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**Towards a Lifetime of Health:
Socioeconomic and Health
Issues for Midlife and Older Women**

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Executive Summary

A dominant and unprecedented demographic trend over the next 40 years is population aging, or the increasing proportion of adults within the overall age structure. The fastest growing segment of the population is older adults. By the year 2020, 72 percent of people aged 55 and above will live in developing countries, with absolute numbers exceeding one billion. Among the older adults, women are the majority.

This demographic trend presents numerous challenges to health policy makers. Formulating health policy to maximize the well-being and productive capacity of people in their midlife and older years will be particularly important for women for several reasons, foremost among them that midlife and older women have the right to good health. In addition, there is a direct relationship between women's health and their capacity to fulfill the multiple responsibilities of child nurturing, home production, market work, and management of household, business, and community endeavors. These responsibilities, which for most women continue well into old age, provide critical contributions to the health and well-being of their families. Thus policies to promote women's health are necessary to ensure the health and well-being of the people they support. Finally, women constitute a higher proportion of older adults because they live longer than men in virtually every country in the world. Women's longer life expectancy means that they will be subject to more illnesses and disabling conditions over a longer period of time. This will require additional health resources targeted to their particular needs.

The health status of older women depends in large part on the effects of their health and socioeconomic status over time, beginning at infancy. The cumulative and interactive effects of infection, diseases, inadequately treated conditions, frequent reproductive cycling, undernutrition, heavy workload, and emotional stress all take their toll on the health of older women. A key feature of the context of midlife and older women in developing countries is their context of poverty.

To help ensure the health of women throughout their lives, we will need an integrated and comprehensive understanding of the interplay among the many socioeconomic, cultural, and epidemiological factors that determine women's health status. Unfortunately, however, there is a lack of data on older women's income and income transfers, economic activity rates, and access to and use of health care systems. There is also a severe lack of data on adult morbidity and malnutrition in developing countries, and what limited information on health risks that does exist is rarely disaggregated by gender and age. Even in health and other surveys on women, the focus is almost always on women's reproductive years.

Women's Health Status and Conditions

Despite the lack of data on midlife and older women's health status and conditions, there are certain health determinants that we know affect women only, or disproportionately. For example, a general pattern similar to older women in developed countries is emerging from older women in developing countries: older women are more likely to have multiple chronic illnesses that cause physical limitation, while men are more likely to experience acute illness that are life-threatening. Women commonly suffer disabilities or generalized non-fatal health conditions as a result of overwork. The nature and intensity of women's work outside the home and the daily labor for provisioning the household and caring for family members place heavy burdens on women, particularly low-income women.

An emerging literature on maternal complications of labor and childbirth suggests that many of many long-term effects of the complications will be experienced by women into their midlife and older years. Most long-term effects of childbirth complications are related to obstructed labor, obstetric hemorrhage, and postpartum infection. Long-term consequences of these childbirth complications include fistula, uterovaginal prolapse, vaginal stenosis, neurological dysfunction, Sheehan's syndrome, anemia and pelvic inflammatory disease.

Undernutrition is also a determinant of older women's health. Among adults, the most well-studied functional consequence of current undernutrition is poor work capacity. Another consequence of current undernutrition is lack of well-being, which may result from current inadequate energy intake and current low iron status. Inadequate energy intake leads to a feeling of hunger; low iron status can lead to anemia, and both result in general fatigue. Third, poor health is expected to result from current undernutrition among adults, although evidence is scarce.

A positive effect of age, specifically menopause, on the nutritional status of elderly women is that the nutritional drains of pregnancy, lactation, and menopause cease. This potentially positive effect on women's nutritional status must be examined against potentially negative effects. For example, although not analyzed as a separate group, elderly women also can be assumed to consume less food than is recommended for them. If a culture places less respect on elderly women, then they might consume a lower percentage of food needed than they did when they were younger, and their nutritional status may worsen.

Other important health conditions include work-related health problems that predominate among older women will depend on the occupations in which they tend to work. In Brazil, the risks and problems among four main categories of work for women were noted: office personnel were pressured to work fast, were often harassed, and worked around poor lighting, toxic substances and

electromagnetic radiation. Midlife and older women are reported to suffer psychological distress from several sources, including overwork within and outside the home, and changing economic and social roles (often exacerbated in times of economic crises).

Older Women's Contributions to Family and Society

Like women of all ages, older women play an integral role in both home and market production and in the care and maintenance of themselves and their families, especially among lower income groups. Within the home and community, midlife and older women care for children, cook, clean, participate in productive activities such as gardening, food transformation and marketing, and handicrafts, provide labor for family farming and businesses, participate to varying degrees in both formal and informal labor markets, and play an important role in community decision making and activities.

Thus, when considering health policy for older women, policymakers need to keep in mind several things. First, the work and contributions of older women must be recognized not only for their inherent worth to society, but for the ways in which they shape older women's health experience. Second, to the extent that health is a productive resource, which tends to diminish with age, it needs to be safeguarded. This point becomes particularly important in times of change and crisis brought about by modernization, economic crisis, and the appearance of diseases such as AIDS, where it is likely that older women contribute more to their own sustenance and that of their families, or they become more marginalized, or both. In any scenario, it may be that the best chance for survival and well-being lies in their own health.

Socioeconomic Context

The socioeconomic context of women's lives are primary determinants of their health status. This is of concern because of the poverty under which a disproportionate number of women live. To the extent that economic security in old age is related to an individual's level of lifetime earnings and ability to save, accumulate assets, and make other provisions for old age, women's lifetime of disadvantaged access to resources accumulates at older ages, threatening their health and economic security, and leading to a tenuous and marginal existence for many older women. Even those midlife and older women living within an extended family network, where changes in family composition and living arrangements can serve to even out household consumption over the life cycle, may face significant problems of access to adequate food, lodging, and health care, especially if these families are poor themselves.

It is often assumed that in developing country settings, older family members will share a home with other family members, have access to family resources, and be accorded social status befitting their age. This perception is so pervasive that "strengthening the family" becomes a primary policy recommendation for those interested in providing better care for older people. Such a recommendation is insufficient to guide effective policy for at least three reasons: 1) there is evidence of a growing number of older, usually widowed women who are living alone; 2) there is evidence of a growing number of households headed by older women, who themselves are responsible for the care of others; and 3) even when older women are living in an extended family situation, they do not necessarily share equally in the economic assets of other household members.

Many forces contribute to the change in extended family structures that may be leaving more midlife and older women without significant family support. For example, the family as a mechanism for resource transfer can fail at the beginning of a transition to older families. At this stage, changes in intergenerational and intra-household resource flows can contribute to the breakdown or physical separation of families. An important question is what happens to older women's access to resources and care during such a transition.

Health and Social Services for Older Women

The demographic transition to an older population presents the concern that the aging and elderly population is increasing well ahead of institutional readiness to cope with the growing numbers of older people and their disproportionate needs for health and social services. For example, social security systems, which includes old age pensions, retirement and disability benefits, social assistance and public health services, are designed primarily for wage earners. As such, they exclude most workers in developing countries, especially women, who are concentrated in informal sector work, farming, or low-wage seasonal work, or home bases. While these activities may not be formally excluded, workers may seldom meet qualifying conditions or may remain invisible to social service agencies.

Research Recommendations

Because the relationships between health and socio-economic conditions are cumulative and multidirectional, researchers must examine the whole of midlife and older women's lives in order to understand current health status. Given the lack of data on the wide variety of factors determining and defining women's health status, studies are immediately needed on:

- **adult morbidity and malnutrition in developing countries;**
- **older women's activities and the socio-economic context within which they live;**
- **the health conditions and care needs that are specific to older women, and successful ways of addressing them;**
- **access and utilization of existing services, quality, and appropriateness of care;**
- **effective preventive health strategies for girls and young women that will improve women's lifelong health status.**

The health challenges facing older women throughout the world differ as countries pass through different demographic and epidemiological stages. Health and social service availability varies as well. In addition, cultural and economic circumstances specific to particular countries or regions have clear implications for health research priorities for older women, as do shifting economic trends such as modernization, urbanization, agricultural intensification, and technology innovation and industrialization. Regional and national research protocols and priorities should address these factors.

To speed the collection and analysis of data on older women, researchers should tap into ongoing collection efforts, such as the U.S. Bureau of the Census International Data Base on Aging and the United Nations Statistical Office Demographic Yearbook. Other, smaller scale data collection efforts important to track. For example, the London School of Hygiene and Tropical Medicine is currently conducting a program entitled the "Public Health Implications of Ageing", which will use existing data sources to construct country profile of population aging.

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Introduction

A dominant and unprecedented demographic trend over the next 40 years is population aging, or the increasing proportion of adults within the overall age structure. The fastest growing segment of the population is older adults. In 1988, there were 370 million people aged 55 or older in developing countries, representing 58 percent of the world total in this category. By the year 2020, 72 percent of people aged 55 and above will live in developing countries, with absolute numbers exceeding one billion.

