1993b. "Continental Corporate Economics." in Duncan Cameron and Mel Watkins, eds. 1993. *Canada Under Free Trade.* Toronto: Lorimer.

Castaneda, Jorge G. 1993. "Can NAFTA Change Mexico?" *Foreign Affairs* September/October: 66-80.

CCH (Commerce Clearing House). 1994. "Public Health Concerns Follow California Vote on Prop. 187." *Pulse* vol 2., no. 44 November 28: 8.

Cech, Irina and Amelia Essman. 1992. "Water Sanitation Practices on the Texas-Mexico Border: Implications for Physicians on Both Sides." *Southern Medical Journal* 85(11): 1053-1064.

Cella, D., E.J. Orav, A. B. Kornblith, et al. 1991. "Socioeconomic Status and Cancer Survival." *Journal of Clinical Oncology*. 9: 1500-1509.

Charnovitz, Steve. 1994. "NAFTA's Environmental Significance." *Environment* 36(2): 42-5.

Ciesielski, Stephen, John R. Seed, John Estrada and Edward Wrenn. 1993. "The Seroprevalence of Cysticercosis, Malaria, and *Trypanosoma cruzi* Among North Carolina Migrant Farmworkers." *Public Health Reports* 106(6): 736-41.

Clark, Mel G. 1993. "Memorandum: Medicare and The FTA, NAFTA and GATT." Council of Canadians, Ontario, Canada, May 3, 6pp. [Mel Clark is a trade consultant and a former GATT negotiator for Canada.]

Cloud, David S. 1993. "Decisive Vote Brings Down Trade Walls With Mexico." *Congressional Quarterly* November 20: 3174-9.

Commission for the Study of International Migration and Cooperative Economic Development. 1990. "Unauthorized Migration: An Economic Development Response." Final Report. Washington, D.C. July.

Congressional Digest. 1993. "North American Free Trade Agreement." 72 November: 257-88.

Congressional Quarterly. 1993. "The Nuts and Bolts of NAFTA." November 20: 3178.

Conroy, Michael and Amy Glasmeier. 1992. "Unprecedented Disparities, Unparalleled Adjustment Needs: Winners and Losers on the NAFTA 'Fast Track'." *Journal of Interamerican Studies and World Affairs*. 34 (4): 1-37.

Cooper, Helene. 1994. "They're Still Coming." *Wall Street Journal* October 28: R11.

Cornelius, Wayne A. and Philip L. Martin. 1994. "The Uncertain Connection: Free Trade and Rural Mexican Migration to the United States." *International Migration Review* 27(3): 484-512.

Denman, Catalina and Andrew Nichols. 1991. "Crossing the Border for Bargain Medicine." *Carnegie Quarterly* 36 (1-4). Winter-Fall: 8-10.

DePalma, Anthony. 1994. "Trade Pact Is Spurring Mexican Deals in U.S." *New York Times* March 17: D1, D6.

Diebel, Linda. 1993. "How Trade Deals Work for U.S. Corporations: The Case of Patents and Pharmaceutical Drugs." in Duncan Cameron and Mel Watkins, eds. 1993. *Canada Under Free Trade*. Toronto: Lorimer.

Donato, K.M., J. Durand, and D.S. Massey. 1992. "Stemming the Tide? Assessing the Deterrent Effects of the Immigration Reform and Control Act." *Demography*. May 29 (2): 139-157.

Drache, Daniel. 1994. "The Post-National State" in James Bickerton and Alain G. Gagnon, eds. *Canadian Politics: An Introduction to the Discipline*, 2nd edition, Peterborough, Ontario: Broadview Press.

Economist. 1993a. "After NAFTA." March 20: 71.

Economist. 1993b. "A Giant Sucking Sound." June 5: 289.

Economist. 1993c. "More Muck Than Money." October 16: 50.

Economist. 1994a. "The Unhealthy Poor." June 4: 55-56.

Farnsworth, Clyde. 1993. "What an Earlier Trade Pact Did Up North." *New York Times*. November. 14: E3.

Faux, Jeff. 1994. "I Was Right: The Numbers So Far Tell the Story - Nafta Was a Bad Move." *Wall Street Journal*. October 28: R 13

Feinstein, Jonathan S. 1993. "The Relationship Between Socioeconomic Status and Health: A Review of the Literature." *The Milbank Quarterly*. 71 (2): 279-322.

