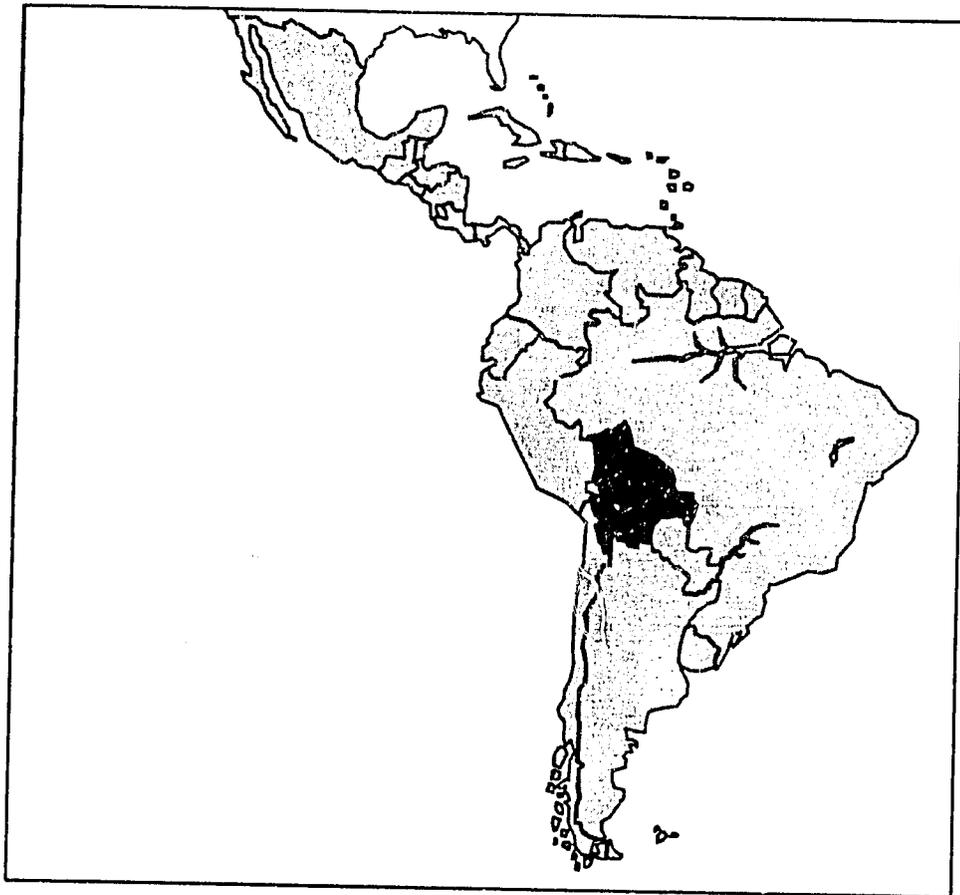


A Country Health Profile

BOLIVIA

Health Situation & Statistics Report 1994



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The Center for International Health Information (CIHI), a project managed by Information Management Consultants, Inc. (IMC), prepared this document under the Data for Decision Making Project, #936-5991.05 (CIHI-II), contract number HRN-5991-C-00-3041-00, with the Office of Health and Nutrition, Center for Population, Health and Nutrition, Bureau for Global Programs, Field Support and Research, U.S. Agency for International Development (USAID).

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BOLIVIA

Country Health Profile

This is one of a series of Country Health Profiles produced by the Center for International Health Information (CIHI). Each profile contains descriptive information and tables on the country's health demographic characteristics, health indicators and trends, and when available, the health care system. Profile information is compiled from CIHI's databases and reference library, as well as through research and analysis of health and from other data sources and reports.

The profiles are intended to profile current and trend data in a concise format for policy and decision-making, planning and evaluation, and monitoring of health status for use by individuals and organizations. Contact CIHI at the addresses on the preceding page for information on the availability of other health profiles and standard reports.

This profile contains national level health and demographic statistics available in CIHI's databases as of the date noted in each section. To report the most current health and demographic data, CIHI would appreciate receiving any more recent, accurate, or inclusive information. Contact the Center at one of the addresses on the preceding page or through USAID, Global Bureau for Research and Development, Office of Health.

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** Sources in this profile are referred to by a seven-digit code. Generally, the first three letters refer to an organization, agency, etc., and the first two numbers indicate the year of the publication or other source document. A complete list of sources appears at the end of the profile.*

I: COUNTRY OVERVIEW

DECEMBER 1993

Bolivia is a landlocked nation and the fifth largest in South America. The altiplano, a high mountain plateau, and the eastern lowlands divide Bolivia into two highly distinct regions. The snowy peaks of the Andean mountain range reach as high as 21,000 feet and reach their greatest width at 400 miles in Bolivia. In the northeast, the mountains drop sharply into the hot Amazon Basin and the valleys which cut into the mountains are fertile and semi-tropical. These valleys produce a wide variety of cereals and fruits, but transporting them to the cities of the altiplano is a formidable task. Even the lowland tropical plains which were once heavily populated, are now largely abandoned because of their inaccessibility.(LAC9301)

The Bolivian culture is comprised of pre-Colombian Aymara and Inca Indian traditions and a slight European influence. Bolivia's major cities and the bulk of its population are located on the altiplano. The population of the capital city of La Paz and the city of Potosi is about 70 percent Indian, 25 percent mestizo and 5 percent European.(LAC9301)

Bolivia gained independence from Spain in 1825 under the leadership of Gen. Antonio Jose de Sucre (Bolivia's first president) and Simon Bolivar, after whom the new republic was named. In the century following independence, political stability was achieved under a two-party system of conservatives and liberals who represented rural landowners and powerful mining interests. This stability essentially remained until 1935 when Bolivian forces were defeated soundly by troops from Paraguay in the Chaco War. The defeat brought upon disillusionment with the old political structures in Bolivia and a military government dominated the succeeding years.(PRB9204)

Recent political history has not been as stable in Bolivia, though elections continue to take place. In the early 1980s, a military junta took power and a ban was placed on all political activity. However, as the national economic crisis worsened and popular unrest spread, the government lifted the ban on the activities of political parties and labor unions. As a result, an election was held in late 1982 and Hernan Siles Zuazo was officially proclaimed president. In 1985, President Paz Estenssoro was elected and faced problems of social unrest, labor strikes and extremely high inflation. More problems arose for Bolivia in the late 1980s as heavy flooding left 150,000 people destitute and the bottom dropped out of the world's tin prices, leading to an unemployment rate of 32 percent. In June 1993, Gonzalo Sanchez de Lozada was elected President with 36 percent of the vote.(LAC9301)

Throughout its history, Bolivia's economy has been based on the extraction of its mineral wealth. In the early 20th century, the increasing world demand for tin made it Bolivia's chief export. The mining of tin became the key to Bolivia's economic success and for decades it provided the nation with substantial revenue.(PRB9204) But, by 1985, tin prices dropped dramatically due to a vast stock oversupply and the increased substitution of aluminum forcing Bolivia to market tin for less than one-third of the price of production. The nation turned its focus away from the tin mines to other sectors including energy development and agriculture. Between 1992 and 1993, the economy showed a modest improvement with a three percent growth.(LAC9301)



II: HEALTH & DEMOGRAPHIC OVERVIEW

Health Sector Description

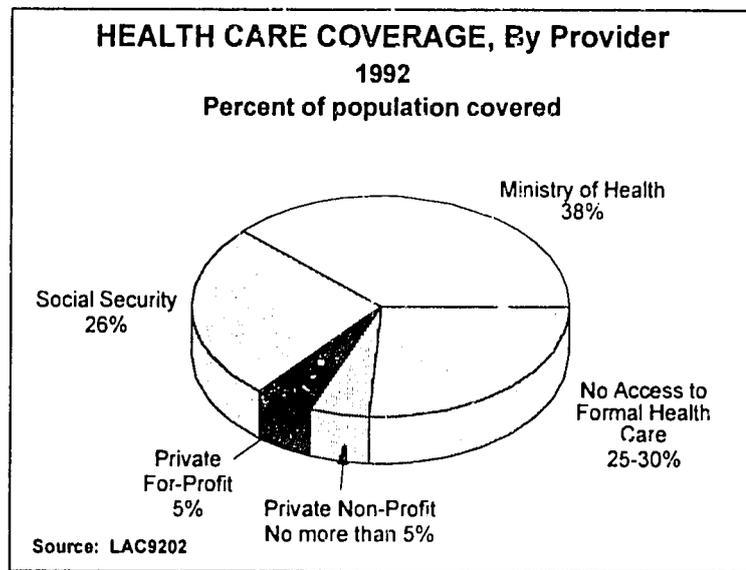
DECEMBER 1993

The major health care providers in Bolivia are the Ministry of Health (MOH), serving roughly one-third of the population, and the social security system, which covers approximately one-fourth of the population. Private non-profit and for-profit providers each serve roughly five percent of the population. An estimated 25-30 percent of the population lacks access to modern health care services.(LAC9202) Many Bolivians rely on traditional medicine, particularly in rural areas.