A function first of fertility rates, and secondarily of mortality rates, population aging is most advanced in developed countries, where both fertility and mortality rates are low, and where proportions of elderly range from 13 to 15 percent. In developing countries, where fertility and mortality rates are relatively high, the proportion of people in this age group is lower, averaging seven percent. Among the older adults, women are the majority.

Table 1 Percentage of Total Population in Older Age Groups: 1988 to 2020

Region	Year	55 years and Over	65 years and Over	75 years and Over
Asia	1988	10.4	4.5	1.3
	2005	12.8	6.1	2.0
	2020	17.5	8.3	2.7
Africa	1988	7.0	2.9	0.7
	2005	7.2	3.1	0.8
	2020	8.2	3.6	1.0
Latin America	1988	9.4	4.4	1.4
	2005	11.4	5.5	2.0
	2020	15.8	7.5	2.7
Caribbean	1988	11.7	6.1	2.2
	2005	13.7	6.8	2.6
	2020	18.7	9.0	3.3

Source: U.S. Bureau of the Census (n.d.)

There are important regional variations in the rate and onset of population aging. For example, while the populations of East Asia, South Asia, and Latin America are aging, the population of Africa is projected to become even younger, and will continue to do so until at least the second decade of the next century (United Nations 1987). A useful way to illustrate these differences is to look at the median age in various countries, or the age that divides a population into numerically equal parts of younger and older persons. From Table 2 we can see that the median age in many

countries in Africa is projected to decrease to the year 2000, and increase thereafter. In Asian countries, on the other hand, the median age is increasing steadily. In Hong Kong and Singapore, one-half of the population will be over the age of 45 in the year 2020 (Kinsella 1988).

Table 2 Median Age for Selected Countries, 1960-2025

Country	1960	1980	2000	2020	2025
Ethiopia	18.0	17.2	16.7	18.9	20.0
Kenya	15.1	14.2	14.3	18.6	20.1
Mozambique	19.6	17.9	17.7	20.5	22.0
Chad	20.6	19.0	18.3	19.9	21.1
Algeria	18.2	16.6	18.1	24.9	26.0
Lesotho	19.7	19.0	18.8	20.7	21.9
China	21.0	21.7	30.2	37.7	38.1
Burma	21.0	19.1	21.1	26.5	28.0
Philippines	16.6	19.1	23.7	30.7	32.0
Bangladesh	19.9	16.8	19.3	24.9	26.0
India	19.3	19.9	25.0	31.9	33.0
Sri Lanka	19.1	20.9	27.0	33.7	35.0
Papua New Guinea	19.8	18.7	20.2	25.6	27.1
Jamaica	19.6	18.5	25.8	33.1	34.9
Haiti	19.6	18.1	18.1	20.2	21.2
Costa Rica	16.4	19.7	24.2	29.9	31.3
Argentina	26.8	27.4	27.5	31.2	32.1
Colombia	16.9	19.4	24.1	29.6	30.9
Bolivia	18.6	18.2	18.1	20.3	21.4
Cyprus	23.0	28.7	23.0	36.3	37.1
Jordan	17.6	15.3	15.6	19.9	21.6

Source: United Nations (1987)

The low relative proportion of persons over age 55 in developing countries belies the importance of the aging trend in these countries. To more fully understand the magnitude of the change that is taking place, we need to look at: 1) the rate of change in the proportion of older people; and 2) the large increase in absolute numbers of older people, especially in developing countries.

The very rapid rate of change of aging populations in developing countries is due in part to recent improvements in health knowledge and services that have helped eradicate or control major infectious diseases and improve the general health of the population. These improvements (which include improved nutrition, housing, sanitation, and information methods, as well as the prophylactic, clinical, and surgical achievements in the medical world) have sped the transition to aging by increasing life expectancy at birth and reducing overall mortality (Tout 1989; Kinsella 1988; Manton et al. 1987).

The large increase in gross numbers of elderly people in developing countries is taking place within the context of a rapidly increasing world population, which grew from an estimated 2.5 billion in 1950 to 4.8 billion in 1985, and is projected to reach 8.2 billion in 2025 (United Nations 1987). Thus, many developing countries are beginning their "aging" with very high populations. This differs substantially from the experience of the developed countries, characterized by the long-term aging process of the more modest population base of the 19th and early 20th centuries (Manton et al. 1987).

Various estimates all indicate that in developing nations there will be a high proportion of older persons in rural areas. Currently, 74 percent of Sub-Saharan Africa's population lives in rural areas. In 2020, it is projected that 50 percent will live in rural areas (United Nations 1987). The vast majority of Sub-Saharan African elderly live in rural areas now and will in the future, both because the majority of the population reside there, and because of age-selective migration (Adamchak 1989).

Despite over-representation of older people in rural areas, it is also true that as the world population becomes more urbanized, so too are older populations, and the trend is expected to continue. Even in developing regions, which remain predominantly rural, approximately 30 percent of the population aged 60 and above live in urban areas (United Nations 1987).

Population aging is a process that is just now beginning to take shape in developing countries. Its effects will be increasingly powerful as we move into the 21st century. Among some policy makers, there is already a concern that the aging and elderly population is increasing well ahead of institutional readiness to cope with the growing numbers of older people and their disproportionate needs for health and social services (Treas and Logue 1986). Furthermore, it is important to note that population aging implies an increase in the numbers and proportion of reproductive age women, who will also require additional health care services. Clearly the time is now to re-examine existing health structures and policies to ensure that they address the growing health needs of cohorts of all ages, throughout their lives into old age.

Table 3 Population by Age: 1988 and 2020 (Numbers in thousands)

Region and Country		Total, all ages	0-24 years	25-54 years	55-64 years	65 years and Older
Asia						
Bangladesh	1988	109,964	69,711	32,356	4,644	3,253
	2020	201,468	94,803	83,517	14,155	8,993
China	1988	1,088,169	550,417	405,480	72,510	59,761
	2020	1,441,368	476,736	618,136	170,745	175,701
Hong Kong	1988	5,651	2,215	2,475	492	469
	2020	6,896	1,804	2,710	1,179	1,202
Africa						
Kenya	1988	23,342	16,558	5,588	707	488
	2020	79,189	51,673	23,075	2,545	1,895
Malawi	1988	7,679	5,187	2,007	279	210
	2020	21,093	13,366	6,511	681	534
Tunisia	1988	7,738	4,580	2,392	427	339
	2020	13,623	5,566	5,722	1,158	877
Latin America and the Caribbean						
Brazil	1988	150,685	86,578	50,616	7,454	6,038
	2020	273,286	122,130	108,620	22,090	20,445
Jamaica	1988	2,458	1,417	746	130	166
	2020	4,078	1,743	1,658	359	513
Guatemala	1988	8,831	5,576	2,616	358	117
	2020	15,661	7,497	6,312	986	866

Source: Kinsella (1988)

Formulating health policy to prevent disabling illness early in life so as to maximize the well-being and productive capacity of people in their midlife and older years will be particularly important for women for several reasons. First and foremost, midlife and older women have the right to good health. Another important reason to focus on women's health is the direct relationship between their health and their capacity to fulfill the multiple responsibilities of child nurturing, home production, market work, and management of household, business, and community endeavors. These responsibilities, which for most women continue well into old age, provide critical

contributions to the health and well-being of their families. Thus policies to promote women's health are necessary to ensure the health and well-being of the people they support.

Furthermore, women constitute a higher proportion of older adults because they live longer than men in virtually every country in the world (Kinsella 1988). The relative numbers of women to men widens with age; at age 60, women are a small majority, and as age increases, the ratio of women to men increases as well (see Table 4). The United Nations estimated that in 1985, there were 208 million women aged 60 and above; of these, one-half lived in the developed and half in the developing world. By the year 2025 this has been projected to increase to 604 million elderly women, of which 70 percent will be living in the developing world. (United Nations 1987).

Table 4 Males and Females per 100 Population, Less Developed Regions, 1980

Age	Males	Females
60-9	49.12	50.88
70-9	45.91	54.09
80+	41.83	58.17

Source: American Association of Retired Persons, and Pan American Health Organization(1989)

Finally, women's longer life expectancy means that they will be subject to more illnesses and disabling conditions over a longer period of time. This will require additional health resources targeted to their particular needs.

It is our premise that the health status of older women depends in large part on the cumulative effects of their health and socioeconomic status over time, beginning at infancy. To help ensure the health of women throughout their lives, we will need an integrated and comprehensive understanding of the interplay among the many socioeconomic, cultural, and epidemiological factors that determine women's health status. Unfortunately, however, there is a lack of data on older women's income and income transfers, economic activity rates, and access to and use of health care systems. There is also a severe lack of data on adult morbidity and malnutrition in developing countries, and what limited information on health risks that does exist is rarely disaggregated by gender and age. Even in health and other surveys on women, the focus is almost always on women's reproductive years.