Feldman, J.J., D. M. Makuc, J.C. Kleinman, and J. Cornoni-Huntley. 1989. National Trends in Educational Differentials in Mortality." *American Journal of Epidemiology* 129: 919-33.

Frenk, Julio, Javier Alagon, Gustavo Nigenda, Alejandro Munoz-del Rio, Cecilia Robledo, Luis A. Vaquez-Segovia, and Catalin Ramirez-Cuadra. 1991. "Patterns of Medical Employment: A Survey of Imbalances in Urban Mexico." *American Journal of Public Health*. 81 (1): 23-29.

Frenk, Julio, Octavio Gomez-Dantes, Carlos Curz, Fernando Chacon, Patricia Hernandez and Phyllis Freeman. 1994. "Consequences of the North american Free Trade Agreement for Health Services: A Perspective from Mexico." *American Journal of Public Health*. 84 (10):1591-1597.

Freudenheim, Milt. 1992. "Canadian Drug-Price Shift Said to Cost $3.2 Billion." *New York Times* December 1.

Friedman, Sheldon. 1992. "NAFTA as Social Dumping." *Challenge* September/October: 27-32.

Friedman, Thomas L. 1994. "The NAFTA Report: Windy, Chance of Greenspan." *New York Times*. June 26: 4E.

Fuller, Colleen. 1993. "A Matter of Life & Death: NAFTA and Medicare." *Canadian Forum* October: 14-18.

GAO (U. S. Government General Accounting Office). 1992. *Prescription Drugs; Companies Typically Charge More in the United States Than in Canada*. GAO/HRD-92-110. Washington, D.C.: U. S. Government General Accounting Office.

Gellert, G.A. 1993. "International Migration and Control of Communicable Diseases." *Social Science and Medicine* 37 (12) December: 1489-99.

Gomez, Arturo S. 1993. "The Porous U.S.-Mexico Border." *The Nation* October 25: 458-62.

Gonzalez, Daniel I.B. and Elaine F. Rodriguez. 1991. "Environmental Aspects of Maquiladora Operations: A Note of Caution for U.S. Parent Corporations." *St. Mary's L.J.* (22): 659-668.

Gonzalez-Block, M.S. and D.E. Hayes-Bautista. 1991. "SIDA: la callada amenaza a la seguridad binacional." *Salud Publica de Mexico* 33 (4) Jul-Aug: 360-70.

Gradison, Bill. 1994. "U.S. Health Insurers Can Export Their Skills." *Best's Review*. 95 (3):44.

Graham, J.D., B.-H. Chang, J.S. Evans. 1992. "Poorer is Riskier." *Risk Analysis* 12: 333-7.

Grinspun, Ricardo and Maxwell A. Cameron, eds. 1993. *The Political Economy of North American Free Trade.* Montreal: McGill-Queens University Press.

Guarnaccia, Peter J., Jacqueline L. Angel and Ronald Angel. 1993. "The Impacts of Farm Work on Health: Analyses of the Hispanic Health and Nutrition Examination Survey." *International Migration Review* 26(1): 111-132.

Guendelman, Sylvia. 1991. "The Impact on Women's Health of the Maquiladoras: The Tijuana Case." *Carnegie Quarterly* 36 (1-4) Winter-Fall: 11-15.

Guendelman, Sylvia and Monica J. Silberg. 1993. "The Health Consequences of *Maquiladora* Work: Women on the US-Mexican Border." *American Journal of Public Health* 83(1): 37-44.

Hagan, Jacqueline M. and Susan G. Baker. 1994. "Implementing the U.S. Legalization Program: The Influence of Immigrant Communities and Local Agencies on Immigration Policy Reform." *International Migration Review* 27(3): 513-36.

Healy, Theresa. 1993. "Selected Plant Closures and Production Relocations; January 1989 - June 1992, Ontario." in Duncan Cameron and Mel Watkins, eds. 1993. *Canada Under Free Trade*. Toronto: Lorimer.

Hernandez, Luis A. 1994. "Non-Profit Hospitals in Mexico: Different Needs, Different Problems." Speech presented at a conference, "Health Care in Mexico: Infrastructure, Technologies, and Financing: Challenges and Opportunities," organized by the Insti-

tute of the Americas, the U.S. Trade and Development Agency, Modern Health, and Scripps Health, La Jolla, California, July 18-19.

Hilts, Philip J. 1992. "Quality and Low Cost of Medical Care Lure Americans on Border to Mexico." *New York Times*. Nov. 23: A 11.