Ministry of Health

The Ministry of Social Provision and Public Health (*Ministerio de Previsión Social y Salud Pública /MPSSP*), through its Public Health Subsecretariat, provides curative and preventive care through 101 general and regional hospitals, 418 health centers, and 910 predominantly rural health posts. (LAC9202) Organized in 12 regional "sanitary units" and approximately 90 health districts, the MOH is officially responsible for providing services to 75

percent of the population, but estimates of real coverage, which is concentrated in urban areas, range from 30 percent (LAC9201) to 38 percent. (LAC9202) Rising prices for MOH health care are thought to be denying access to some Bolivians. (LAC9100) According to a recent evaluation of child survival activities in Bolivia, government policy favoring a shift in emphasis from urban hospital-based services to primary health care for more vulnerable groups has seen only limited programmatic change.(LAC9202)



Social Security System

The Bolivian Social Security Institute (*Instituto Boliviano de Seguridad Social / IBSS*), administered under the MOH's Subsecretariat of Social Security, offers pension, sickness and maternity, work injury and family allowance programs.(IDB9101) The sickness and maternity program provides curative care for households of insured wage earners employed in industry, commerce, mining and government, covering about 26 percent of the population, but rarely the poor.(LAC9202) While the IBSS operates its own health facilities in major urban areas, it also contracts with the MOH for use of some facilities and frequently purchases private services for affiliates outside of the cities.(IDB9101,LAC9100)

Regional and Local Governments

Regional Development Corporations (RDCs) in some departments, such as Santa Cruz, have played a limited role in establishing and maintaining rural health facilities. Municipalities frequently own but rarely operate urban health facilities.(LAC9202)

Private Sector

The private, for-profit sector is estimated to serve no more than five percent of the total population, a share which is shrinking due to impoverishment, particularly in rural areas. The MOH estimates that the private, nonprofit health care delivery system also covers about five percent of the total population, mostly in periurban and rural areas, through as many as 500 non-governmental organizations.(LAC9202)



Health Situation Analysis

MAY 1994

Health conditions in Bolivia are among the worst in South America. Although infant and under-five mortality rates have declined since 1980, these rates vary widely across regions, ethnic groups and socio-economic strata, and are among the highest in Latin America.(DHS9001) Infant mortality declined from 112 deaths per thousand live births in 1980 to 90 deaths in 1992 and, during the same period, under-five mortality fell from 170 to 125 deaths per thousand live births.(WBK9302, WOL9100)

The 1989 Demographic and Health Survey (ENDSA-1989) reports that large mortality differentials persist in Bolivia, with infant mortality in urban areas at 79 deaths, compared with 112 deaths in rural areas. Of the deaths among children born five years preceding the survey, 76 percent occurred at home, and half of the children who died were not taken to any health facility during the illness that led to death. For causes of death, the survey indicates that birth problems accounted for one-third of neonatal mortality (deaths among infants who have not yet reached one month of age) and diarrheal disease was the probable main cause of death for almost half the children who died at age one to 11 months. Acute respiratory infection was reported for 20 percent of children under five years of age during the two weeks preceding the survey.(DHS9001)

Only 19 percent of children aged 12 to 23 months are fully vaccinated, according to the ENDSA-1989, and extremely high dropout rates have limited coverage for vaccines requiring multiple doses.(DHS9001) Nonetheless, vaccination coverage rates have risen steadily for most antigens. From 1989 to 1993, coverage rates rose from 28 to 81 percent for DPT3, from 38 to 83 percent for Polio3, and from 58 to 81 percent for measles.(DHS9001, PAH9401)

During diarrheal episodes, about 50 percent of mothers gave their children more liquids. One in four mothers used a fluid prepared from a packet of oral rehydration salts (ORS) and one in nine mothers prepared a homemade solution of sugar and salt. A quarter of the children were taken to a health facility for treatment.(DHS9001)

Chronic malnutrition (low weight for age) affects more than one in three children under three years old. Substantial deterioration in nutritional status is reported to occur during the first two years of life and stunting (very short for age) increased significantly during both the first and second years of life. Over half of infants are breastfed exclusively for the first three months of life.(DHS9001)

Fertility-related variables also significantly impact child mortality; short birth intervals (less than two years) in particular were associated with a mortality rate three times higher than that for birth intervals of 48 months or longer. More than half of all pregnant women did not receive any prenatal care during the period 1984-88, and only one in five women received an injection to prevent tetanus in the newborn.(DHS9001)

The government of Bolivia has finalized a national program of action to guide its efforts in achieving basic World Summit for Children goals.(UN19312) A National Plan for Child Survival and Maternal Health initiated in 1989 focuses on three major areas -- social management, primary health care, and the development of local health systems -- with integrated care for eligible women and children under five receiving the highest priority.(DHS9001)

Current Demographic and Health Indicators

MAY 1994

Demographic Indicators			
INDICATOR	VALUE	YEAR	SOURCE
Total Population	6,495,329	1993	CALXX02
Urban Population	4,099,400	1993	UNP9200
Women Ages 15-49	1,873,000	1993	UNP9200
Infant Mortality	90	1992	WOL9100
Under 5 Mortality	125	1992	WOL9100
Maternal Mortality	480	1991	AID9103
Life Expectancy At Birth	61	1993	UNP9200
Number of Births	221,861	1993	CALXX01
Annual Infant Deaths	19,967	1993	CALXX01
Total Fertility Rate	4.9	1989	UNP9200

Child Survival Indicators			
INDICATOR	PERCENT	YEAR	SOURCE
Vaccination Coverage			
BCG	84	1993	PAH9401
DPT 3	81	1993	PAH9401
Measles	81	1993	PAH9401
Polio 3	83	1993	PAH9401
Tetanus 2	47	1989	WHE9001
DPT Drop Out	46	1989	DHS9001
Oral Rehydration Therapy			
ORS Access Rate	58	1991	WHD9201
ORS and/or RHF Use	34	1989	DHS9001
Contraceptive Prevalence			
Modern Methods (15-49)	12	1989	DHS9001
All Methods (15-49)	30	1989	DHS9001
Nutrition			
Adequate Nutritional Status	81	1989	DHS9001
Appropriate Infant Feeding	51	1989	DHS9001
A) Exclusive Breastfeeding	59	1989	DHS9001
B) Complementary Feeding	57	1989	DHS9001
Continued Breastfeeding	73	1989	DHS9001

Other Health Indicators			
INDICATOR	PERCENT	YEAR	SOURCE
HIV-1 Seroprevalence			
Urban	0	1992	BUC9200
Rural	NA		
Access to Improved Water			
Urban	80	1992	MRF9211
Rural	30	1992	MRF9211
Access to Sanitation			
Urban	35	1992	MRF9211
Rural	15	1992	MRF9211
Deliveries/Trained Attendants	42	1989	DHS9001

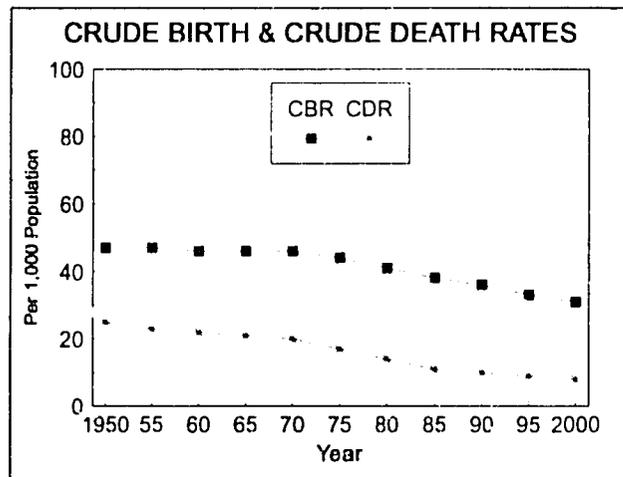
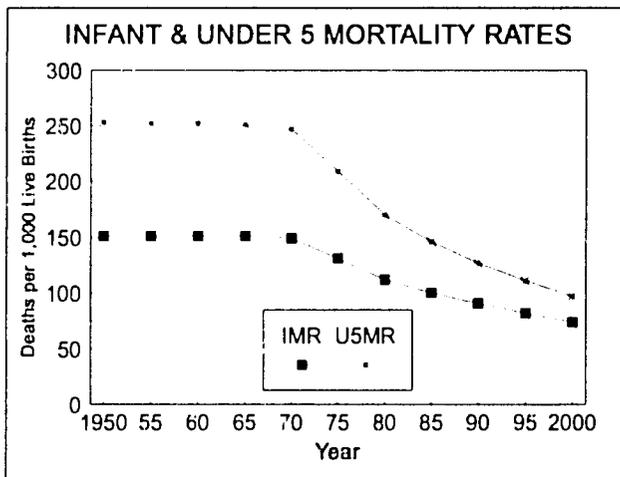
NA = Not available



Trends in Selected Demographic and Health Indicators

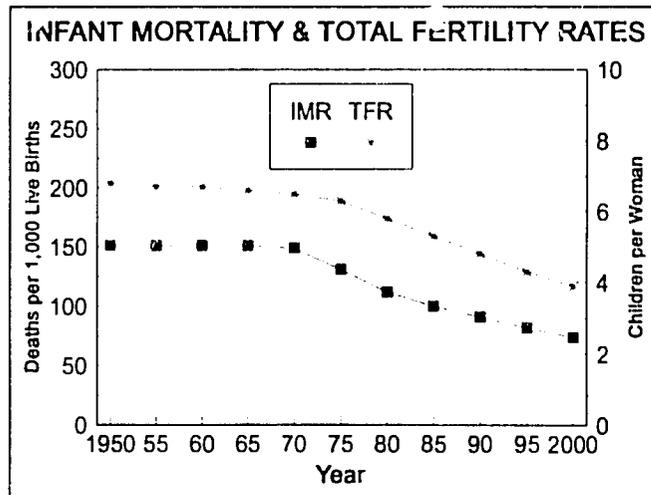
MAY 1994

INDICATOR	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	SOURCE
Infant Mortality	151	151	151	151	149	131	112	100	91	82	74	WBK9302
Under Five Mortality	253	252	252	251	247	209	170	146	127	111	97	WBK9302
Crude Birth Rate	47	47	46	46	46	44	41	38	36	33	31	UNP9200
Crude Death Rate	25	23	22	21	20	17	14	11	10	9	8	UNP9200
Avg. Annual Growth Rate	2	2	2	2	2	3	3	3	2	2	2	UNP9200
Total Fertility Rate	6.8	6.7	6.7	6.6	6.5	6.3	5.8	5.3	4.8	4.3	3.9	UNP9200



IMR and TFR

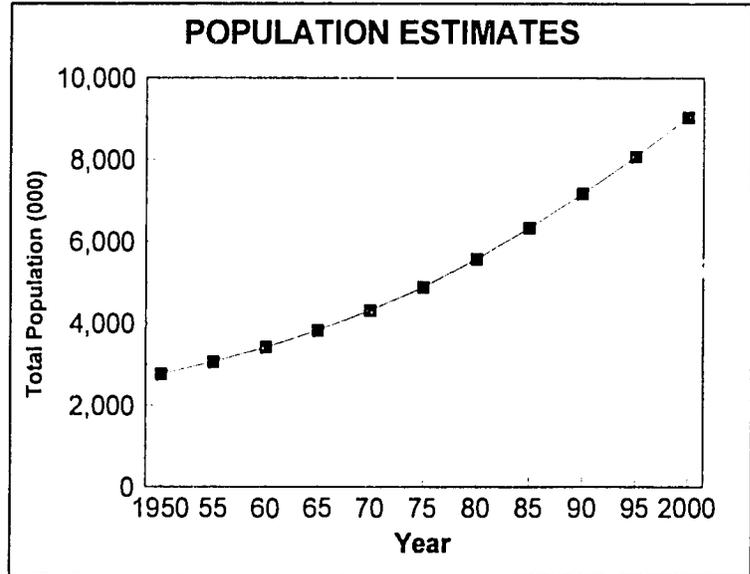
The relationship between IMR and TFR is currently a subject under review by the scientific community. While there is not conclusive evidence that the IMR and TFR are causally linked and necessarily decline together, there is empirical evidence for suspecting that such a reinforcing relationship exists as the pattern is observable in most countries.