The purpose of this paper is to take a preliminary look at what is known about older women's health status, the socioeconomic context out of which this status has emerged, and the health services available to older women. Because the concept of aging, and even "old age," is not common across cultures, we begin the paper with a discussion of various cultural definitions of aging. In the final section we make recommendations for research that will better enable us to design programs and policies that serve women's health needs throughout the aging process.

Definitions of Aging

The transition to elder status or the time at which an individual and society considers a person old varies from culture to culture. The U.N., for example, defines aging chronologically: "old age" begins at 55, which coincides with the time that men in parts of the industrialized western world retire from the workforce. Chronological definitions of aging, however, while important for statistical and international comparisons, are of limited use for defining the parameters of policy initiatives for older adults. This is especially true of developing countries where there is a lower life expectancy and the age structure of the population is such that the older age cohort may start at age 45 or before. In Bangladesh, for example, where women marry and have children very early, and where life expectancy for women is currently around 47 years, middle age may really begin at some point in their twenties. Certainly it is easy to imagine a scenario in Bangladesh where a woman is a widow and a grandmother at the chronological age of 35. Furthermore, chronological age has limited social meaning in many cultures; rather, it is the passage through key life events, such as puberty, marriage, the birth of a child, the birth of a grandchild, and menopause, that more accurately reflect the social and biological aging process of women.

Other social reflections of having attained a certain age include increased freedom of movement and the ability to engage in many activities not "allowed" for younger women. A paradox for women as they age is that their authority within the family and community is rooted not only in their having had children, but also in the fact that they are no longer able to have them. It is a strongly held belief in some cultures that only postmenopausal women should be freed from certain restrictions (Foner 1988). For example, the Sokolovsky's note that in a Mexican village "by the time a woman is 60, she may be seen casually chatting with a group of men or guzzling beer at a public festival, things forbidden to younger women" (Chaney 1990). When women take on positions such as an expert in religion and ritual such as a Shaman, healer, or midwife, in which she has control over important events in society, she has reached a certain age. The degree of a woman's political influence may also be indicative of aging. In parts of Nigeria, for example, an Omu is an older woman who has been named "Queen" of the village and her role in society closely parallels that of the king (Chaney 1990).

The aforementioned indicators of aging are positive characteristics of older age. There are, however, much more negative results and effects of being old that reflect the loss of meaningful social function and increased risk of individuals becoming, as Livi-Bacci (1982) says, "prematurely obsolete, senescent, and estranged from society." Much of what is negative for women as they age relates to their physical and mental health; when they are no longer seen as contributing to society they may become more marginalized. A distinction between decrepit and intact elders is made and determines the way in which they are treated. While healthy elders receive respect, attention, and care, those who are frail and ill are more likely to be abandoned and in some cases exposed to "death hastening" behavior from the rest of society (Sokolovsky 1990). Foner (1988) notes that among older women, those who become frail and ill tend to lose their standing, their influence, and their independence."

Widowhood is another common social status that carries with it some notion of an old age, even when the widow is a young woman. Part of this is due to the presumed end to childbearing, and part is due to a loss of the status that is conferred upon women by husbands. For many women, widowhood also means diminished or totally non-existent financial support.

As more traditional developing country societies change and modernize, the social meanings and statuses attributed to older adults is changing as well. Palmore, Tout and others have noted the degree to which the economic base of a society determines what is valuable, including social and economic roles of older persons. With increased urbanization, the perceived need for older women's knowledge decreases and thus cuts off many of the traditionally empowering roles that were available to them. Thus, with modernization, many events which marked elder status are not occurring at the same point in the life cycle, if at all. For example, in areas where women acquire elder status by having a daughter-in-law move into the home, the rural to urban migration of young people may delay or eliminate this event. This may affect the health of the older women directly, by removing a caretaker, and indirectly by removing a source of income, housing, and labor.

Health Conditions of Midlife and Older Women

Several points about the health status of older women are important to highlight. The first is that women's longer survival does not reflect a superior health status: even in developed countries, where older women tend to be healthier than their counterparts in developed countries, longer life is associated with more years of sickness (Riley 1990, Verbrugge and Wingard 1987). Second and more important it is essential to remember that the health status of older women emerges out of their whole life, and needs to be analyzed within this context. As Sennott-Miller (1990) notes in a study on factors influencing the physical and emotional vulnerability of older women, older women do not become vulnerable to health problems all at once in later life. The cumulative and interactive effects of infection, diseases, inadequately treated conditions, frequent reproductive cycling,

undernutrition, heavy workload, and emotional stress all take their toll on the health of older women. A key feature of the context of midlife and older women in developing countries is their context of poverty. Third, disabilities and illnesses that reduce or eliminate work capacity, which is critical to the support and maintenance of older women and their families, affect women's health and perhaps their survival, and need to be examined.

There is little data on health conditions specific to adult and older women in developing countries. Research is needed on these topics; specific research recommendations are made in the last section of this paper. In this section we highlight important morbidity patterns and causes of mortality of midlife and older women. In the next section, we will discuss the socioeconomic context within which women's health and life experiences interact.

Morbidity

What health problems and conditions are midlife and older women currently experiencing in developing countries? Because there is little readily available information, we will address this question in several ways. We will discuss information from case studies and from causes of mortality of midlife and older women. Neither source of information gives a representative picture of the morbidity women experience in their lives, but both suggest that women suffer often from a variety of ailments and conditions, many of which are preventable or easily treatable with basic health care services. We will also discuss long-term consequences of conditions and illnesses that occurred earlier in women's lives (see consequences of childbirth complications, reproductive tract infections, and part of the other topics below).

A pattern similar to that of older women in developed countries is emerging in developing countries: older women are more likely than older men to have multiple chronic illnesses that cause physical limitation, while men are more likely to experience acute illness that are life-threatening. Women, much more so than men, suffer from conditions that leave them impaired in some way, but do not quickly cause their death, whereas men are more likely to die earlier and with less impairment before they die (Verbrugge 1988b, 1985; Verbrugge and Willard 1987). The implications of this pattern are important and worth further investigation for prevention strategies. In the sections on morbidity below the general category of disabilities is addressed first, followed by sections on specific health conditions.

Disability and non-fatal health conditions. While often not life-threatening, disabilities experienced by older adults can impair important functions. The proportion of disabled persons among those 65 and older in less developed regions is estimated to far exceed 50 percent (Seigel and Hoover 1984). For the majority of older adults who must continue to produce in order to survive, disabilities that inhibit work and productive capacity can eventually threaten survival. This is

especially true of older migrants and refugees who may be abandoned if they become significantly disabled.

Women commonly suffer disabilities or generalized non-fatal health conditions as a result of overwork, both in terms of the intensity of their work and the length of their workday (International Center for Research on Women 1989). The nature and intensity of women's work outside the home and the daily labor for provisioning the household and caring for family members place heavy burdens on women, particularly low-income women. Among the many health effects of overwork are arthritis, chronic pain, nausea, fever, dizziness, exhaustion, and undernutrition, if food intake is inadequate to meet the extra energy demands of heavy work. A major reason for women becoming overworked is that their primary productive resource is their own labor. Women's restricted access to productive resources means that if they need to increase their earnings, they will either work harder, or more hours, or both.

Recent data on disabilities and generalized non-fatal health conditions experienced by older women is reported from research by the World Health Organization on aging in four countries in the Western Pacific (Fiji, Malaysia, Philippines, and Korea), the only comprehensive study to date of the health status of the elderly in developing regions (Heisel 1988). At least half of the study population reported feeling healthy. Satisfaction with health, however, did not necessarily correspond with the prevalence of health problems. For example, Filipinas reported the greatest satisfaction with their health, but reported the greatest prevalence of health problems. A similar difference between women's perceptions of their illnesses and medical diagnoses of their conditions was found in a study in Uruguay (Niedworok 1989). The most common conditions reported in the Philippines study were hypertension, tuberculosis, ulcers, heart disease, asthma, and abdominal pains. There was also a high level of reported disability, particularly visual and dental problems, which increased with age but showed little difference according to gender.

In Zimbabwe, a recent study conducted by the Ministry of Community Development and Women's Affairs (1982) found that 47 percent of women reported their health as poor, while 53 percent said it was good or excellent. After the deaths of their husbands, 78 percent of elderly widows reported a deterioration in health. The major changes were hypertension, tiredness, general body pains, asthma, weak legs, chest pain, poor eyesight, back problems, headaches, weakness, and confusion (Folta and Deck 1987). Self-reported health status of survey respondents in the Côte d'Ivoire indicated that those aged 55 or over, experienced 6 to 13 days a month of illness, and that these illnesses are sufficiently severe to cause a suspension of normal activity of 3 to 10 days (Deaton and Paxson 1991).

Long-term Consequences of Childbirth Complications. An emerging literature on maternal complications of labor and childbirth suggests that many long-term effects of the complications will be experienced by women into their midlife and older years (Royston and Armstrong 1989). Most

long-term effects of childbirth complications are related to obstructed labor, obstetric hemorrhage, and postpartum infection (Royston and Armstrong 1989). Long-term consequences of these childbirth complications include fistula, uterovaginal prolapse, vaginal stenosis, neurological dysfunction, Sheehan's syndrome, anemia and pelvic inflammatory disease. In addition to consequences from complications of childbirth, one important complication of pregnancy is worth special mention: pregnancy-induced hypertension results in chronic hypertension in a minority of women, and is more of a risk factor for black women than non-black women.