Hinojosa-Ojeda, Raul and Sherman Robinson. 1992. "Labor Issues in a North American Free Trade Area." In *North American Free Trade: Assessing the Impact*. Edited by Nora Lustig, Barry Bosworth and Robert Z. Lawrence. Washington, D.C.: Brookings Institution.

Howell, Llewellyn D. 1993. "Free Trade Agreement Mustn't Ignore Canada," *USA Today* 121 (2576) May: 51.

Hufbauer, Gary and Jeffrey Schott. 1993. *NAFTA: An Assessment*. Washington, D.C.: Institute for International Economics.

International Labour Review. 1994."Perspectives: NAFTA Comes into Force - with a Glimmer of Social Clause." *International Labour Review*. 133 (1): 113-119.

International Medical Associates, Inc. 1994. "Opportunities for U.S. Participation in the Expansion of the Mexican Health Care System." A Project Identification Mission. Prepared for and available through the U. S. Trade and Development Agency July 18.

IRCA (Immigration Reform and Control Act). 1986. P.L. 99-603. 100 Stat. 3359.

Jackson, Andrew. 1993. "Manufacturing." in Duncan Cameron and Mel Watkins, eds. *Canada Under Free Trade*. Toronto: Lorimer.

Jasis-Silber, M. and S. Guendelman. 1991. "Uso Bi-nacional de servicios de salud en la frontera Mexico-Estados Unidos: el caso de los residentes de Tijuana." *Salud Publica de Mexico* 33 (5) Sept-October: 463-74.

Keeney, Ralph. 1994. "Sounding Board, Decisions about Life-Threatening Risks." *The New England Journal of Medicine*. 331 (July 21) No. 3: 193-196.

Kitagawa, E.M. and P.M. Hauser. 1973. *Differential Mortality in the United States*. Cambridge, Mass: Harvard University Press.

Koday, Mark, David I. Rosenstein and Gloriana M. Nana Lopez. 1990. "Dental Decay Rates Among Children of Migrant Workers in Yakima, WA." *Public Health Reports* 105(5): 530-33.

Koechlin, Timothy and Mehrene Larudee. 1992. "The High Cost of NAFTA." *Challenge* September/October: 19-26.

Kossoudji, S.A. 1992. "Playing Cat and Mouse at the U.S. Mexican Border." *Demography* 29 (2) May: 159-80.

Krugman, Paul. 1993. "The Uncomfortable Truth About NAFTA: It's Foreign Policy, Stupid." *Foreign Affairs* 72(5): 13-9.

Laurell, Asa Cristina and Maria Elena Ortega. 1992. "Free Trade Agreement and the Mexican Health Sector." *International Journal of Health Services* 22 (2): 331-337.

Levy, Santiago and Sweder van Wijnbergen. 1992. "Mexican Agriculture in the Free Trade Agreement: Transition Problems in Economic Reform." Technical Papers No. 63. Paris: OECD Development Centre. May.

Lewin-Epstein, N. 1991. "Determinants of Regular Source of Health Care in Black, Mexican, Puerto Rican, and Non-Hispanic White Populations." *Medical Care* 96: 543-57.

Ley General del Equilibrio Ecologico y la Proteccion al ambiente. 1988. [General Law of Ecological Equilibrium and Environmental Protection]. D.O., Jan. 28, 1988.

Magraw, Daniel. 1994. "NAFTA's Repercussions: Is Green Trade Possible?" *Environment* 36(2): 15-42.

Massey, Douglas S., et al. 1987. *Return to Aztlan: The Social Process of International Migration from Western Mexico.* Berkeley: University of California Press.

McNamara, Victoria. 1992. "*Maquiladoras* Breed Disease, Expert Says." *The Houston Post* December 10: D2.

Miller, Jeffrey G. 1987. *Citizen Suits: Private Enforcement of Federal Pollution Control Laws.* Environmental L. Inst.

Monroy, Miguel. 1991. "Binational Management of the *Maquiladora* Industry: Hazardous Waste on the U.S.-Mexico Border." *Salud Fronteriza* 7(2): 3-18.

Myerson, Allen R. 1991. "The Booming, Bulging Tex-Mex Border." *New York Times* August 7 Section 3: 1,6.

Myerson, Allen R. 1994A. "New Limits Are Seen to Freer Trade." *The New York Times* September 6: C1, C3.

Myerson, Allen R. 1994B. "Big Labor's Strategic Raid in Mexico." *The New York Times* September 12: C1, C4.