Population Estimates/Pyramid

MAY 1994

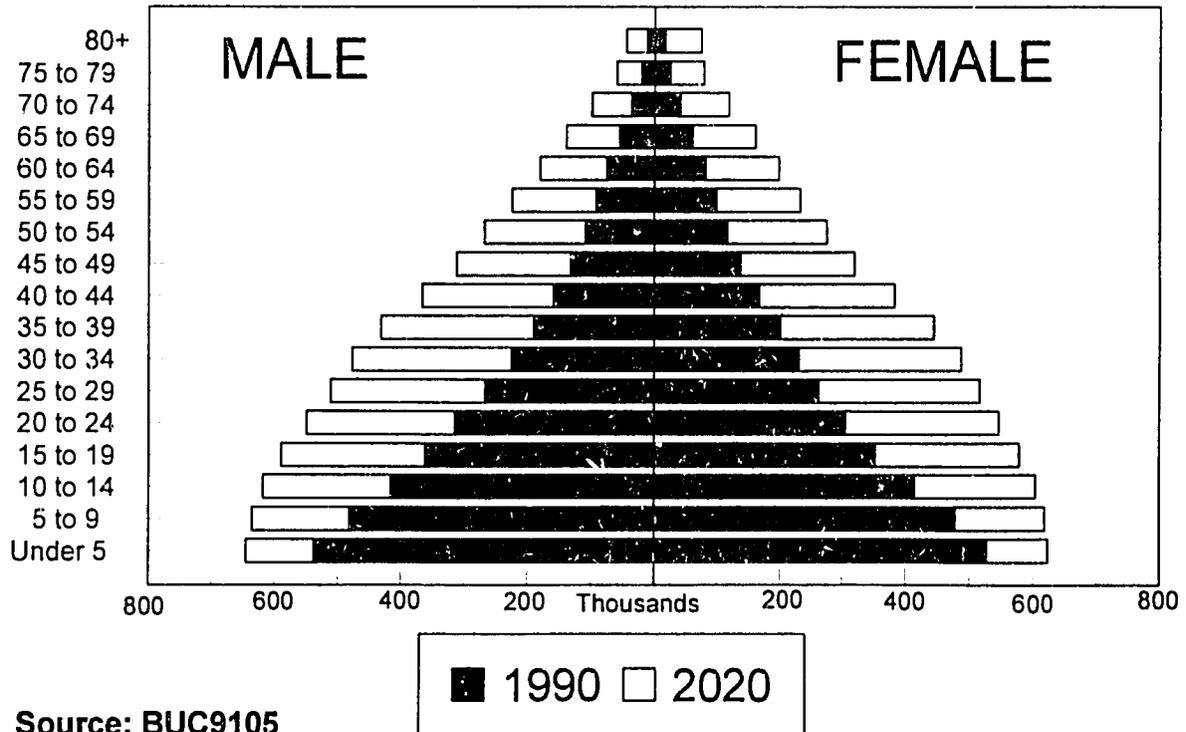
POPULATION ESTIMATES (000s)		
YEAR	VALUE	SOURCE
1950	2,766	UNP9200
1955	3,072	UNP9200
1960	3,428	UNP9200
1965	3,841	UNP9200
1970	4,325	UNP9200
1975	4,894	UNP9200
1980	5,581	UNP9200
1985	6,342	UNP9200
1990	7,171	UNP9200
1995	8,074	UNP9200
2000	9,038	UNP9200



CURRENT & PROJECTED POPULATION

By Age & Gender: 1990 - 2020

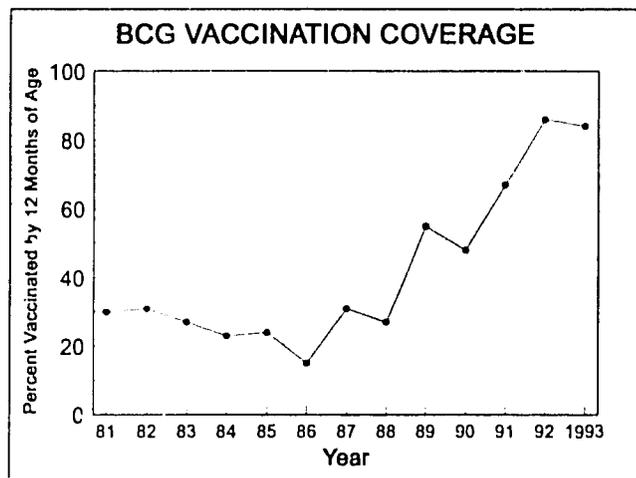
Total Population 1990: 6,988,893 Total Population 2020: 12,435,169



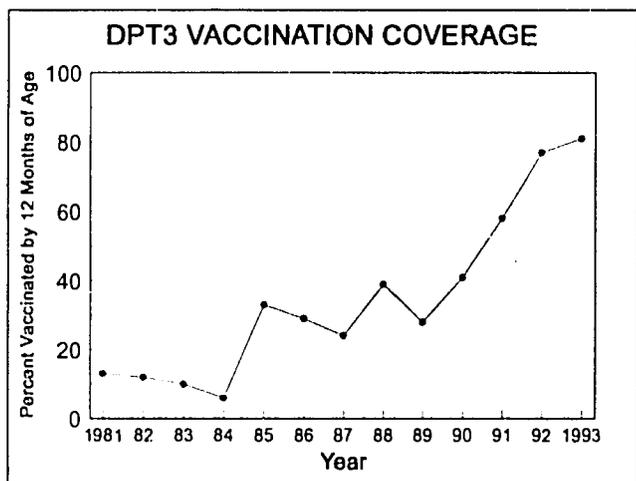
Trends in Selected Health and Child Survival Indicators

Vaccination Coverage Rates

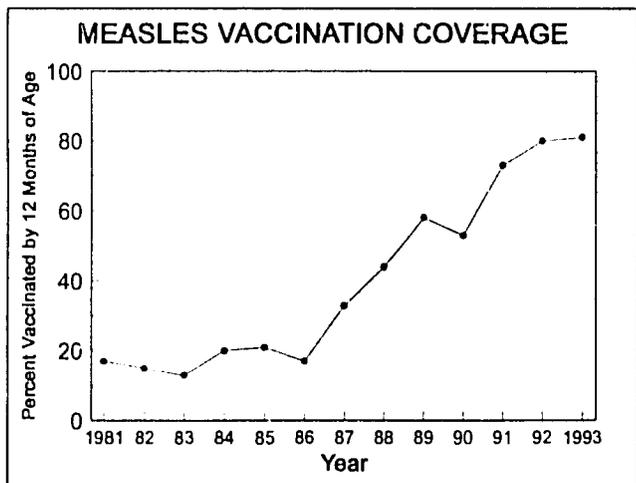
APRIL 1994



YEAR	PERCENT	SOURCE
1981	30	WHE8700
1982	31	WHE8700
1983	27	WHE8700
1984	23	WHE8700
1985	24	WHE8700
1986	15	WHE8800
1987	31	WHE8900
1988	27	WHE8900
1989	55	DHS9001
1990	48	WHE9100
1991	67	WHE9202
1992	86	WHE9301
1993	84	PAH9401

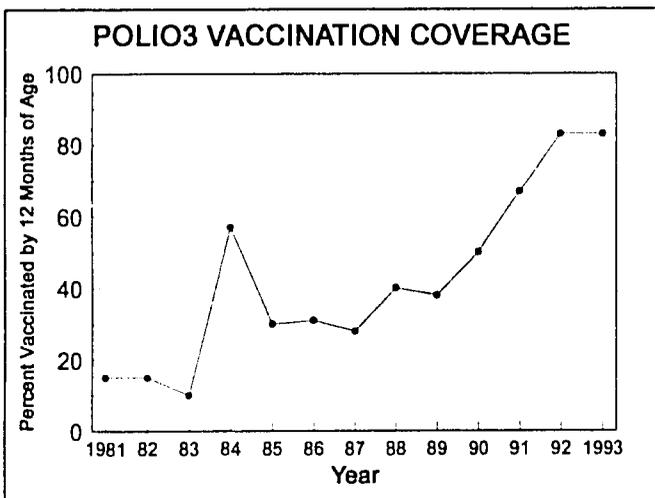


YEAR	PERCENT	SOURCE
1981	13	WHE8700
1982	12	WHE8700
1983	10	WHE8700
1984	6	WHE8700
1985	33	WHE8700
1986	29	WHE8800
1987	24	WHE8900
1988	39	WHE8900
1989	28	DHS9001
1990	41	WHE9100
1991	56	WHE9202
1992	77	WHE9301
1993	81	PAH9401

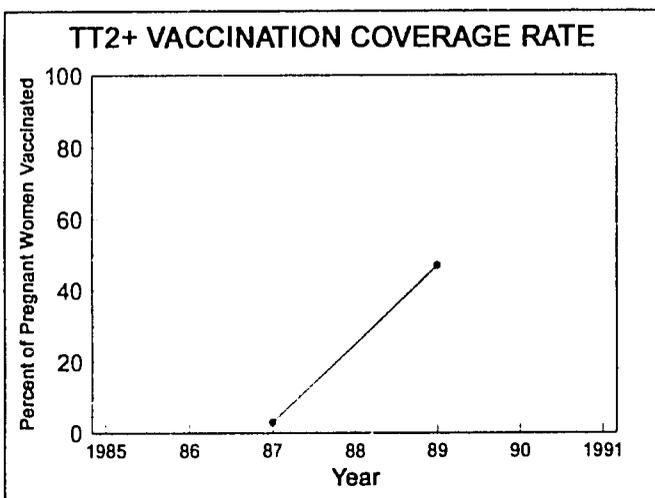


YEAR	PERCENT	SOURCE
1981	17	WHE8700
1982	15	WHE8700
1983	13	WHE8700
1984	20	WHE8700
1985	21	WHE8700
1986	17	WHE8800
1987	33	WHE8900
1988	44	WHE8900
1989	58	DHS9001
1990	53	WHE9100
1991	73	WHE9202
1992	80	WHE9301
1993	81	PAH9401