Vesicovaginal fistula are formed during obstructed labor which occurs when a woman's pelvis is too small to accommodate the size of her baby during childbirth (Royston and Armstrong 1989). Excessive pressure on the soft tissue in the birth canal causes the fistula, a false passage between the vagina and bladder or the vagina and the rectum. Incontinence results from damage to the bladder and if the fistula are not repaired, women leak urine or feces through the vagina. This causes constant itchiness on the vulva and thighs, psychological disorders, and ostracism due to the foul odor of the urine or feces. Women ostracized because of this condition often become destitute. Repair of the fistula by surgery is difficult when good health care services are available, and rarely occurs among poor communities without good health care. The incidence of vesicovaginal fistula is higher among adolescent girls than adult women of reproductive age.

Prolapse of the vagina or uterus is also a result of obstructed labor. The internal structure supporting the cervix, vagina and uterus are severely weakened and, if recovery after childbirth is incomplete, they protrude outside the vulval opening permanently (Royston and Armstrong 1989). Uterovaginal prolapse may block normal urination or make a woman unable to control her bladder. A woman may suffer constipation or low back pain, and she is at increased risk of cervical infection. Although prolapse of the vagina and uterus can be surgically repaired, most poor women in developing countries do not have access to the level of health care required, and remain with the condition.

Vaginal stenosis is the condition in which dense scar tissue forms in the vagina after damage to the soft tissue from obstructed labor. The permanent scar tissue causes urinary dysfunction and painful intercourse for women. Neurological dysfunction across the pelvis is also caused by obstructed labor. In the long term, nerve damage in the pelvis can lead to loss of feeling in the feet, muscle wasting in the legs and feet, and even crippling so that older women become unable to walk.

Sheehan's syndrome is dysfunction of the pituitary hormone system that causes dizziness, episodes of unconsciousness, premature aging, muscle and joint pain, and other symptoms (Royston and Armstrong 1989). The syndrome results from obstetric hemorrhage, which causes shock, lack of blood to the pituitary gland, and permanent damage to the pituitary. Long-term hormone replacement therapy would cure symptoms of Sheehan's syndrome, but once again the careful medical attention it requires is rarely an option for poor women in developing countries. Anemia

during the midlife and older years can also result from obstetric hemorrhage if women do not replenish their iron stores by eating iron-rich foods or taking iron supplements and by reducing other iron losses, such as from subsequent pregnancies and parasitic infections. Anemia is addressed further in the section on undernutrition below.

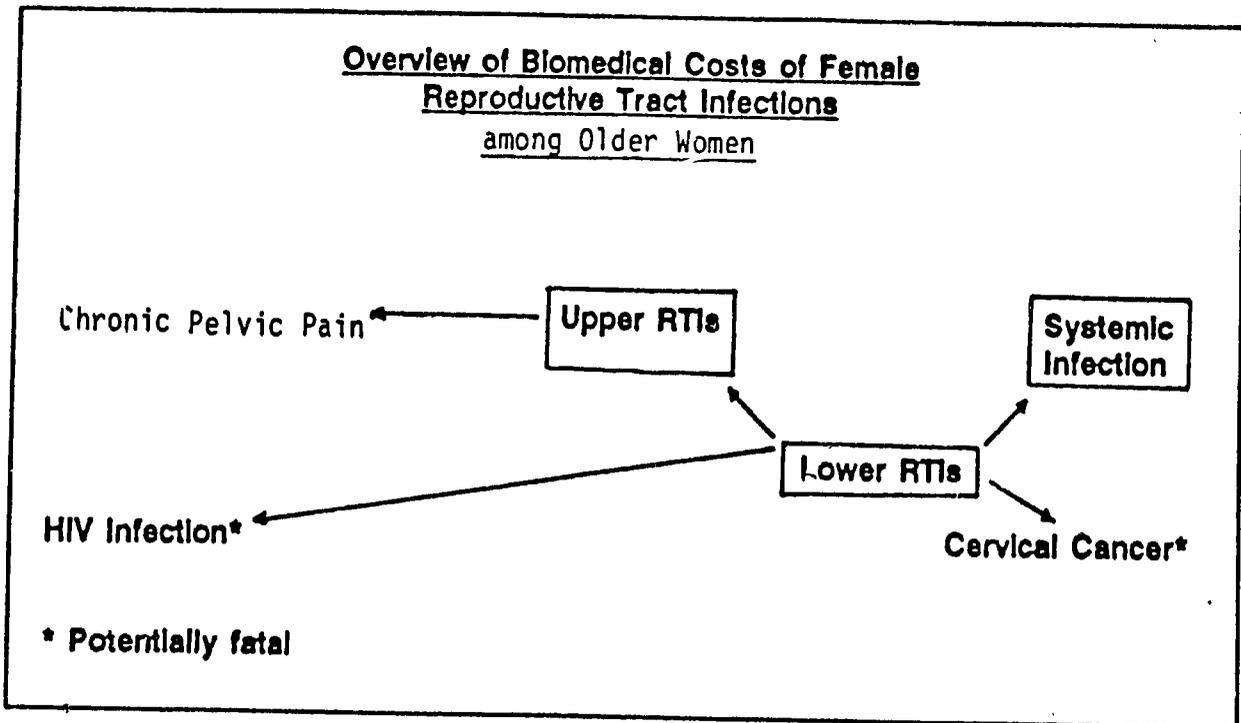
Chronic pelvic inflammatory disease (PID) results from postpartum infection and sepsis. PID leaves permanent scar tissue in the uterus that can cause chronic pain in the lower back, and pain during urination, defecation, and intercourse. PID contributes to uterine fibroids, uterovaginal prolapse, and ovarian diseases in later years. PID can also cause subsequent infertility, in women, which may lead to divorce from their husbands, ostracism, and destitution. PID can occur at times in women's lives other than the postpartum period following childbirth, and is addressed further in the next section on reproductive tract conditions.

Reproductive Tract Conditions. By extrapolation from the reproductive years, we can speculate that there are two ways that midlife and older women suffer from reproductive tract conditions: they experience chronic effects from having had reproductive tract infections (RTIs) or poor childbirth experiences when they were younger, or they contract a new reproductive tract infection during their older years.

Reproductive tract infections in women can be transmitted sexually, or non-sexually as a result of mismanaged deliveries or abortions. They usually start in the lower tract: vaginitis, cervicitis, genital ulcers (Wasserheit 1996). If untreated, some types of lower RTIs (especially bacterial vaginosis, chlamydia cervicitis, and gonococcal cervicitis) may spread to the upper tract to cause pelvic inflammatory disease (PID). Midlife and older women who contract a new PID infection will experience acute pelvic pain, while women who had PID during their younger years may experience chronic pelvic pain into their older years.

Other types of lower RTIs (genital ulcers) may spread to the bloodstream to cause systemic infections, syphilis or herpes, if untreated (Figure 1). Syphilis and herpes can also have acute and chronic effects in the older years. One additional type of lower RTI, human papillomavirus, puts women at 3-10 times increased risk of cervical cancer (Richart 1990). Finally, lower RTIs that cause breaks or inflammation in the lining of the lower tract may put women at higher risk for transmission of HIV (Wasserheit 1990). Reproductive tract infections that occur either during women's younger years or during their older years may put older women at risk of developing cervical cancer or HIV.

FIGURE 1



adapted from Wasserheit 1990

Undernutrition. Undernutrition is common in developing countries. Country-wide estimates suggest that food is consumed at only 80-90 percent of recommended caloric intakes. Among the poorest of the poor, this percentage is even lower. Depending on the status of elderly women in each setting, they may be at risk of inadequate caloric intake. This means that older women may often experience hunger, though whether or not people feel hungry is difficult to measure and not often investigated.

The most well-studied functional consequence of current undernutrition in adults is poor work capacity. Adult work capacity is known to be compromised by both current inadequate energy intake (Wolgemuth et al. 1982) and current low iron status (Basta et al. 1979). This has been shown separately for women: anemic Sri Lankan female tea plantation workers, many of whom were above reproductive age, had lower physical work capacity and lower productivity than non-anemic workers (Edgerton et al. 1979).

Another consequence of current undernutrition is lack of well-being. Lack of well-being may result from current inadequate energy intake and current low iron status. Inadequate energy intake leads to a feeling of hunger; low iron status can lead to anemia, and both result in general fatigue. Current low iodine status (and low thyroid function) is also expected to make women feel sluggish and tired. Inadequate Vitamin A status is known to cause blindness in children and night blindness among pregnant women, but the prevalence of blindness occurring among midlife and older women from current Vitamin A deficiency is not known.