Myerson, Allen R. 1994C. "Texans Want to Get Closer to Mexico," *The New York Times* November 27: Section 4: 1, 5.

NAFTA *Digest*. 1992. "An Abridged Summary of NAFTA" 1 (9) September: 10.

Narisetti, Raju. 1994. "Not Everybody Wins." *Wall Street Journal* October 28: R10.

National Academy of Medicine - Mexico. 1993. *The North American Free Trade Agreement and Medical Services; Elements for Analysis and Negotiation.* Produced by the Working Group on NAFTA and Medicine, printed and distributed in several versions between1992 and 1994.

Nature. 1994. "Industrialists Facing the NAFTA Facts." 368 28 April: 803.

Noah, Timothy. 1994. "Cleaning Up: Environmental Companies Stand to Make a Bundle from the Trade Pact. "*Wall Street Journal* October 28: R 8.

Office of the President. 1991. *Response of the Administration to Issues Raised in Connection with the Negotiation of a North American Free Trade Agreement.* Washington, D.C., May 1, 1991.

Orme, William A. Jr. 1993. "The NAFTA Debate: Myths vs. Facts." *Foreign Affairs* November/December: 2-12.

Pappas, G., S. Queen, W. Hadden, and G. Fisher. 1993. "The Increasing Disparity in Mortality between Socioeconomic Groups in the United States, 1960 and 1986." *The New England Journal of Medicine* 329: 103-9.

Pastor, Robert A. 1992. "NAFTA as the Center of an Integration Process; the Nontrade Issues." In *North American Free Trade: Assessing the Impact*. Edited by Nora Lustig, Barry Bosworth and Robert Z. Lawrence. Washington, D.C.: Brookings Institution.

Pasztor, Andy. 1993. "Power Plants in Mexico Cast Pall Over NAFTA." *The Wall Street Journal* September 8: B1,B6.

Pear, Robert. 1994. "Deciding Who Gets What in America." *New York Times*. Nov. 27: E5.

Perry, Seymour 1994. *Implications of NAFTA for Trade in Health Care Technology.* Washington D.C.: Medical Technology and Practice Patterns Institute.

Pinkerton, James. 1994. "$6.6 Million System Serves Few in *Colonias." Houston Chronicle.* November 6: A1, A10.

Rice, Jeanette I. 1994. *Understanding Nafta. The Journey Begins.* Houston: Rice University School of Continuing Studies and Rice Institute for Policy Analysis.

Robberson, Tod. 1994. "For Mexico, NAFTA Spells a Rising Deficit." *Washington Post National Weekly Edition* August 15-21: 21.

Robinson, Linda and Andrea Dabrowski. 1993. "Reaching to the South." *U.S. News and World Report* March 1: 43-6.

Robinson, Sherman, Mary E. Burfisher, Raul Hinojosa-Ojeda and Karen E. Thierfelder. 1991. "Agricultural Policies and Migration in a U.S.-Mexico Free Trade Area: A Computable General Equilibrium Analysis." Working Paper 617. Department of Agricultural and Resource Economics. University of California at Berkeley.

Roemer, Milton. 1991. *National Health Systems of the World,* vol. 1. New York: Oxford University Press.

Rosas, Alan. 1993. "The North American Free Trade Agreement: Energy and Environmental Issues." Discussion paper 2. Health Policy Institute. The University of Texas-Houston Health Science Center. January.

Rowen, Hobart. 1994. "Playing the NAFTA Card." *The Washington Post National Weekly Edition* August 29 - September 4: 5.

Rust, George S. 1990. "Health Status of Migrant Farmworkers: A Literature Review and Commentary." *American Journal of Public Health* 80(10): 1213-7.

Saint-Germain, Michelle. 1994. "Problems and Opportunities for Cooperation among Public Managers on the U.S.-Mexico Border." Presented at the Southwest Social Science Association Meeting. El Paso, Texas. April.

Salgado-de-Snyder, V.N., R.C. Cervantes, and A. M. Padilla, 1990 "Migracion y estres postraumatico: el caso de los mexicanos y centroamericanos en los Estados Unidos," *Acta Psiquiatr Psicol. Am. Lat.* Jul-Dec, 36 (3-4): 137-45.

Samuelson, Robert J. 1993. "The Great Fog Over NAFTA." *Newsweek.* November 8, 122 (19): 54-55.

San Antonio Express-News. 1993. "Nogales Residents Fear Deadly Toxins." October 31: 1D-2D.