Vaccination Coverage Rates, continued



POLIO3 COVERAGE		
YEAR	PERCENT	SOURCE
1981	15	WHE8700
1982	15	WHE8700
1983	10	WHE8900
1984	57	WHE8700
1985	30	WHE8700
1986	31	WHE8800
1987	28	WHE8900
1988	40	WHE8900
1989	38	DHS9001
1990	50	WHE9100
1991	67	WHE9202
1992	83	WHE9301
1993	83	PAH9401

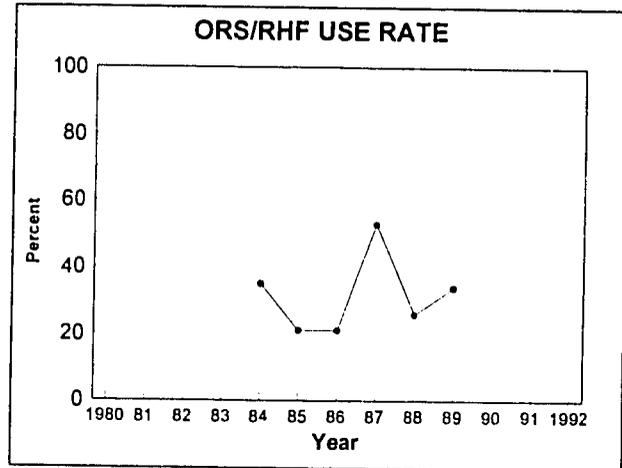
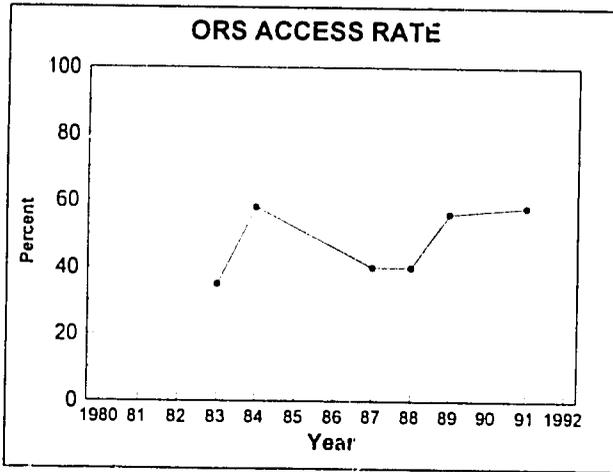


TT2+ COVERAGE		
YEAR	PERCENT	SOURCE
1985	NA	
1986	NA	
1987	3	WHE8900
1988	NA	
1989	47	WHE9301
1990	NA	
1991	NA	



ORS Access, ORS and/or RHF Use Rates

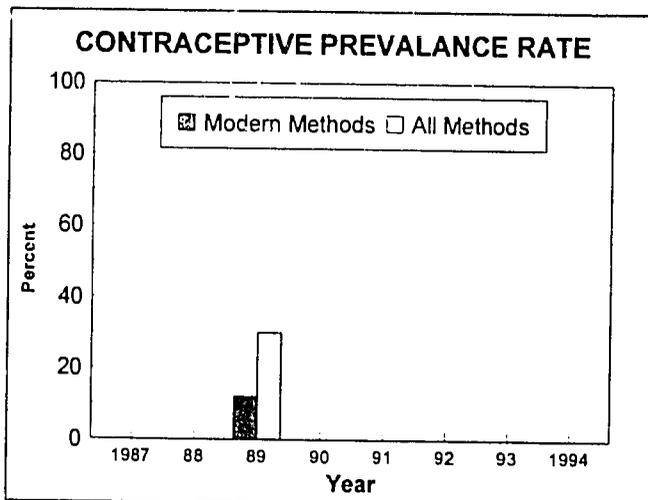
MAY 1994



INDICATOR	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
ORS Access	35	58	NA	NA	40	40	56	NA	58	NA
Source	WHD8500	WHD8601			WHD8900	WHD9000	WHD9100		WHD9201	
ORS/RHF Use	NA	35	21	21	53	26	34	NA	NA	NA
Source		WHD8601	WHD8700	WHD8800	WHD8900	WHD9001	DHS9001			

Contraceptive Prevalence Rate

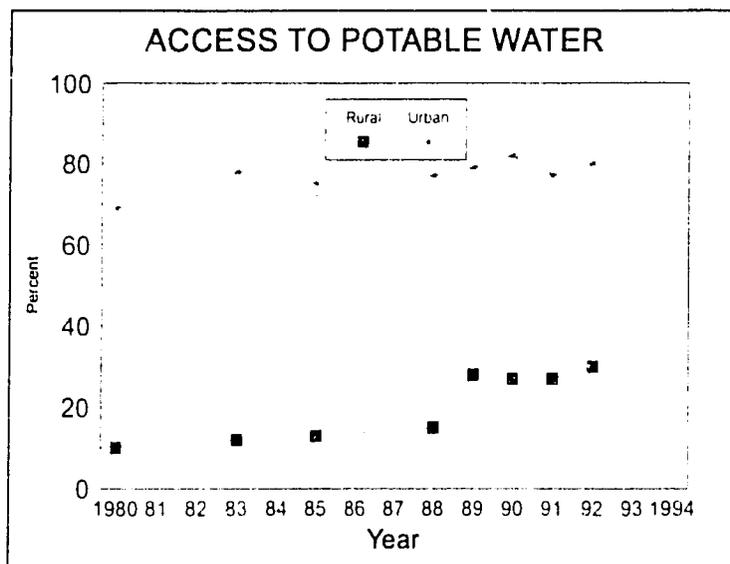
MAY 1994



YEAR	MODERN METHODS	SOURCE	ALL METHODS	SOURCE
1987	NA		NA	
1988	NA		NA	
1989	12	DHS9001	30	DHS9001
1990	NA		NA	
1991	NA		NA	
1992	NA		NA	
1993	NA		NA	
1994	NA		NA	

Access to Potable Water

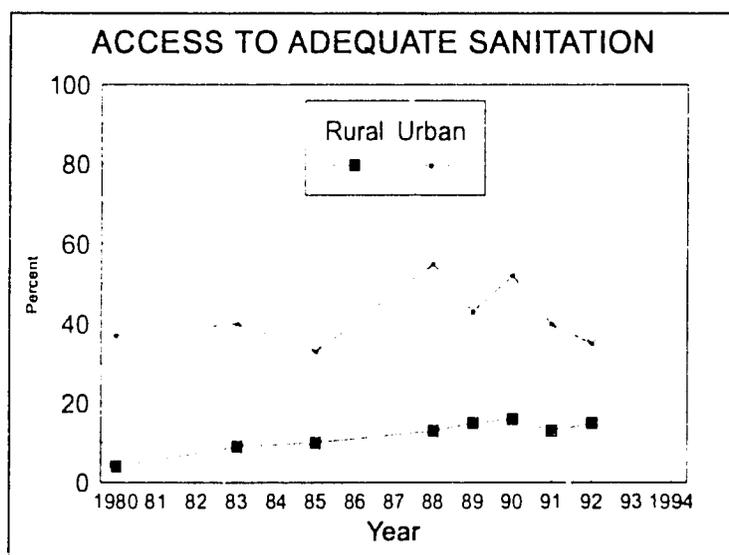
MAY 1994



YEAR	RURAL	SOURCE	URBAN	SOURCE
1980	10	AID9001	69	AID9001
1981	NA		NA	
1982	NA		NA	
1983	12	WHO9101	78	WHO9101
1984	NA		NA	
1985	13	WHO9101	75	WHO9101
1986	NA		NA	
1987	NA		NA	
1988	15	WHO9101	77	WHO9101
1989	28	AID9001	79	AID9001
1990	27	AID9319	82	AID9319
1991	27	JMP9301	77	JMP9301
1992	30	MRF9211	80	MRF9211
1993	NA		NA	
1994	NA		NA	

Access to Adequate Sanitation

MAY 1994

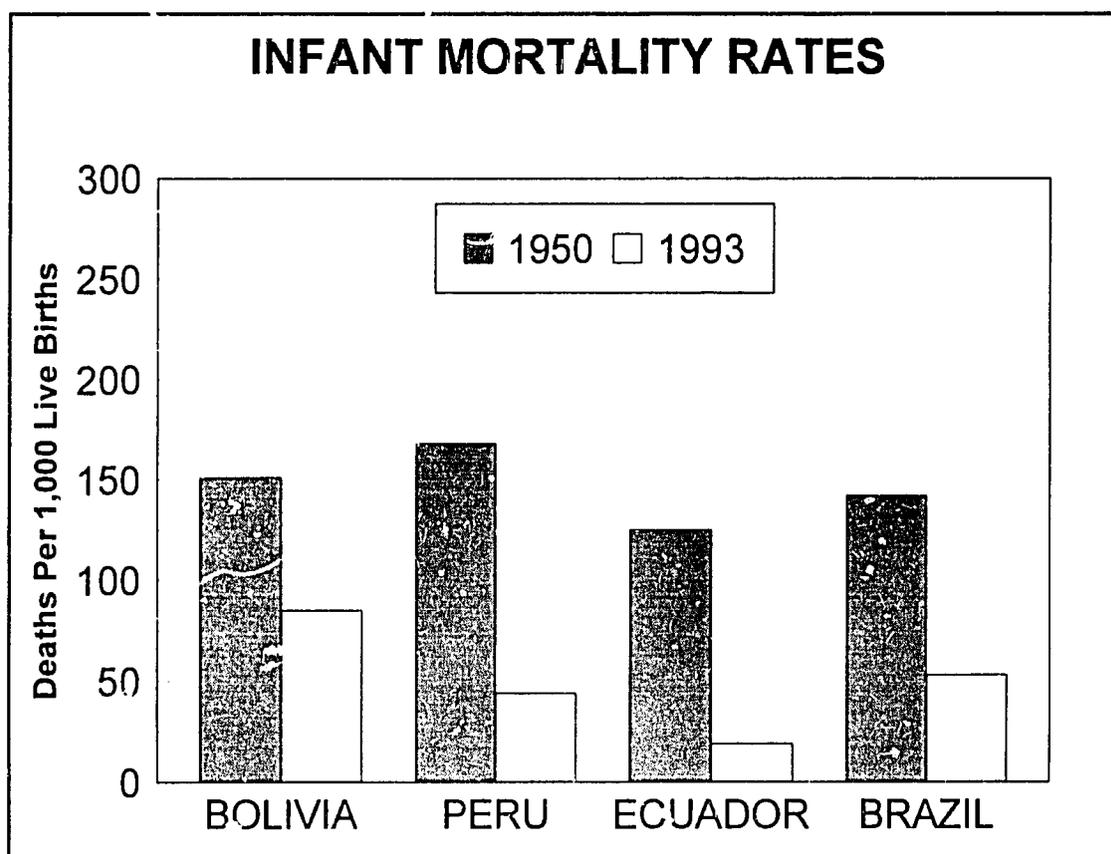


YEAR	RURAL	SOURCE	URBAN	SOURCE
1980	4	AID9001	37	AID9001
1981	NA		NA	
1982	NA		NA	
1983	9	WHO9101	40	WHO9101
1984	NA		NA	
1985	10	WHO9101	33	WHO9101
1986	NA		NA	
1987	NA		NA	
1988	13	WHO9101	55	WHO9101
1989	15	AID9001	43	AID9001
1990	16	AID9319	52	AID9319
1991	13	JMP9301	40	JMP9301
1992	15	MRF9211	35	MRF9211
1993	NA		NA	
1994	NA		NA	