Third, poor health is expected to result from current undernutrition among adults. While this expectation seems reasonable, the evidence is scarce. Inadequate energy intake and Vitamin A intake hinder the immune response among children, hastening their poor health, but it is not known if this also occurs among adults whose immune systems are more fully developed than those of children (Sommer et al. 1984). One study among undernourished Gambian women of reproductive age indicated that the women's health improved after they received food supplementation that increased their average energy intake substantially (Prentice et al. 1983). Although this evidence may be considered anecdotal because women's health was not the focus of the study, it is highly suggestive and deserves further investigation.

Past undernutrition by itself, for example, not in conjunction with current undernutrition, is expected to have less influence on health problems and conditions among midlife and older women than current undernutrition. Well-known manifestations of undernutrition from the past, most important from the 0-5 year age, are short stature from inadequate energy and protein intake at young ages, and blindness from inadequate Vitamin A intake. Of these two manifestations, only blindness is a disability to older women. Short stature at older ages, by itself, does not disable older women, though it may represent a lifetime of poverty that, in indirect ways, may have put women at higher risk of ill health in their later years.

A positive effect of age, specifically menopause, on the nutritional status of elderly women is that the nutritional drains of pregnancy, lactation, and menopause cease. Elderly women no longer need extra calories, iron, and other nutrients for pregnancy and lactation, or extra iron for menstruation. If all other conditions in women's lives remained constant from their reproductive to their postmenopausal years, their midlife and older years should be a time when women's nutritional status improves. Similarly, if a culture places special respect on elderly women so that they are entitled to eat more food and work less than during their reproductive years, their nutritional status could be expected to improve during their older years.

This potentially positive effect on women's nutritional status must be examined against potentially negative effects. For example, although not analyzed as a separate group, elderly women also can be assumed to consume less food than is recommended for them. If a culture places less respect on elderly women, then they might consume a lower percentage of food needed than they did when they were younger, and their nutritional status may worsen. In a study of 270 Zimbabwean widows aged 55 and older, women reported that when they became old (postmenopausal) and widowed, they lost self-esteem and respect from others (Folta and Deck 1987). They also reported receiving an inadequate amount of food. Similarly, if women work harder, suffer more illnesses, or in any way expend more energy than they did when they were younger, without increasing their energy intake to compensate, their nutritional status may worsen. More needs to be known about how this balance is struck among older women in developing countries.

Anemia might be a relatively easy condition on which to investigate the extent to which women recuperate during their older years. Women are chronically anemic throughout their lives, especially in developing countries. Their needs for iron often exceed their intake during menstruation, pregnancy, and lactation, and become even greater when women hemorrhage. The conditions under which women compensate for past anemia during their midlife and older years, especially anemia caused by the large blood losses of hemorrhage, are not known. Numerous studies have been done assessing women's hemoglobin levels, but it is not known if these studies included postmenopausal women.

Occupational Health. The health of midlife and older women depends on their work, home, and social conditions, including the physical, biological, and chemical conditions at work; the amount of control they have over their work environments; their time for leisure and domestic tasks at home; and the gender- and age- based allocation of status, roles, and rewards in the community (Paltiel 1989).

The work-related health problems that predominate among older women will depend on the occupations in which they tend to work. In Brazil, the risks and problems among four main categories of work for women were noted (Paltiel 1989): office personnel were pressured to work

fast, were often harassed, and worked around poor lighting, toxic substances and electromagnetic radiation. Textile workers worked in uncomfortable positions, inhaled lint from fabrics, and worked around excessive noise, vibrations from machines, and harmful dyes and solvents. Domestic workers had low salaries, low status, no social security, and little time for holidays, vacations, or leisure. Rural workers had long days, heavy lifting, and were exposed to insecticides, microorganisms, and insect and animal bites.

The risks and hardships for women from agricultural work include poisoning from pesticides, low, gender-differentiated wages, seasonal work that may remove women from their families, exhaustion, accidents, and other conditions (Paltiel 1989). Health and safety risks in the electronics industry include fatigue, exposure to dangerous chemicals, and exhaustion. In the textile industry, noise frequently above 90 decibels is associated with hearing loss, abdominal pains, heart disease, and mental problems. Dust from fabric, perhaps including asbestos dust, may cause life-threatening lung disease. Chemicals for flame retardation, wrinkle resistance, and other fabric finishing are associated with higher risk of breast and uterine cancers.

In many of the occupations listed, the ill health effects will be cumulative. For example, in Thailand, after 10 years working in a textile factory, women and men can expect moderate to severe damage to their lungs and ears, and can expect to be short-sighted (United Nations Economic and Social Commission for Asia and the Pacific 1987). If the job requires standing all day, back and leg problems will often occur. Moderate to severe accidents are a risk in many occupations. Moreover, the medical insurance associated with the occupations discussed is often not adequate, if available at all.

Psychological Distress. Midlife and older women are reported to suffer psychological distress from several sources. Women are thought to experience much stress from their double shifts of work outside and inside the home. For midlife women with significant household responsibilities, and outside employment of some sort, the inability to perform well all the activities under their double burden can lead to guilt toward their family and stress from overwork. The worsening economic crisis, no doubt, exacerbates this source of stress. Women under these conditions report irritability, fatigue, forgetfulness, headaches, fainting, and insomnia.

Women in their older years have increased feelings of powerlessness, dependency, insecurity, and lack of autonomy, which often result in depression. Loss of a husband may also contribute to an older woman's psychological distress because her gender role demands may shift rapidly. Perhaps women's lifelong tendency to sacrifice their personal needs for the welfare of their families (Rao Gupta 1985) contributes to their feelings of powerlessness at older ages, particularly if they no longer live with their families. Latin feminists argue that depression among women in later life is due to a crisis of identity (Sennott-Miller 1990).

Women may suffer depression, irritability, tension, and anxiety at menopause. The incidence of depression and psychosis is higher among women whose family, social, and work lives are ungratifying. On the other hand, menopause in some cultures may usher women into high status positions, for example, in Peru (Barnett 1988) and in India (Flint 1975). In the later years, women, as well as men, may suffer cognitive impairment. If the proportions are similar to the United States, mild cognitive impairment will be found in 14 percent of women and men, and severe impairment, predominately due to Alzheimer's disease, in 3 to 5 percent.

Gender disaggregated data on psychological morbidity for developing countries is scarce. Yet the information available indicates a gender differential, both in terms of overall rates of psychological distress and in terms of the prevalence of specific symptoms. Women report greater emotional distress than men, and studies suggest that women are more frequently psychiatrically disabled than men (Paltiel 1987). The WHO study in four countries in Asia found that loss of cognitive function was the only chronic disability indicator found consistently higher for women than for men. Though this may reflect age and sex differences in Alzheimer's disease, it is probably also related to lower socioeconomic and education status of women than men in these countries (Doty 1987).

Diabetes. Diabetes, in addition to being one of the leading causes of death in most countries, is associated with morbidity and disability for many of the elderly years, if not controlled with insulin and diet. Gradual blindness and gradual poorer circulation that may necessitate amputation occur commonly among elderly diabetics. Although diabetes is a health problem for both men and women, postmenopausal women with diabetes suffer the most serious damage and complications (International Center for Research on Women 1989).

Osteoporosis. The incidence and prevalence of osteoporosis in developing countries is unknown. It is the subject of study by the World Health Organization Special Program on Aging (1988). It is likely that as the world's population ages, osteoporosis will play an increasingly important role in the vulnerability of older women. Osteoporosis causes pain and disability due to fractures, both minor and major. The weak bones that characterize osteoporosis put older women at constant risk of falling. A severe fall could cause the death of a woman, but is more likely to hasten her death due to other conditions.

Women who develop osteoporosis have higher rates of calcium resorption than women who do not develop it. Before age 30, the rate of calcium accretion to bone is greater than the rate of its resorption from bone, and after age 30, the process begins to reverse. The rate of calcium resorption from bone increases among menopausal women when their estrogen levels drop. Osteoporosis (porous bone) puts older women at very high risk of fractures, which can be debilitating. Weight-bearing exercise slows the process.

There are several reasons to suspect that osteoporosis could become a greater problem in developing countries than in developed countries. Women would not have adequate access to estrogen therapy, which slows the rate of bone loss during the older years. There is also the possibility that calcium intake may be inadequate in the younger years, setting the stage for osteoporosis. On the other hand, there are several mitigating factors that may serve to somewhat protect women in developing countries from osteoporosis. Women undoubtedly do more physical activities that are weight-bearing, which slows the rate of bone loss. Also, women in developing countries usually have lower protein intakes, and so limit the postulated interference of protein with calcium metabolism and bone formation.

Causes of Mortality

Several broad patterns can be noted for causes of mortality. Older women in Latin America and the Caribbean are increasingly dying of cardiovascular disease, cerebrovascular disease, and cancers, while women in Africa are suffering from and dying of infectious and communicable diseases. Elderly women in Asia appear to be dying of both. This reflects a health transition from mortality caused largely by infectious and communicable diseases to mortality caused largely by heart disease, strokes, and cancers. Latin America and the Caribbean are furthest along this transition, Asia is in the middle, and Africa is least far along. Extrapolating into the future, a greater incidence of heart disease, strokes, and cancers could be expected from all regions of the developing countries. Though the rate of the health transition cannot be predicted accurately, its gradual occurrence seems inevitable.