Sanchez, Roberto. 1993. "NAFTA and the Environment." *Technology Review* 96(3): 30-31.

Schwenker, Carl F. 1993. "Note, Protecting the Environment and U.S. Competitiveness in the Era of Free Trade: A Proposal," *Texas Law Review* 71: 1355-1367.

Sharp, John. 1994. "Health Care Reform and the Three Faces of Texas." *Special Financial Report of the Texas Comptroller of Public Accounts.* Austin, Texas: Comptroller of Public Accounts.

Sheehan, James M. 1993. "NAFTA—Free Trade in Name Only." *The Wall Street Journal* September 9: A21.

Sixel, L.M. 1994. "NAFTA Boom Crescendos Through the Valley." *The Houston Chronicle* June 26: 1F, 7F.

Slater, C. H., Ronald J. Lorimor, David R. Lairson. 1985. "The Independent Contributions of Socioeconomic Status and Health Practices to Health Status." *Prev. Med.* 14: 372-378.

Solis, Dianne. 1994. "The Small Shall Suffer." *Wall Street Journal* October 28: R 10.

SoRelle, Ruth. 1993. "Health Care for Illegal Workers." *The Houston Chronicle.* Sept. 24.

Statistics Canada. 1993. "Sector Profiles." in Duncan Cameron and Mel Watkins, eds. *Canada Under Free Trade.* Toronto: Lorimer.

Swenarchuk, Michelle. 1993. "NAFTA and the Environment." *Canadian Forum* January: 13-4.

Tancer, R.S. 1993. "Pharmaceutical Patents and Some International Trade Issues: Canada, the United States, and NAFTA. "*Clinical Therapeutics,* Nov/Dec 15 (6): 1177-84.

Thomas, Kate 1994. "Hospitals See NAFTA Bringing Patients, Profits From Mexico." *The Houston Post.* Feb. 11.

Uchitelle, Louis. 1993. "Nafta and Jobs: In a Numbers War, No One Can Count." *New York Times.* November 14: E1, E6.

U. S. Congress, Office of Technology Assessment. 1992. *U.S.-Mexico Trade: Pulling Together or Pulling Apart?* Washington, D.C.: U.S. Government Printing Office.

U.S. Department of State Dispatch. 1993. "Fact Sheet: NAFTA - Key Provisions and Supplemental Agreements." 4(37) September 13: 627-8.

VanderMeer, Daniel C. 1993. "NAFTA Prompts Health Concerns Across the Borders." *Environmental Health Perspectives.* 101(3): 230-31.

Verhovek, Sam H. 1994a. "Texas Plans to Sue U.S. Over Illegal Alien Costs." *The New York Times.* May 27.

Verhovek, Sam H. 1994b. "Stop Benefits for Aliens? It Wouldn't Be That Easy." *The New York Times.* June 8: A1, A12.

Verhovek, Sam H. 1994c. "Texas and California: 2 Views of Illegal Aliens." *The New York Times.* (June 26): A8.

Walker, George. 1992. Symposium on the North American Free Trade Agreement: Health and Environmental Issues. University of Texas School of Public Health. December 9.

Wall Street Journal. 1994a. "U.S. Life Insurers Are Aiming to Move into Mexico to Take Advantage of Nafta" September 2: A5A.

Wall Street Journal. 1994b. "NAFTA: So Far, So Good" October 28: Section R.

Walsh, James I. 1994. "NAFTA: A 'Bill of Rights' for U.S. Service Providers." *Business America* May: 26-27.

Wann, Marilyn. 1994. "NAFTA Does Not Relax State Standards But Some Care Providers Fear Competition." *Nurseweek*7 (4) February 2nd: 1, 20.

Warner, David C. 1991. "Health Issues at the U.S.-Mexican Border," *Journal of the AmericanMedical Association* 256 (2); 242-47.

Warner, David C. and Kevin Reed. 1993. *Health Care across the Border: The Experience of U.S. Citizens in Mexico.* Austin, Texas: U.S. Mexican Policy Studies Program and Lyndon B. Johnson School of Public Affairs.

Weintraub, Sidney. 1992. "Modeling the Industrial Effects of NAFTA." In *North American Free Trade: Assessing the Impact.* Edited by Nora Lustig, Barry Bosworth and Robert Z. Lawrence. Washington, D.C.: Brookings Institution.

Wildavsky, A. 1980. "Richer Is Safer." *Public Interest* 60: 23- 39.