Comparative Indicators

Comparative IMR Rates

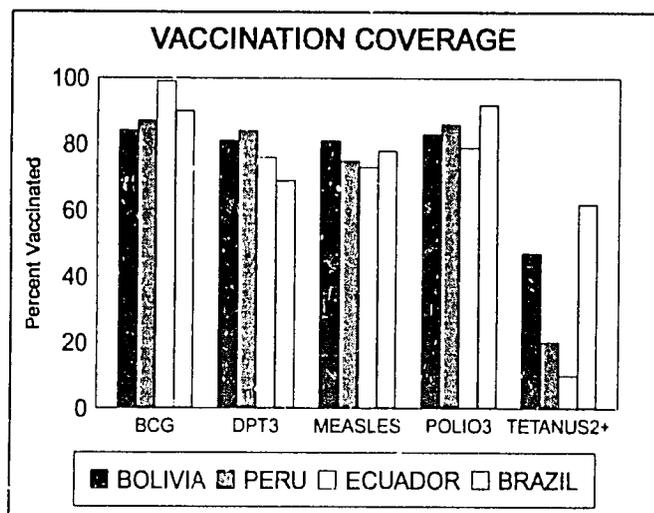
MAY 1994



COUNTRY	1950	SOURCE	1993	SOURCE
BOLIVIA	151	WBK9302	85	WBK9302
PERU	168	WBK9302	44	WBK9302
ECUADOR	125	WBK9302	19	WBK9302
BRAZIL	142	WBK9302	53	WBK9302

Comparative Vaccination Coverage Rates

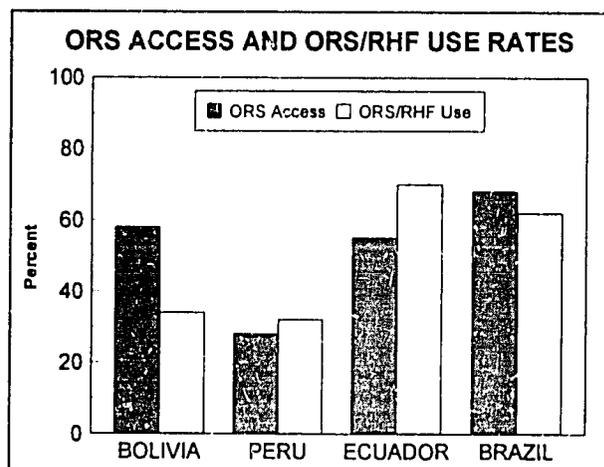
MAY 1994



COUNTRY	INDICATOR	YEAR	VALUE	SOURCE
BOLIVIA	BCG	1993	84	PAH9401
BOLIVIA	DPT3	1993	81	PAH9401
BOLIVIA	Measles	1993	81	PAH9401
BOLIVIA	Polio 3	1993	83	PAH9401
BOLIVIA	Tetanus 2	1989	47	WHE9301
PERU	BCG	1993	87	PAH9401
PERU	DPT3	1993	84	PAH9401
PERU	Measles	1993	75	PAH9401
PERU	Polio 3	1993	86	PAH9401
PERU	Tetanus 2	1991	20	DHS9207
ECUADOR	BCG	1993	99	PAH9401
ECUADOR	DPT3	1993	76	PAH9401
ECUADOR	Measles	1993	73	PAH9401
ECUADOR	Polio 3	1993	79	PAH9401
ECUADOR	Tetanus 2	1991	10	WHE9301
BRAZIL	BCG	1993	90	PAH9401
BRAZIL	DPT3	1993	69	PAH9401
BRAZIL	Measles	1993	78	PAH9401
BRAZIL	Polio 3	1993	92	PAH9401
BRAZIL	Tetanus 2	1987	62	WHE8900

Comparative ORS Access, ORS and/or RHF Use Rates

MAY 1994



COUNTRY	INDICATOR	YEAR	VALUE	SOURCE
BOLIVIA	ORS Access	1991	58	WHD9201
BOLIVIA	ORS/RHF Use	1989	34	DHS9001
PERU	ORS Access	1992	28	WHD9300
PERU	ORS/RHF Use	1991	32	DHS9207
ECUADOR	ORS Access	1991	55	WHD9201
ECUADOR	ORS/RHF Use	1991	70	WHD9201
BRAZIL	ORS Access	1991	68	WHD9201
BRAZIL	ORS/RHF Use	1991	62	WHD9201



III: HIV / AIDS

DECEMBER 1993

According to reports to the World Health Organization (WHO), since 1990 Bolivia has had the lowest AIDS incidence rate of any nation in Latin America and the Caribbean, reaching a high of only 2.3 cases per million inhabitants in 1991.(PAH9301) Underreporting is evident in the fact that deaths attributed to AIDS represent nearly 90 percent of total cases recorded. Basic preventive measures emphasizing education and condom promotion are designed to help prevent the entry of HIV on an epidemic scale.

The information below is based on reports to WHO through Mar. 31, 1993: (PAH9318)

Total reported AIDS cases	60
Deaths attributed to AIDS	45
1992 Incidence rate (per 1 million population)	1.0
Male:female ratio (1992)	1.8:1
Pediatric cases	1 (1.7% of total)
Perinatal cases	1 (1.7% of total)

National AIDS Control Program

Programa Nacional de Vigilancia y Prevención del SIDA, Ministerio de Previsión Social y Salud Pública. The national AIDS program stresses epidemiological surveillance, sexual education in schools under the Ministry of Education, and the promotion of condom use in high-risk groups.(PAH9305) Assistance from USAID's AIDSTECH project helped the health ministry upgrade sexually-transmitted disease (STD) clinic services and surveillance systems and more effectively manage blood bank/laboratory testing centers.(AID0002)

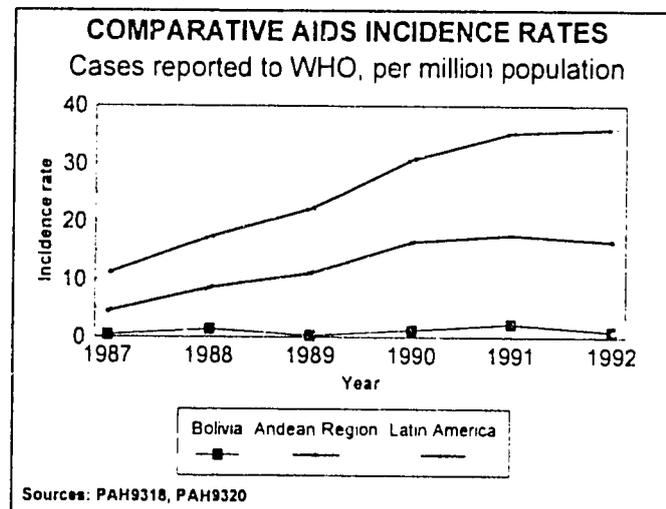
AIDS: New cases and incidence rates (PAH9318, PAH9320)

Year	New cases	Comparative incidence rates (per million)		
		Bolivia	Andean Region	Latin America
Through 1986	3			
1987	3	0.4	4.5	11.1
1988	10	1.4	8.6	17.4
1989	2	0.3	11.1	22.2
1990	9	1.2	16.5	30.8
1991	17	2.3	17.7	35.3
1992	8	1.0	16.6	36.0

Local Non-Governmental Organizations with HIV/AIDS Activities

(WHO9102, PAH9305, AID0002)

Centro de Investigación, Educación y Servicios (CIES). CIES operates STD clinics for women in La Paz and has conducted research, outreach and educational services for female sex workers through a network of professional, clinic-based health educators and volunteer peer educators.



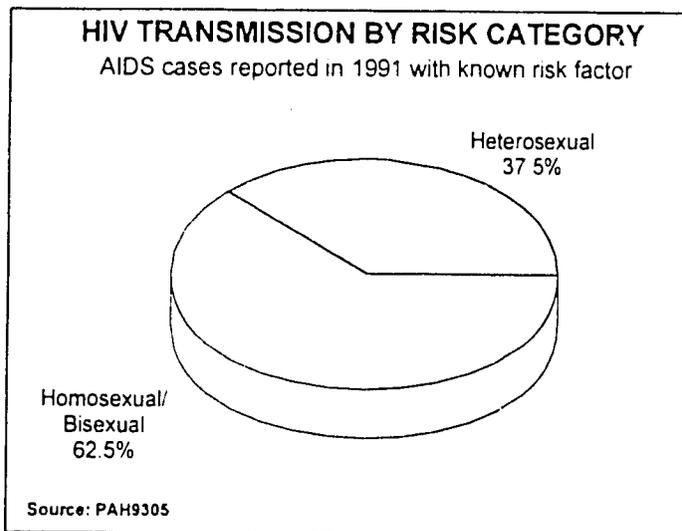
III: HIV / AIDS

HIV-1 Seroprevalence from selected studies (BUC9301)				
Population sampled	Sex	Year	% HIV-positive	Sample size
Blood Donors	B	1988	0.1%	1235
Individuals Requesting Test	B	1988	0.0%	425
Various Groups	B	1985-89	0.1%	23622
Prostitutes, Santa Cruz City	F	1987	0.0%	295
Prostitutes	F	1988	0.0%	1094
Prostitutes, Other Risk Groups, Santa Cruz City	B	1989	0.8%	399
Homosexuals & Bisexuals	M	1988	10.3%	68
Prisoners	B	1988	0.1%	1539

Consultora de Investigación y Educación (CIE), Cochabamba.

Fundación para la Atención Médica y Educación Sexual (FAMES).

Programa de Salud (PROSALUD). PROSALUD integrates HIV/AIDS prevention services into its primary health care operations in Santa Cruz.