The four leading causes of death of women 45-64 years in Latin America and the Caribbean are heart diseases, cancers, cerebrovascular diseases (strokes), and diabetes (Pan American Health Organization 1985). Cancers and heart diseases are associated with similar rates of mortality, and these rates are at least double the rates of cerebrovascular diseases and diabetes. Women in the Caribbean suffer more than chronic diseases than men there.

Cancers. The cancers most common among women in developing countries are cervical, breast, and stomach. For cervical and breast cancers, enough is known about prevention and treatment to reduce premature mortality. Screening by vaginal cytology tests (Pap smear) can identify cervical cancer in its early, completely curable stages, and manual breast examination and mammography can do the same with breast cancer (but access to preventive and early curative service is limited). Cervical cancer is more prevalent in the less developed countries of the developing world. Its origin is in infection with human papillomavirus (HPV), a sexually transmitted disease of the lower reproductive tract. Breast cancer, on the other hand, is more common in the more highly developed of the developing countries (for example, Argentina, Uruguay, and Cuba). Deaths due to lung cancer are expected to rise as they have in developed countries with increased smoking among women.

Heart diseases and strokes. Mortality due to heart diseases and strokes is associated with lifestyle patterns similar to those in developed countries. Hypertension, diabetes, and obesity are risk factors for heart diseases and strokes. The primary lifestyle risk factors are smoking, alcohol consumption, diets high in fat and low in fiber, and sedentary habits.

Aging Women's Contributions to the Household and Society.

In this section, we look at a range of midlife and older women's activities and contributions. Like women of all ages, older women play an integral role in both home and market production and in the care and maintenance of themselves and their families, especially among lower income groups. Within the home and community, midlife and older women care for children, cook, clean, participate in productive activities such as gardening, food transformation and marketing, and handicrafts, provide labor for family farming and businesses, participate to varying degrees in both formal and informal labor markets, and play an important role in community decision making and activities.

The nature and scope of women's work and contributions can constitute a tremendous burden. The fact that women carry such heavy productive and reproductive responsibilities throughout their lives, and the lack of productive resources such as tools, inputs, information services, education, credit, and labor saving devices, means that the work is very labor intensive and the hours are long. Women's heavy labor burden impacts directly on their health and on their productivity. This in turn has implications for the health and well-being of the family for whom they provide.

Thus, when considering health policy for older women, policymakers need to keep in mind several things. First, the work and contributions of older women must be recognized not only for their inherent worth to society, but for the ways in which they shape older women's health experience. Second, to the extent that health is a productive resource, which tends to diminish with age, it needs to be safeguarded. This point becomes particularly important in times of change and crisis brought about by modernization, economic crisis, and the appearance of diseases such as AIDS, where it is likely that older women contribute more to their own sustenance and that of their families, or they become more marginalized, or both. In any scenario, it may be that the best chance for survival and well-being lies in their own health.

Labor Force Participation (LFP)

For developing countries as a whole, one in three women aged 55-64 was economically active in 1980, similar to developed countries. But, labor force participation rates (LFPR) of women aged 65 and over in developing countries was 16 percent in 1980, which was more than twice the rates in developed countries.

There are significant regional variations in midlife and older women's LFP due in part to real differences and in part to different definitions and analyses of what constitutes women's participation in the labor force. In Nigeria, for example, women aged 65 and over continue to participate in the labor market at the same rate as do women of other ages, that is, about 33 percent are employed. Their predominant occupations are trading, farming, and fishing. In the Côte d'Ivoire, a recent analysis of the Living Standards Measurement Surveys of 1985 and 1986 show that women's labor force participation peaks at ages 40-54, and remains high into their late 60's. The hours worked per day and the days per week diminish somewhat after the age of 55, which is to be expected in an agricultural economy (Deaton and Paxson 1991).

Though LFPR tended to decline in the Association of South East Asian Nations (ASEAN) region at older ages, they remained high even at ages above the official retirement age since many workers were self-employed or engaged in agriculture and continued working out of necessity. In Delhi, India, the majority of older women employed outside the home were domestic workers, and the remainder were scavengers or petty traders of foodstuffs (International Federation on Aging 1985). In Thailand, labor force participation rates for women in urban areas drop significantly after age 39, and continue to decline. Note in Table 7, however, that the number of weeks worked, and hours per weeks, actually increases for those who remain in the labor force, possibly reflecting extreme need within this cohort. In rural areas, LFPRs remain high to the age of 64, and drop considerably thereafter.

Midlife and older Latin American women are not recorded as being as active as their cohorts in other regions. This may be because they are highly urbanized, and tend to work in sectors, such as personal services, which are often neglected or poorly enumerated in national statistics. Another reason may lie in the definitions used in Latin America as economically active, as in Table 6 where it is noted that the data did not reflect workers in the agricultural sector as "economically active." In the Caribbean, 75 percent of women over 50 are employed.

Table 5 Labour Force Participation Rates of Persons Aged 65 and Over by Region, 1980

Region ^a	No. of Countries (1)	LFPR ^b	
		Men (2)	Women (3)
Africa			
Eastern	15	67.1	34.2
Middle	8	71.8	29.0
Northern	6	43.5	5.5
Southern	5	60.9	27.3
Western	16	71.8	28.1
Caribbean	9	35.8	13.6
Central America	7	58.6	9.4
South America	12	42.4	7.2
Asia			
East	6	41.1	17.0
South	18	53.2	15.0
Western	15	44.1	4.9
North America	2	16.9	7.0
Europe			
Eastern	7	15.3	6.9
Northern	7	18.3	5.9
Southern	7	23.7	5.2
Western	7	6.6	2.7
Oceania	4	31.7	11.6

Notes:

^a Countries are grouped by geographical regions as specified by the ILO. The USSR is included in Eastern Europe. The South Asia region includes only Eastern and Middle South Asia, as Western South Asia is listed separately here.

^b These columns indicate the average labour force participation rates of persons aged 65 and over for all countries in the region with information on labor force participation.

Source: International Labor Organization (1986)

Table 6 Economic Activity Ratios for Women 55 to 64 Years and 65 Years and Over: 1980 and 2000 (Economic activity ratios represented the proportion in any age group that is economically active).

	55 to 64 Years		65 Years and over	
	Female		Female	
	1980	2000	1980	2000
World	33.1	31.4	10.9	8.3
More-Developed Regions	32.3	34.9	7.1	6.3
Less-Developed Regions	33.3	29.6	15.6	10.0
Africa	36.7	33.1	18.6	13.3
East Asia	40.8	38.2	17.7	11.6
South Asia	30.8	27.5	13.9	9.2
Northern America	44.2	48.1	8.3	7.5
Latin America	*15.2	*15.3	*6.4	*4.7
Europe	32.1	34.2	7.2	6.4
USSR	17.6	16.6	3.3	2.5
Oceania	25.8	27.5	5.0	4.5

Note:

* Women employed in agriculture are not included in the economically active population.

Source: International Labor Office (1977)

Table 7 Female Labor Force Participation and Work Hours by Age Category

Country	Age	LFP	Weeks	Days	Hours		
Cote d'Ivoire 1986 ^a	15-19	.41	45.2	4.92	6.7		
	20-39	.59	45.5	5.09	6.84		
	40-54	.76	47.0	5.16	6.90		
	55-59	.69	46.7	4.81	6.53		
	60-64	.62	46.4	4.72	6.40		
	65-69	.63	46.0	4.93	6.59		
	70+	.22	44.5	4.52	5.72		
	Age	LFP Rural/Urban		Weeks Rural/Urban		Hours Rural/Urban	
Thailand ^b	15-19	.86	.37	46.0	43.3	57.3	51.6
	20-39	.94	.67	45.3	48.3	57.8	49.3
	40-54	.93	.57	45.4	44.7	57.1	52.7
	55-59	.80	.45	44.7	50.2	54.2	52.2
	60-64	.62	.32	44.2	51.5	52	53.0
	65-69	.47	.16	42.3	51.3	48.6	62.2
	70-99	.24	.06	41.3	52	41	58.8

Notes:

^a LFP relate to the last seven days, and relate only to the activity defined as the main job over that time period.

^b LFP's defined as spending at least one week in the last year employed, self-employed (on or off farm), or working as free family labor.

Source: Deaton and Paxson (1991)

Table 8 Labor Force Activity Rates for Females Aged 45 and Over, in Selected Caribbean, Latin American, and North American Countries, 1985 and 1986.