Wildavsky, A. 1988. *Searching for Safety.* New Brunswick, N.J.: Transaction.

Wilkinson, Richard 1992. "National Mortality Rates: The Impact of Inequality?" *American Journal of Public Health* 82 (8): 1082-1084.

Williams, Gary W. and B. Kris Schulthies. 1993. "Agricultural Labor Effects of a U.S.-Mexican Free Trade Agreement: A U.S. Perspective." In *Sectoral Labor Effects of North American Free Trade.* Edited by Rafael Fernandez de Castro, Monica Verea Campos, and Sidney Weintraub. Austin Texas: U.S. - Mexican Policy Studies Program and El Centro de Investigaciones Sobre Estados Unidos de America, Universidad Nacional Autonoma de Mexico.

Wilson, D. J. 1994. "Trashing Houston." *Houston Press* 6(15): 8-15.

Wilson, Pete. 1994. "Washington Has to Reform the System or Pay the Bill." *The Houston Chronicle.* May 22.

Yunez-Naude, A. and R. Blanno-Jasso. 1991. "Mexican Foreign Trade of Agricultural and Live Stock Products: Tendencies and Impacts of Alternative Policies." in S. Diaz-Briquets and S. Weintaub, eds. *Regional and Sectoral Development in Mexico as Alternatives to Migration.* Boulder Colorado: Westview.

Zarsky, Lyuba. 1994. "NAFTA and Green Trade." *Environment* 36 (2): 2-3.

NOTES

1 . Earlier versions of this paper were presented at the American Political Science Association's annual meeting in New York City, September, 1994, and at the annual meeting of the American Public Health Association, Washington, D.C., November 2, 1994. We would like to thank Lee Loe, Seymour Perry, David Smith, and David Warner for helpful suggestions. The responsibility for errors remains our own.

2 . The trade agreement signed between the U.S. and Canada is sometimes referred to as **CAFTA** or **FTA** and sometimes designated as **NAFTA**. The original bilateral accord negotiated between the **U.S.** and Canada was not the same text as that of the three-party **NAFTA** which actually overrides **CAFTA** (Cameron, 1993:ix).

3 . Health status differences between rich and poor individuals remain, even where financial barriers to health care have been removed such as in the Canadian system. But differentials are reduced.

4 . Since 1985 Mexico has been undergoing broad economic reforms that have included significant reductions in trade and investment barriers. Mexican imports and exports have consistently increased since 1988 because the Mexican government unilaterally reduced tariffs (Myerson, 1994; Krugman, 1993:17). Under the Salinas administration, Mexico gave up its long standing protectionist policies and greatly liberalized trade and investment practices. This had the effect of increasing U.S. exports to Mexico gradually over a period of years. **NAFTA** accelerated this trend and as a result some Mexican business have failed (Robberson, 1994).

5 . Labor leaders contend that one in six manufacturing jobs in Canada was lost because of **FTA** (*International Labour Review* 1994:114). Historically, Canada has exported natural resources, and its fragile manufacturing sector was developed with great difficulty. **FTA** is unpopular in Canada and widely presumed responsible for the setback the manufacturing sector has experienced in the last three or four years. See Healy (1993:287-294) for a selected list of Ontario plant closures and production relocations.

6. Gary Hufbauer and Jeffrey Schott (1993) argue that once other factors are taken into consideration, wages in Mexico and the U.S. are not that different.

7. Opinion differs; some suggest that the expected advantage of Mexico in the apparel sector is more apparent than real (Hinojosa-Ojeda and Robinson, 1992: 103-104).

8. Privatization of *ejidos* (subsistence-farms) began even before the implementation of **NAFTA**.

9. The *maquiladora* program was initiated in 1965. Under this arrangement, equipment and parts can be imported in bond into Mexico duty free for assemblage, provided the resultant products are then exported back into the United States. The finished goods are returned duty-free and only a value-added tax is paid in Mexico.

10. **NAFTA** is expected to benefit urban areas in Texas more than rural areas (Rice, 1994).

11. Mexico is of concern with regard to immigration to a far greater extent than Canada; thus our attention to immigration focuses on the southern border of the United States. Mexico is the leading source of illegal immigrants; ninety percent of those the Immigration and naturalization Service deports are Mexicans (*Congressional Digest,* 1993). Three percent of Texas residents are thought to be illegal aliens; seven percent of California's residents are illegal (Verhovek, 1994c).

12. Hufbauer and Schott (1993) predict **NAFTA** will bring the average per capita income in Mexico to half that of the U.S. over three to four decades.