Voluntarios en Acción (VEA), La Paz. VEA organizes volunteers to conduct HIV-testing.

International NGOs with AIDS-related Activities in Bolivia (NCI9201, QUE9200, WHO9:02)

Academy for Educational Development

American Red Cross

Centro Italiano di Solidarieta, Rome

Esperança

Johns Hopkins University/Population Communication Services

Partners of the Americas

Plan International

Terre des Hommes Deutschland

International Agencies supporting HIV/AIDS Activities in Bolivia

(PAH9305, UNF9200)

European Economic Community (EEC)

Pan-American Health Organization (PAHO)

Swedish International Development Agency (SIDA)

United Nations International Children's Educational Fund (UNICEF)

United Nations Population Fund (UNFPA)

United States Agency for International Development (USAID)

World Health Organization / Global Programme on AIDS (WHO/GPA)



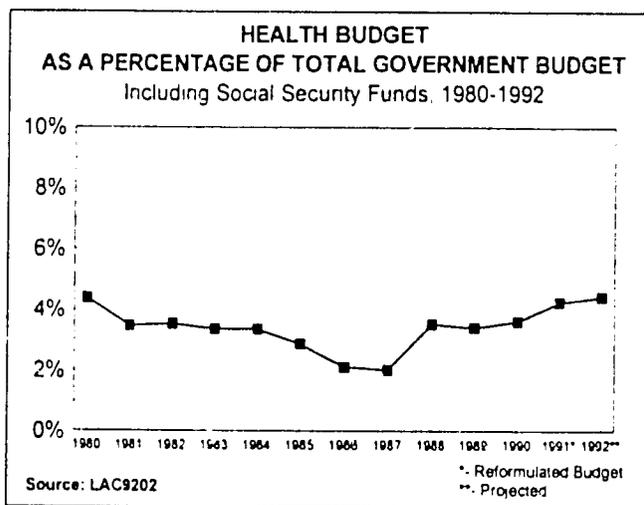
IV: HEALTH CARE FINANCING

DECEMBER 1993

According to the World Bank, total health expenditures in Bolivia amounted to four percent of Bolivia's gross domestic product (GDP) in 1990, roughly 60 percent of which corresponded to public spending.(WBK9303) Official foreign aid provided over one-fifth of health care funding in Bolivia in 1990, the highest share in the Latin America and Caribbean (LAC) region.(WBK9303) The major sources of external financing are the United States Agency for International Development (USAID), the World Bank and the United Nations Development Programme (UNDP).(LAC9202)

Public Sector

The public health sector's share of the national budget, including allocations to the Ministry of Health (MOH) and the social security system, declined during the economic crisis of the 1980s, reaching a low of two percent before beginning a mild recovery in



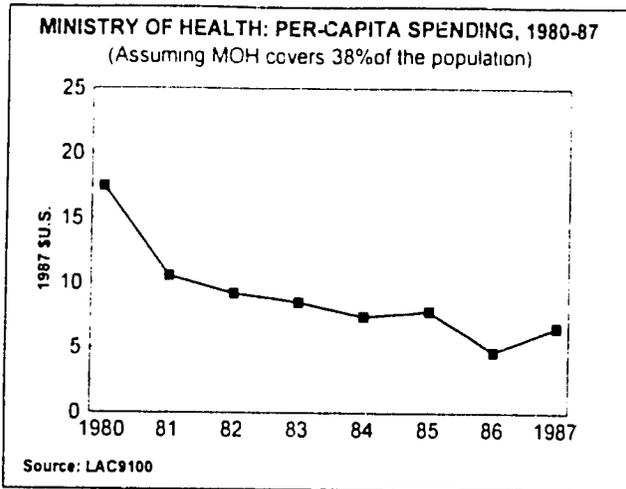
Year	Percentage
1980	4.38%
1981	3.47%
1982	3.53%
1983	3.36%
1984	3.36%
1985	2.87%
1986	2.11%
1987	2.01%
1988	3.53%
1989	3.41%
1990	3.62%
1991	4.25%
1992	4.43%

1988.(LAC9202) (See figure above) Measured in constant Bolivianos, the size of the health budget remained roughly the same from 1988-1990, increased by 24 percent in 1991, and was projected to remain at a similar level for 1992.(LAC9202)

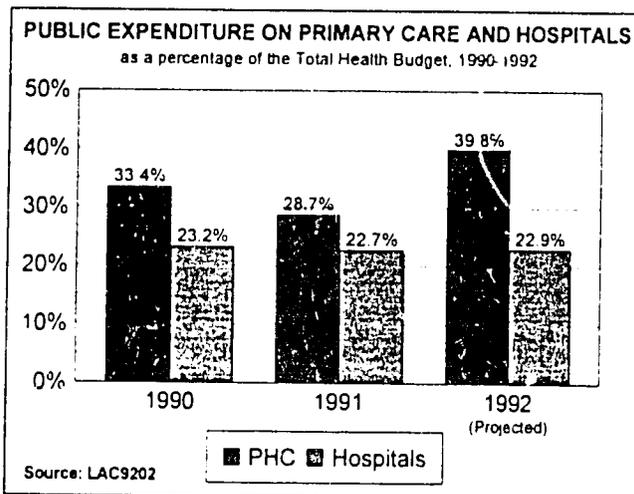
Ministry of Health

The MOH experienced a 75 percent decline in per-capita spending between 1980 and 1986.(LAC9100) (See figure at top of next page) Partial recovery starting in the late 1980s was facilitated through external funding, enhanced cost recovery and an increased share of the overall national health budget, growing from 50 percent in 1988 to over 60 percent in 1991.(LAC9202) The sharp decline in domestic funding in the 1980s brought about a recurrent cost crisis which produced shortages of materials and supplies and placed severe limits on personnel expenditures, which consumed roughly 90 percent of treasury-

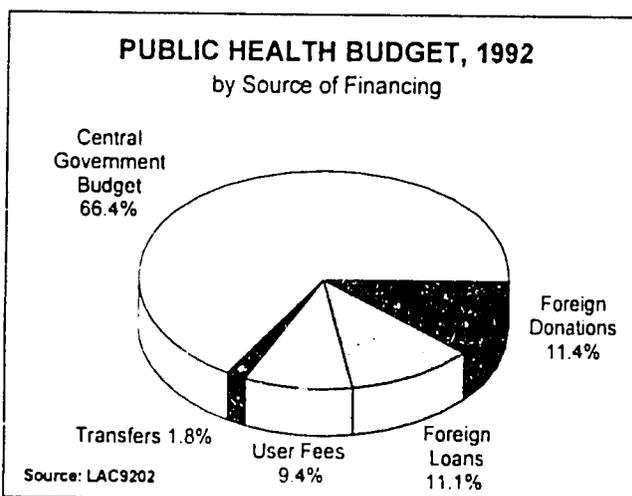
IV: Health Care Financing



YEAR	1987 \$U.S.
1980	17.47
1981	10.60
1982	9.23
1983	8.54
1984	7.43
1985	7.84
1986	4.69
1987	6.59



provided funds between 1987 and 1991.(LAC9100) As indicated in the figure on the left, expenditures on primary health care increased to nearly 40 percent of the total health budget by 1992, according to the MOH. (LAC9202)



The figure at the bottom of the page illustrates the relative shares of various public health funding sources in 1992. While treasury outlays routinely made up 90-95 percent of the MOH budget prior to 1985, reductions in central allocations signified an increased role for alternative sources such as user fees and external financing, which respectively financed an average of 24 percent and 21 percent from 1985-1989.(LAC9201) User fees are determined, collected and spent on a facility-specific basis, but revenues are generally used for medicines, supplies and personnel "bonusses." (LAC9201) An assessment of health financing in Santa Cruz found that

user fees provided over 50 percent of total income for the MOH's Regional Health Unit there.(LAC9100) The World Bank estimates that user fees' share of total revenues in selected public hospitals grew from 13 percent to 40 percent between 1984 and 1988.(HPP9000)



Contributions from USAID provided over five percent of total central government health financing in 1991.(LAC9202) Other foreign aid is provided for public health programs through the Social Investment Fund, created by the government of Bolivia in 1991 to take over health and education programs financed by the World Bank and the UNDP under the Emergency Social Fund. (WBK9202)

Social Security System

Expenditures on health care by the Bolivian Social Security Institute (IBSS), financed through 10 percent of employer's payrolls.(IDB9101) amounted to over 40 percent of the national health budget in 1992.(LAC9202) High administrative costs - 14.5 percent of total expenditures from 1983 to 1986 - reflect multiplicity of management at IBSS, which consists of 12 major funds, 20 complementary funds, and five health programs.(IDB9101)

Regional and Local Governments

Regional Development Corporations and municipalities generally allocate less than one percent of their budgets for health-related services.(LAC9202)

Private Sector

According to the World Bank, private expenditures accounted for roughly 40 percent of total spending on health in 1990.(WBK9303) A USAID evaluation found that health spending in the private, non-profit health sector amounted to \$20 million in 1988, accounting for an astonishing 28 percent of total health expenditures that year.(LAC9202) Some private contractors and non-governmental organizations (NGOs) receive funding for construction of health posts and water and sanitation systems from the externally-financed Social Investment Fund.(WBK9202)

The only prepaid health plans in evidence in the late 1980s involved health services provided by some large employers in extractive industries.(LAC8900) Experiments in local financing of NGO health activities include an in-kind community financing program in Cochabamba in which beneficiaries supplied an annual quota of wheat or potatoes to remunerate health promoters.(AID8702) More recently, PROSALUD, a USAID-supported primary health care network serving 125,000 in Santa Cruz, has had limited success with prepaid plans(LAC8900) but has achieved 85 percent self-financing through users' fees.(LAC9100)

V: DATA NOTES

MAY 1994

Notes On Mortality Estimation

Throughout this profile, references are made to infant and under 5 mortality rates for individual countries or groups of countries. In past years, the primary source of data on infant mortality was the World Population Prospects, a set of estimates updated every two years by the Estimates and Projections Section of the Population Division of the Department of International Economic and Social Affairs, United Nations. The primary source of data on under 5 mortality was a special report published in 1988 by the same group. Where another source, such as a recent Demographic and Health Survey or a national census, was available for a given country, the reported values from that source were cited in place of the United Nations estimates if the technical staff of USAID in the Country Mission and/or the appropriate regional bureaus confirmed the validity of the alternative source.