	Age (years)						
	45-49	50-54	55-59	60-64	65-69	70-74	75+
CARIBBEAN							
Bahamas	63.5	59.2	49.2	38.0	-----16.1-----		
Barbados	73.1	58.0	63.9	28.9	-----7.2-----		
Cuba	40.7	30.9	18.1	7.8	3.3	-----1.3-----	
Haiti	66.7	61.3	59.2	48.5	55.2	46.6	38.9
St. Christopher & Nevis	49.9	44.5	39.1	29.0	-----12.8-----		
Trinidad & Tobago	---41.9---		33.3	23.1	-----5.9-----		
LATIN AMERICA							
Costa Rica	20.9	15.5	11.5	6.9	-----3.1-----		
El Salvador	50.0	41.6	35.3	14.9	-----17.3-----		
Guatemala	12.8	11.8	10.0	8.5	-----6.2-----		
Mexico	29.1	27.5	25.8	24.1	21.1	19.7	15.8
Argentina	30.9	26.1	18.0	9.9	5.2	2.8	1.2
Bolivia	23.6	22.1	19.7	17.2	14.7	13.0	9.8
Brazil	43.5 ^a	---30.3---			-----10.4-----		
Chile	36.4	28.7	21.8	10.8	6.7	-----2.7---	
Ecuador	18.9	17.4	15.6	13.1	-----9.1-----		
Paraguay	20.7	18.2	15.9	12.7	10.3	7.1	3.8
Peru	54.0	45.6	30.4	33.1	20.4	-----9.5-----	
Uruguay	46.6	37.0	25.9	13.2	-----3.7-----		
Venezuela	-----20.6-----				-----4.9-----		
NORTH AMERICA							
Canada	67.0	58.0	45.0	27.0	8.0	4.0	2.0
U.S.A.	69.6	62.0	50.9	32.9	14.1	6.7	2.0

Note:

^a Ages 40-49

Source: International Labor Organization (1987); Statistics Canada (1986)

Agriculture

Existing information on occupational distribution of workers in developing countries, by age, show that older workers are heavily concentrated in agriculture (Kinsella 1988). Women make up the majority of agricultural laborers in the world at all ages, and while there are few statistics available, it is reasonable for several reasons to assume they predominate at older ages as well. In India, for example, where 90 percent of working women of all ages work in agriculture, it is likely that older women's primary form of employment is in agriculture. As rural to urban migration

around the world decreases the number of younger agricultural workers, the agricultural labor force becomes older, and, because there are more older women than men, predominantly female. In Peru, for example, almost 41 percent of economically active women aged 65 and over were farmers (International Federation on Aging 1985).

Own Account and Informal Sector Activities

It is well recognized that labor force participation statistics systematically undercount women's economic activities (Anker 1983). The general invisibility of female labor force participation in statistics appears to be compounded as women age. Much of older women's work is subsumed in family life (farm or business); many older women continue to work in services and are uncounted; seasonal, part-time irregular work is difficult to record; and older women's own-account efforts in the informal sector are not recognized as work (Scott 1990). The fact that a high percentage of older women live in rural areas, are self-employed, and rarely if ever are covered by pension or retirement schemes means that they must continue to produce regardless of the low returns to their work.

Management Activities

As older women's reproductive responsibilities diminish, midlife and older women not only have more "freedom" to undertake productive, management, and community activities, as noted above, but are also likely to have more energy and time to devote to them. Older women's rich knowledge and years of experience in balancing and fulfilling multiple tasks and priorities may make them particularly adept at management. Midlife and older women are often at the center of development and community based projects, providing critical motivation and direction to self-help programs.

Within the household, older women train and supervise the work of younger women, including daughters, daughters-in-law, granddaughters, and perhaps also junior wives (Foner 1988). They are consulted in matters dealing with kinship, marriage, and other social and familial rites. They play a leading role in initiation rites for girls and many reproductive related events such as childbearing. In addition, older women often regulate business transactions on the farm or family business.

Mead Cain provides a telling description of two days in the life of a fairly well-to-do widow in Bangladesh during the busy harvest time (1990). It very clearly shows the variety of tasks fulfilled by an older woman, and how the tasks weave together throughout a day.

"She is seen on the first morning being groomed, then giving (wife of a laborer) instructions, and sweeping the yard in preparation for spreading and drying paddy. She makes a jute rope with one neighbor and helps to deliver a calf in a neighboring compound. She washes utensils, supervises and helps with cooking, and serves meals. She looks after the cow whose calf she just delivered and supervises the efforts of a tinker who has come to repair cooking utensils. Throughout the day she is engaged in drying paddy that has just been parboiled. After parboiling, damp paddy is brought to the courtyard where it is spread to dry in the sun. It is raked with the feet until dry, then gathered and stored....The second day reveals a similar pattern of activities...Atojan is recorded tending vegetables in the homestead garden, gathering edible leaves and picking beans, and watering cattle. She dispenses rice to beggars and weighs and measures paddy for sale in her son's shop....Atojan is very much in command of post-harvest operations and other householding activities."

This situation, typical perhaps in the range of activities undertaken by the widow, if not in terms of the widow's socioeconomic status, certainly represents one ideal of old age. There is adequate family support and financial resources for the widow, and she enjoys good health, significant social status, and is able to fulfill a wide variety of important and meaningful responsibilities.

Childcare

A primary contribution of older women to both their families and to society is the childcare they provide as grandmothers and foster mothers. By assuming care of their daughter's children, for example, older women enable younger women to engage in paid work outside the home. In many households--most notably female-headed and maintained households--such income may be the main source of support for the household.

Scott (1990) notes that in the Caribbean, a common living arrangement is the grandmother household, where as head of the household, the grandmother takes care of her grandchildren, with or without the support from their parents. In these cases, the grandmother is economically responsible for the children, and often must prolong her working life to accomplish this. In many cultures, grandmothers are also responsible for the social education of young children. Children are often fostered out to their grandmothers to be raised for a period of time, when grandmothers are expected to pass on traditions and values.

Of growing significance is the childcare provided to AIDS orphans by their grandmothers. This is no small problem. Global estimates of the numbers of women between the ages of 15-49 who have AIDS or are HIV positive in 1990 is over 3 million. Between 1989 and 1992, the number of

women infected with HIV in Sub-Saharan Africa is expected to increase by more than 60 percent, and the overall number of infected women to double (Panos Institute 1990). It has been projected that AIDS will kill a total of between 1.5 and 2.9 million women of reproductive age in Africa alone by the year 2000 (Piot and Carael 1988). In Uganda, one study shows that the proportion of orphaned children in the Rakai district, which reports 6 percent of all Ugandan AIDS cases, ranges from 10 to 17 percent of all children, of these children, 31 percent are under the care of their grandparents (Hunter 1990). With scarce government resources unable to assist those with AIDS, much less their dependents, it is likely that to the extent they are able, grandmothers will care for their children's children, often without sufficient resources or support at their command.

Family Health Care

As repositories of traditional health knowledge and practices, older women provide essential health care services to the family and community. In some cultures, mothers-in-law or respected female leaders are the most important decisionmakers about family health. They may control who eats what and when, and as noted above, often play a leading role in initiation rites for girls, marriage arrangements for junior women, and many reproductive-related events such as childbearing. Traditional birth attendants and healers are typically midlife and older women. Older women predominate in formal health care services as well--WHO estimates that a large percentage of auxiliary nurses are midlife and older women (World Health Organization 1988). Older women are also the primary caretakers of older men.

Just as the AIDS pandemic will increase the childcare burden of grandmothers and older women, so too will it increase their caretaker roles of the AIDS patients themselves. With little or no understanding of the disease or the health risks involved, grandmothers will take care of their daughters and sons, at significant personal and often unsustainable costs (Tout 1989).

Socioeconomic Conditions and Living Arrangements

The socioeconomic context of women's lives are primary determinants of their health status. This is of concern because of the poverty under which a disproportionate number of women live. To the extent that economic security in old age is related to an individual's level of lifetime earnings and ability to save, accumulate assets, and make other provisions for old age, women's lifetime of disadvantaged access to resources accumulates at older ages, threatening their health and economic security, and leading to a tenuous and marginal existence for many older women. Even those midlife and older women living within an extended family network, where changes in family composition and living arrangements can serve to even out household consumption over the life cycle, may face significant problems of access to adequate food, lodging, and healthcare, especially if these families are poor themselves.

Indicators of older women's accumulated asset base include land ownership, literacy, and educational attainment. Income earning capacity, often related to both land ownership and literacy and educational attainment, is an important aspect of an older woman's independence and survival. In some cases, transfer payments from family members or from the state are a source of support for older women. Finally, the living arrangements of older women have an important influence on their access to resources. In this section, we will discuss each of these topics.

Literacy and Educational Attainment

Education and literacy are vitally important to women in both their nurturing and economic roles. Education is strongly linked, for example, to the adoption of modern agricultural practices that increase production, and access to formal sector employment in rapidly modernizing economies. Furthermore, women's education impacts on their life expectancy, reduces child mortality, and improves family nutrition. A statistical analysis of the link between education and longevity showed that holding constant other effects such as per capita income, female life expectancy increased more than one year for every 10 percent increment in the female primary school enrollment rate (Spratt, Crouch, and Cebeddu 1990).