13. See footnote 16 for definitions of some of these terms.

14. The Mexican government expressed a "profound concern" about growing anti-alien sentiment in California and specifically mentioned that it could "damage the spirit of cooperation" between the two countries and be an "obstacle that could affect post-**NAFTA** economic relations" between Mexico and California. (Quotes from *El Financiero International Weekly,* Sept. 26-Oct. 2, 1994).

15. None of the health care reform proposals considered by Congress in 1993-94 provided health care for undocumented immigrants in the U.S. If employer-mandated health insurance is ever implemented, then it is likely that employed illegal immigrants will have health insurance *de facto*. But those who worked in the underground economy or who were unemployed would not have insurance (SoRelle, 1993: 8A).

It is politically impossible, yet scientifically and medically appropriate, and essential both for humanitarian reasons and for practical reasons, to extend coverage under health care reform to all those residing in the U.S. (i.e. to protect U.S. citizens).

16. Complementary seasonal need for unskilled labor in Mexico and the U.S., as well as demographic trends, encourage and sustain the flow of illegal immigration (U.S. Congress, 1992: 121-122). Nearly fifty percent cross the border into California where most of the produce is harvested from June through September, complementing the Mexican harvest season (*Economist*, 1993b). Another factor influencing Mexican emigration is the expansion of its working age population. During the 1990s approximately one million Mexicans will join the workforce annually, while the U.S. is projected to experience a relative shortage of young, low-skilled workers (Cornelius and Martin, 1994). Wages for these workers are expected to remain low in Mexico and increase in the U.S. throughout the decade, perpetuating the influence of a real wage differential on migration (*Congressional Digest*, 1993; Cornelius and Martin, 1994). Furthermore, sophisticated transnational networks are in place which support migration by providing information about employment opportunities as well as direct assistance in employment and housing (Massey et. al., 1987). Ninety percent of rural Mexicans have relatives or friends who have either previously worked or are currently working in the United States (*Economist*, 1993b). Deteriorating economic conditions in Mexico during the 1980s increased the influence of these networks as many rural Mexicans turned to migration as a household subsistence strategy (Cornelius and Martin, 1994). Migrant networks were further strengthened by the legalization of U.S.-based members under **IRCA** (Cornelius and Martin, 1994; Hagan and Baker, 1994).

17. Working conditions are regulated through "watchdog committees" comprised of both management and labor. However, labor positions on the committee are appointed by management and easily manipulated. Since health care fees are based on a company's previous record, work-related injuries often go unreported. An example is Gerardo Gonzalez, who was threatened with dismissal if he refuted the company's claim that the accident which resulted in the loss of four of his fingers occurred off the job (Robinson and Dabrowski, 1993). Attempts by workers to organize in order to improve conditions are often disrupted through intimidation, dismissal and arrests (Robinson and Dabrowski, 1993). Mexican union leader Agapito Gonzalez was arrested on tax evasion charges while negotiating with 33 *maquiladoras* in January of 1992. He was arrested two days prior to a scheduled strike (Friedman, 1992). In addition, those who complain to the government about toxic emissions are considered unpatriotic and regarded with scrutiny (Friedman, 1992).

18. In 1991 President Bush made commitments to Congress on environmental, labor and other issues to gain the authority he needed to negotiate **NAFTA** (Office of the President, 1991). These commitments included an environmental review of the free trade area, protection of U.S. environmental laws, protection of certain international environmental trade agreements, and labor commitments dealing with worker health and safety.

19. The El Paso-Ciudad Juarez air quality is problematic due to temperature inversions which trap polluted air against the mountains. Pollutants in this area include carbon monoxide, ozone, sulfur oxides, lead and heavy metals. Air samples in Nogales, Arizona, have detected high levels of trichlorethylene and tetrachloroethylene, carcinogens produced in electronics manufacturing. Additional sources of pollutants in Mexico which affect the U.S. are unregulated landfills which periodically catch fire, automobile emissions (leaded gasoline is legal in Mexico and emissions are unregulated), dust and smoke from unpaved streets and open burning (especially in winter) as well as the operation of certain industries, such as cement plants and power stations (Bath, 1991; *San Antonio Express-News,* 1993; Pasztor, 1993). One controversy involves Carbon II, a power plant located twenty miles south of Eagle Pass, Texas (on the border) which uses low-grade, high ash coal. It lacks the modern equipment

required in the U.S. for handling emissions since the Mexican standard for particulate emissions from power plants is ten times weaker than the U.S. standard (Pasztor, 1993). The plant, along with a sister plant located nearby, are expected to emit 230,000 tons of sulfur dioxide yearly, making them the tenth largest source of sulfur dioxide pollution in North America. The emissions will contribute to acid rain and increase haze in pristine areas such as Big Bend National Park and the Grand Canyon (Pasztor, 1993).