Known as indirect estimates, those of the United Nations are generated from accepted demographic models which combine the results of all available surveys and censuses in a given country to produce a single time series of estimates and projections. When new empirical data becomes available for a given country, the entire time series of estimates and projections is updated. Thus, using conventional demographic approaches, a survey done in 1990 may generate a new estimate of a mortality rate for 1970 or 1980.

During 1993, a new set of estimates for mortality was generated for 82 countries for publication in the World

Development Report 1993 and a forthcoming UNICEF publication entitled The Progress of Nations. Based on a curve-fitting model, the methodology applied to generate these new estimates purports to depict more accurately the trend derived from all available data sources for a country. Like the estimates generated using conventional demographic models, the entire time series might change upon the addition of a new empirical source. These estimates were made available to USAID through the courtesy of the World Development Report of the World Bank and UNICEF.

The selection of the mortality rates was done through a consultative process involving representatives of the Office of Health in USAID's Research and Development Bureau, USAID's Regional Bureaus and, in many cases, the USAID Country Missions. The source determined to best reflect the reality in a country for the current values of infant and under 5 mortality was identified and one of a number of a computation procedures, depending on the source selected for the current value, was applied to estimate the longitudinal rates. The consideration of the additional source of data developed for the World Development Report and UNICEF during the consultative process has prompted some changes in the reporting of mortality rates from those reported in recent years.

*Definitions**Demographic Indicators*

Total Population: The mid-year estimate of the total number of individuals in a country.

Average Annual Rate of Growth: An estimate of the rate at which a population is increasing (or decreasing) in a given year.

Infant Mortality Rate: The estimated number of deaths in infants (children under age one) in a given year per 1,000 live births in that same year. This rate may be calculated by direct methods (counting births and deaths) or by indirect methods (applying well-established demographic models).

Under 5 Mortality Rate: The estimated number of children born in a given year who will die before reaching age five per thousand live births in that same year. This rate may also be calculated by direct or indirect methods.

Maternal Mortality Ratio: The estimated number of maternal deaths per 100,000 live births where a maternal death is one which occurs when a woman is pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management. Although sometimes referred to as a rate, this measure is actually a ratio because the unit of measurement of the numerator (maternal deaths) is different than that of the denominator (live births). The measure would be a rate if the units were the same. Extremely difficult to measure, maternal mortality can be derived from vital registration systems (usually underestimated), community studies and surveys (requires very large sample sizes) or hospital registration (usually overestimated).

Crude Birth Rate: An estimate of the number of live births per 1,000 population in a given year.

Crude Death Rate: An estimate of the number of deaths per 1,000



population in a given year.

Life Expectancy At Birth: An estimate of the average number of years a newborn can expect to live. Life expectancy is computed from age-specific death rates for a given year. It should be noted that low life expectancies in developing countries are, in large part, due to high infant mortality.

Number of Births: An estimate of the number of births occurring in a given year.

Annual Infant Deaths: An estimate of the number of deaths occurring to children under age one in a given year.

Total Fertility Rate: An estimate of the average number of children a woman would bear during her lifetime given current age-specific fertility rates.

Child Survival Indicators

Vaccination Coverage In Children: An estimate of the proportion of living children between the ages of 12 and 23 months who have been vaccinated before their first birthday--three times in the cases of polio and DPT and once for both measles and BCG. Vaccination coverage rates are calculated in two ways. Administrative estimates are based on reports of the number of inoculations of an antigen given during a year to children who have not yet reached their first birthday divided by an estimate of the pool of children under one year of age eligible for vaccination. Survey estimates are based on samples of children between the ages of 12 and 23 months.

Vaccination Coverage In Mothers: An estimate of the proportion of women in a given time period who have received two doses of tetanus toxoid during their pregnancies. This indicator is being changed in many countries to account for the cumulative effect of tetanus toxoid boosters. A

woman and her baby are protected against tetanus when a mother has had only one or, perhaps, no boosters during a given pregnancy so long as the woman had received the appropriate number of boosters in the years preceding the pregnancy in question. (The appropriate number of boosters required during any given pregnancy varies with number received previously and the time elapsed.) The revised indicator is referred to as TT2+. Rates are computed using administrative methods or surveys.

DPT Drop-out Rate: An estimate of the proportion of living children between the ages of 12 and 23 months who received at least one DPT vaccination but who did not receive the entire series of three vaccinations before their first birthdays.

Oral Rehydration Salts (ORS) Access Rate: An estimate of the proportion of the population under age five with reasonable access to a trained provider of oral rehydration salts who receives adequate supplies. This is a particularly difficult indicator to measure and, therefore, it may fluctuate dramatically from year to year as improved methods of estimation are devised.

ORS and/or Recommended Home Fluid (RHF) Use Rate: An estimate of the proportion of all cases of diarrhea in children under age five treated with ORS and/or a recommended home fluid. ORT use may be determined using administrative means or surveys. In general, administrative estimates are based on estimates of the number of episodes of diarrhea in the target population for a given year and the quantity of ORS available. Thus, changes in the estimates of the frequency of diarrhea episodes can alter the ORT use rate as well as "real" changes in the pattern of use. Surveys are more precise in that they focus on the actual behavior of mothers in

treating diarrhea in the two-week period prior to the survey.

Contraceptive Prevalence Rate: An estimate of the proportion of women, aged 15 through 44 (or, in some countries, 15 through 49), in union or married, currently using a modern method of contraception. Where sources fail to distinguish modern and traditional methods, the combined rate is shown.

Adequate Nutritional Status: An individual child of a certain age is said to be adequately nourished if his/her weight is greater than the weight corresponding to "two Z-scores" (two standard deviations) below the median weight achieved by children of that age. The median weight and the distribution of weights around that median in a healthy population are taken from a standard established by the National Center for Health Statistics, endorsed by the World Health Organization (WHO). The indicator for the population as a whole is the proportion of children 12 through 23 months of age who are adequately nourished.

Appropriate Infant Feeding: A composite estimate of the proportion of infants (children under age one) being breastfed and receiving other foods at an appropriate age according to the following criteria: breastfed through infancy with no bottle-feeding, exclusively breastfed through four months (120 days) of age, and receiving other foods if over six months of age (181 days). Water is not acceptable in the first four months (120 days). ORS is considered acceptable at any age. Surveys are the only source of data to form this indicator. Surveys yield an estimate of how many infants are being fed correctly at the moment of the survey. They do not give an indication of the proportion of individual children fed appropriately throughout their first year of life. A number of sub-indicators may be calculated from the data used to form the composite, of

which two are presented in this report.

Exclusive Breastfeeding: An estimate of the proportion of infants less than four months (120 days) of age who receive no foods or liquids other than breast milk.

Complementary Feeding: An estimate of the proportion of infants six to nine months of age (181 days to 299 days) still breastfeeding but also receiving complementary weaning foods.

Continued Breastfeeding: An estimate of the proportion of children breastfed for at least one year. In this report, all values presented for this indicator are the proportion of children 12 to 15 months of age at the time of the survey still receiving breast milk.

Other Health Indicators

HIV-1 Seroprevalence, Urban: An estimate of the proportion of all persons (pregnant women, blood donors, and other persons with no known risk factors) living in urban areas infected with HIV-1, the most virulent and globally prevalent strain of the human immunodeficiency virus.

HIV-1 Seroprevalence, Rural: An estimate of the proportion of all persons living in rural areas infected with HIV-1.

Access to Improved Water, Urban: An estimate of the proportion of all persons living in urban areas (defined roughly as population centers of 2,000 or more persons) who live within 200 meters of a stand pipe or fountain source of water.

Access to Improved Water, Rural: An estimate of the proportion of all persons not living in urban areas with a source of water close enough to home that family members do not spend a disproportionate amount of time fetching water.

Access to Sanitation, Urban: An estimate of the proportion of all persons living in urban areas with sanitation service provided through sewer systems or individual in-house or in-compound excreta disposal facilities (latrines).

Access to Sanitation, Rural: An estimate of the proportion of all persons not living in urban areas with sanitation coverage provided through individual in-house or in-compound excreta disposal facilities (latrines).

Deliveries By Trained Attendants: An estimate of the proportion of deliveries attended by at least one physician, nurse, midwife, or trained traditional birth attendant.



VI: SOURCES

MAY 1994

- AID0002 Family Health International. AIDSTECH and AIDSCAP Project Reports.
- AID8702 Stinson, W., et al. Community Financing of Primary Health Care: The PRiCOR Experience. Chevy Chase, MD: PRICOR Project, March, 1987.
- AID9001 USAID. Breastfeeding and weaning patterns in selected countries from Demographic and Health Surveys, 1986-89 as cited in Breastfeeding A Report to Congress. Washington D.C.: USAID, 1990.
- AID9103 Government of Bolivia (as per Mothercare)
- AID9202 MOH, Unidad de Investigacion y Analisis, Direccion General de Estadistica. Cited in USAID/ Peru Mission Facsimile, 2/24/92.
- AID9308 The USAID Activity Code/Special Interest (AC/SI) System, July 27, 1993.
- AID9319 Water and Sanitation for Health Project. U.S. Agency for International Development. Planning for Water and Sanitation Programs In The Andean Region: 1991 Update. Field report No. 336. February, 1993.
- BUC9105 Series of diskettes provided by Kevin Kinsella over a period of several months near the end of 1991 and the beginning of 1992. Data reported from the U.S. Bureau of the Census data base.
- BUC9200 Health Studies Branch. Center for International Research. U.S. Bureau of the Census. HIV Seroprevalence Levels, November 1992.
- BUC9301 U.S. Bureau of the Census, Center for International Research. HIV/AIDS Surveillance Database. June, 1993.
- CALXX01 Calculated from the values for total population, crude birth rate and infant mortality from designated sources for those variables.
- CALXX02 Total Population as reported by USAID in a Mission Response Form or other communication updated for the current year by applying the World Population Prospects growth rate to the estimate reported earlier.
- CIH0001 The Center for International Health Information. The Health Projects Database, an ongoing record of projects in the health portfolio of the Agency for International Development.
- DHS9001 Instituto Nacional de Estadistica, and Institute for Resource Development/Macro Systems, Inc. Bolivia Encuesta Nacional de Demografia y Salud 1989. Columbia, MD: IRD, 1990.
- DHS9207 Instituto Nacional de Estadistica e Informatica, Asociacion Benefica PRISMA, and Macro International, Inc. Peru: Encuesta Demografica y de Salud Familiar 1991/1992. Columbia, MD: DHS/Macro International, Septiembre de 1992.
- HPP9000 Marquez, Patricio. Containing Health Costs in the Americas. Health Policy and Planning 5:4 (1990), 99-115.

VI: Sources

- IDB9101 Inter-American Development Bank. Economic and Social Progress: 1991 Report. Washington, DC: IDB, 1991.
- JMP9301 WHO/UNICEF Joint Monitoring Programme. Water Supply and Sanitation Sector Monitoring Report 1993. Sector Status as of December 1991. WHO and UNICEF. August, 1993.
- LAC8900 Gwynne, Gretchen, and Dieter Zschock. Health Care Financing in Latin America and the Caribbean, 1985-89: Findings and Recommendations. HCFLAC Report No. 10, September, 1989.
- LAC9100 Fiedler, John L. The PROSALUD Model: A Private, Non-Profit Organization Providing Primary Health Care for a Fee. Latin America and Caribbean Health and Nutrition Sustainability Project, Oct., 1991.
- LAC9201 Latin America Health and Nutrition Sustainability Project. A Study of Recurrent Unit Costs of Primary Health Care Services in a Sample of Bolivian Ministry of Health Facilities. Washington, DC: LACHNS, Dec., 1992.
- LAC9202 Martin, Richard R., et al. Evaluation of A.I.D. Child Survival Programs, Bolivia Case Study. A.I.D. Technical Report No. 5, Nov., 1992.
- LAC9301 Stryker-Post Publications. Latin America 1993. Washington, DC:SPP, 1993.
- MRF9211 Plan Nacional de Agua Potable y Saneamiento, March 1992 as cited in the Mission Response Form for FY 92.
- NCI9201 The National Council for International Health. The U.S. Non-Governmental Response to the International AIDS Pandemic. Washington, DC: NCIH, 1992.
- PAH9301 Pan American Health Organization. AIDS Surveillance in the Americas, Information as of June 10, 1993.
- PAH9305 Pan American Health Organization, Regional Program on AIDS. Country Profile: Bolivia, 1993.
- PAH9318 Pan American Health Organization, Regional Program on AIDS. AIDS Surveillance in the Americas, Information as of 10 Sept., 1993.
- PAH9320 Pan American Health Organization. AIDS Surveillance in the Americas. Quarterly Report, March 10, 1993.
- PAH9401 Facsimile received from PAHO containing provisional vaccination coverage rates for the Region of Americas for 1993, March 29, 1994.
- PRB9204 Population Reference Bureau, Inc. Bolivia Options Briefing Packet, 1992.
- QUE9200 Project Highlights, FY 92 Health and Child Survival Project Questionnaire.
- UNF9200 United Nations Population Fund (UNFPA). AIDS Update, 1992.
- UNP9200 Department of International Economic and Social Affairs, United Nations. World Population Prospects 1992. (ST/ESA/SER.A/120) New York: UN, 1992.

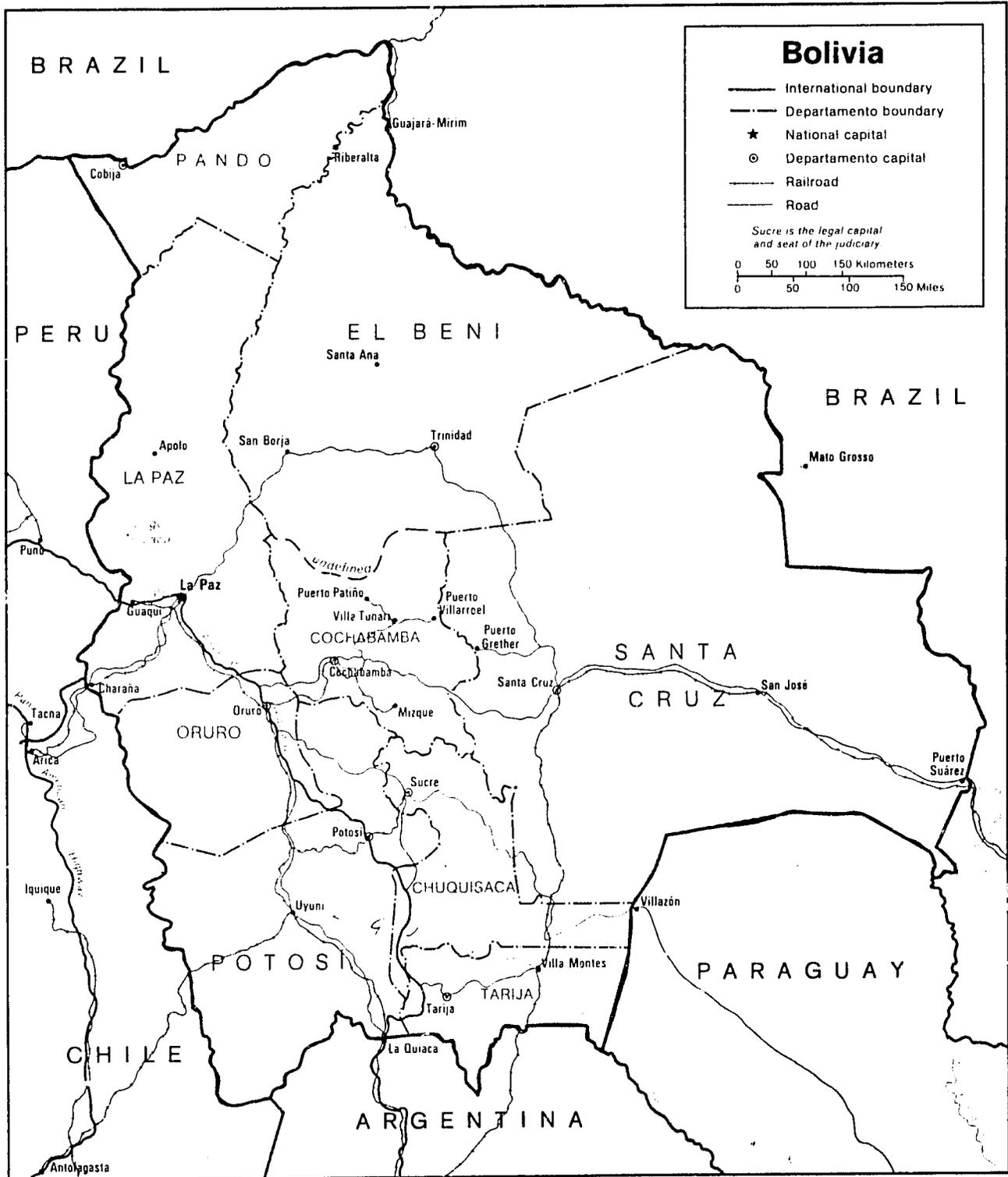


VI: Sources

- WBK9202 Jorgensen, Steen, Margaret Grosh, and Mark Schacter, eds. *Bolivia's Answer to Poverty, Economic Crisis and Adjustment: The Emergency Social Fund*. Washington, DC: The World Bank, 1992.
- WBK9302 Mortality rate time series generated from Ken Hill equations provided in a personal communication March, 1993. The equations were developed for the World Development Report, 1993 and a UNICEF publication, *The Progress of Nations*.
- WBK9303 World Bank. *World Development Report, 1993*. New York: Oxford University Press, 1993.
- WHD8500 World Health Organization. *Programme for Control of Diarrhoeal Diseases: Fourth Programme Report 1983-1984*. (WHO/CDD/85.13) Geneva: WHO, 1985.
- WHD8601 World Health Organization. *Programme for Control of Diarrhoeal Diseases. Management Information System Report, March, 1986*. Geneva: WHO.
- WHD8700 World Health Organization. *Programme for Control of Diarrhoeal Diseases: Interim Programme Report 1986*. (WHO/CDD/87.26) Geneva: WHO, 1987.
- WHD8800 World Health Organization. *Programme for Control of Diarrhoeal Diseases: Sixth Programme Report 1986-1987*. (WHO/CDD/88.28) Geneva: WHO, 1988.
- WHD8900 World Health Organization. *Programme for Control of Diarrhoeal Diseases: Programme Report (WHO/CDD/89.31)* Geneva: WHO, 1989.
- WHD9000 World Health Organization, *Programme for Control of Diarrhoeal Diseases facsimile, February 14, 1990*.
- WHD9001 World Health Organization, *Programme for Control of Diarrhoeal Diseases facsimile, March 27, 1990*.
- WHD9100 World Health Organization. *Programme for Control of Diarrhoeal Diseases: Interim Programme Report 1990*. (WHO/CDD/91.36) Geneva: WHO, 1991.
- WHD9201 *Programme For Control Of Diarrhoeal Diseases. Eighth Programme Report 1990-1991*. WHO/CDD/92.38. Geneva: World Health Organization, 1992.
- WHD9300 World Health Organization, *Programme for Control of Diarrhoeal Diseases; provisional data for Annex 1 of the Ninth Programme Report. Received by personal communication, February 16, 1993*.
- WHE8700 World Health Organization. *Expanded Programme on Immunization Information System Report, January 1987*. Geneva: WHO, 1987.
- WHE8800 World Health Organization. *Expanded Programme on Immunization Information System Report, January 1988*. Geneva: WHO, 1988.
- WHE8900 World Health Organization. *Expanded Programme on Immunization Information System Report, July 1989*. (WHO/EPI/GEN/89.2) Geneva: WHO, 1989.
- WHE9001 World Health Organization. *Expanded Programme on Immunization Information System Report, July 1990*. (WHO/EPI/CEIS/90.2) Geneva: WHO, 1990.

VI: Sources

- WHE9100 World Health Organization. Expanded Programme on Immunization Information System Report, April 1991. (WHO/EPI/CEIS/91.1) Geneva: WHO, 1991.
- WHE9202 World Health Organization. Expanded Programme on Immunization Information System Report, October 1992. (WHO/EPI/CEIS/92.2) Geneva: WHO, 1992.
- WHE9301 Facsimile from WHO/EPI of the pages in the 9/93 report of the WHO EPI Information System containing the most current vaccination coverage rates. September 24, 1993.
- WHO9101 World Health Organization. World Health Organization Disk: Water Supply and Sanitation Service Coverage. Geneva: WHO, October 29, 1991.
- WHO9102 World Health Organization, Global Program on AIDS. Inventory of Nongovernmental Organizations Working on AIDS in Countries that Receive Development Cooperation or Assistance. Geneva: United Nations, 1991.
- WOL9100 Oleh Wolwyna. Proyecciones de Poblacion: Bolivia, 1991-2010. Anuales y por Edades Simples y Sexo: para la Elaboracion de Politicas y el Planeamiento de¹ Desarrollo Socio-Economico. RTI; Noviembre, 1991



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