20. Water quality problems exist throughout the U.S.-Mexico border region. Doctors in Nogales, Arizona (population 21,000) diagnose 40 new cancer cases monthly, five times the national rate. Residents of Nogales live along a wash or drainage region polluted with pesticides, raw sewage and toxic wastes which travel across the border. The water has purportedly eaten holes in leather boots (San Antonio Express-News, 1993). The Calexico-Mexicali region presents another problem. The New River, which arises in the U.S., migrates to Mexico and then returns to the U.S., is becoming increasingly polluted with raw sewage and toxic wastes but continues to be used for irrigation (Bath, 1991). Perhaps the most dramatic example of water pollution exists in the San Diego-Tijuana region. Twelve million gallons of raw sewage as well as substantial amounts of toxic chemicals are dumped into the Tijuana River daily. The river empties into the Pacific Ocean, dumping wastes onto Imperial Beach, California, which has been closed for ten years. Analysis of the water has found the disease-causing agents for dysentery, cholera, staph, hepatitis, encephalitis, malaria and polio (Bath, 1991).

21. The main disposal problem in Mexico is that the country has only one toxic waste dump which is located in the desert between Monterrey and the border. It receives an average of 5,000 metric tons of toxic materials a month, less than one percent of the estimated 5 million to 6.5 million metric tons Mexico produces yearly (D.J. Wilson, 1994: 13). Much of the waste is dumped illegally (Bath, 1991; McNamara, 1992); 600 55-gallon drums bearing U.S. marks and containing toxic waste were discovered in Ciudad Juarez in 1992 (Robinson and Dabrowski, 1993). Presto Lock, an American padlock maker in Ciudad Juarez was closed after it was discovered that the company illegally dumped effluent that included cyanide and heavy metals (*Economist*, 1993c). Across the border, the city of El Paso, Texas, was

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sued by the U.S. Department of Justice for failing to take measures against a blue jeans stone washing plant and a metal plating plant which were discharging wastes into the city's treatment facility (Bath, 1991).

22. The commission has three institutional components. First, a council, composed of ministers from each country, meets annually in public at the request of any of the three countries. Second, an international secretariat is overseen by the council. The secretariat has diplomatic privileges and immunities and is largely independent. Third, a joint advisory committee ensures that the council and secretariat receive public input from each of the three countries. This committee is composed of fifteen members. Five members are appointed from each country. One major function of the commission is to ensure enforcement of environmental laws and regulations. Each country must ensure that its own laws and regulations are adequately enforced and provide for high levels of environmental protection. Additionally, **NAFTA** encourages each country to improve upon those laws and regulations. The commission may require more stringent enforcement upon any of the three countries' environmental laws (See Sheehan, 1993: A21). Other functions of the Commission include reporting requirements, monitoring the environmental effects of **NAFTA**, and providing a forum for consultation on environmental issues.

23. Despite its weak record, Mexico has shown increasing commitment to environmental protection (*Congressional Digest*, 1993: 263-4). In 1988, the government passed new environmental laws collectively called the General Law of Ecological Equilibrium and Environmental Protection (Ley General del Equilibrio Ecologico y la Proteccion al ambiente, 1988) the nation's first comprehensive environmental legislation. Some environmentalists have praised this 1988 pollution control law; however, claims have been made that enforcement has been corrupt or non-existent (*Economist*, 1993c). Improvements are needed to strengthen control over Mexican companies (*Congressional Digest*, 1993: 263-4).

24. **NAFTA** allows American companies, as of a specific date, to set up production anywhere and move what is produced across the border without paying tariffs. There is no longer any need to limit the

Mexican location to "in bond" assembly of parts as an integral part of a U.S. plant's production process.

25 . Unlike other regional free trade and common market arrangements being established around the globe, NAFTA maintains the autonomy of member countries in terms of immigration policy, border surveillance and protection.

26 . Some medical migration is motivated by cultural and linguistic factors, as some Mexicans prefer a Spanish-speaking medical doctor and many *québécois* prefer a doctor who speaks French.

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CONTENTS

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