Despite the importance of education for a wide variety of quality of life indicators, it appears that women are becoming increasingly over-represented among the illiterate population. In 1960, women represented 58 percent of the illiterates, yet by 1985, they represented nearly two-thirds of the total (Scott 1990). Nearly one-half of the adult women in developing countries were illiterate in 1985, and in the 36 least developed countries, the average is 78 percent. In Table 9 we can see the wide variation in literacy rates for individual countries.

Table 9 Percent Literate at Older Ages, by Sex

Country	Year	Age 50-59		Age 60+	
		Females	Males	Females	Males
China	1982	12.7	56.3	4.6	39.1
Philippines	1980	66.7	72.5	48.9	58.5
Tunisia	1984	3.4	24.1	3.1	15.8
Mexico	1980	66.2	78.4	55.0	66.6

Source: Kinsella (1988)

In some countries the lack of education is a problem not only for women who are older now, but also for younger women who were of school age before progress in girls' education was made. There is certainly hope that as girls' access to education improves, this will eventually translate into a better educated population of midlife and older women. Nevertheless, there remain large numbers of women who have missed these benefits, and who, without programs targeted to their educational needs, will remain illiterate or undereducated. Given the increasingly literate and technical nature of many developing country societies, this could put midlife and older women at a decided disadvantage well into the next century.

Table 10 Percentage of Persons Who Completed Secondary School, by Age and Sex

Country	Year	Age 25-34		Age 55+	
		Females	Males	Females	Males
Bangladesh	1981	2.1	14.9	0.3	3.7
Korea Republic	1980	32.5	52.6	1.7	9.8
Indonesia	1980	6.7	13.5	0.3	1.6
Turkey	1980	8.9	19.3	2.0	5.7
Peru	1981	28.1	37.3	8.5	11.9

Source: Kinsella (1988)

Income

It is extremely difficult to measure the consumption or income levels of older adults, and precise data is rarely available. However, it is widely recognized that they are poorer than most. For example, in Barbados, a relatively wealthy developing country with widespread social and health services for the poor, one analysis of available data showed that while one-third of the total population had average weekly incomes of less than \$105 Bds., more than 90 percent of persons aged 65 and over were below this level. Fifty-five percent reported receiving less than \$30.00 Bds. per week. Not surprisingly, lower income was associated with higher age, female gender, and lower educational attainment.

A recent analysis of household survey data from the Côte d'Ivoire and Thailand looks at the household and, where possible, individual income levels of older adults within the household (Deaton and Paxson 1991). In the Côte d'Ivoire there is no data on the individual income of older adults; however, data does show that older Ivorians live in households that have less income and consumption than the national average. This may reflect the concentration of older adults in rural areas rather than among the poor per se. Data from Thailand shows a clear pattern of individual income over the life cycle. The share of income from wages and business declines for older people, but the share of income from transfers increases with age in both urban and rural areas. Transfers in the form of remittances account for a large share of individual income, particularly for women; only a small percentage of households receive transfers in the form of pensions or annuities. For rural females aged 60-69, goods received free account for 18 percent of family income for those living alone or with a spouse, and only 5 percent for those living with others.

An important and as yet unanswered question is the extent to which income of midlife and older women can serve as a proxy for welfare of that individual, especially in extended family systems. This will not be an easy question to answer. One difficulty stems from the fact that intrahousehold resource distribution is very difficult to ascertain; what information does exist points primarily to the disadvantaged access of women to household resources, even those which they contribute. Another difficulty is highlighted by Deaton and Paxson in the study cited above, in which they found that households act in such a way that average living standards vary much less over the lifecycle for households than for individuals. Where midlife and older women are living within larger households, then, household composition, size, and structure may play an important part in determining their access to resources. In the next section, we discuss some of these issues as they relate to older women's living arrangements and the ways in which these have begun to shift in some areas.

Living Arrangements

It is often assumed that in developing country settings, the nature and prevalence of extended families is such that older family members can be secure in having a home, access to family resources, and a social and emotional context for their care. This perception is so pervasive that "strengthening the family" becomes a primary policy recommendation for those interested in providing better care for older people. Such a recommendation is insufficient to guide effective policy for at least three reasons: 1) there is evidence of a growing number of older, usually widowed women who are living alone; 2) there is evidence of a growing number of households headed by older women, who themselves are responsible for the care of others; and 3) even when older women are living in an extended family situation, they do not necessarily share equally in the economic assets of other household members (Goldstein, Schuler, and Ross 1983).

The rate of widowhood for women over age 60 is extremely high (Table 11), due in large part to spousal age difference at marriage and women's greater longevity. Furthermore, as both the population and the proportion of older women increases, the absolute numbers of widowed women are increasing (Table 12). It is unclear how many widowed women live alone; however, there are indications that demographic characteristics create a pool of older women with few prospects for marriage and unreliable sources of income, often living in one-person households. In nuclear family situations, for example, spousal age difference at marriage and increased longevity for women may result in larger numbers of widowed women living on their own, and without the necessary economic, health, and emotional support they need.

Table 11 Percentage Widowed Persons 60 Years of Age and Over, By Sex, Selected Countries, Circa 1970

Region	Males	Females
Africa		
Botswana	8.5	53.7
Kenya	7.5	51.0
Morocco	8.3	68.2
Uganda	9.4	48.6
Asia		
Indonesia	15.4	68.7
Japan	16.6	56.6
Korea	19.2	70.2
Latin America		
Brazil	14.4	50.2
Chile	16.4	45.5
Costa Rica	12.2	33.9
Cuba	10.6	36.9
Dominican Republic	7.7	31.6
Mexico	10.8	36.6
Peru	18.3	44.1
North America		
Canada	12.7	41.6
United States	13.2	44.5
Europe		
Austria	14.4	48.8
Finland	13.9	43.0
France	14.5	45.5
Hungary	14.0	49.0
Norway	13.8	34.2
United Kingdom	14.3	41.9

Note:
Derived from U.N. Demographic Yearbook, 1976, table 41.

Source: Myers and Nathanson (1982)

Female-headed households, where widowed or older women provide the main if not only source of income for the household, are increasingly common. Data from Latin America and the Caribbean confirm that the number of female-headed households increases with age (Powell 1984). Other indications of this trend emerge in the Caribbean, where, even though statistics may show that the older woman is neither living alone nor living away from her family, the other household members are her grandchildren (Scott 1990).

Table 12 Percent Increase in Number of Widows Aged 65 and Over in Selected High-, Middle-, and Low-Income Countries (Time period as noted)

		Percent
Low-Income Countries		
Indonesia	(1971-80)	58
India	(1971-81)	31
Middle-Income Countries		
Costa Rica	(1973-84)	62
Brazil	(1970-80)	52
Thailand	(1970-80)	46
Philippines	(1970-80)	43
Turkey	(1970-80)	33
Tunisia	(1975-84)	32
Peru	(1972-81)	27
Morocco	(1971-82)	10
High-Income Countries		
Hong Kong	(1971-81)	130
Singapore	(1970-80)	46

Source: American Association for International Aging (1991)

For the large majority of older women in developing countries who live with their children or other relatives, the extent to which they share equally in household resources is unclear. Households have a wide variety of methods for gathering and distributing resources, which are as likely to be marked by conflict as by cooperation, and the differential access of women to household resources has been shown around the world (Dwyer and Bruce 1988). It is reasonable to expect that older women face at least the same constraints of access as younger women, mitigated in some cases by their superior status, and worsened in others where either resources are scarce, or where because they are widows, sickly or frail, or lack other statuses that give them power and authority within the household.

Having questioned whether older women actually receive adequate care within extended family systems, it is important to note that to the extent that they do receive care, it is often from the family, and usually from the younger women of the family. Of growing concern is widespread evidence of changes in the extended family, and the effect that has on the health and well-being of the elderly.

The forces contributing to the change in extended family structures include both the demographic transition itself, as well as forces external to the family such as economic modernization, labor migration, and disaster- and war-induced migration. For example, the family as a mechanism for resource transfer can fail at the beginning of a transition to older families. At this stage, when mortality declines precede fertility declines, situations arise where more people have to live together longer on constant or declining resources, often forcing changes in intergenerational and intrahousehold resource flows that can contribute to breakdown or physical separation of families. An important question is what happens to older women's access to resources and care in the demographic transition from extended family systems, where household composition changes to even out household consumption over time, to smaller, more "nuclear" families where individual income and asset accumulation may be more important in supporting midlife and older women?

With industrialization and rural-urban migration have come changes which adversely effect older women in developing countries. New patterns of interaction between family members have a greater impact on older populations, especially females (Nair 1990). Some data, such as evidence of a slow-down in remittances to families from labor migrants (Nugent 1990) suggest there has been a weakening of intra-familial support of the elderly, raising the possibility of a crisis in old age support (Scott 1990). As the societies change so too do the roles and values. For example, in urban areas of Latin America where employment in the modern and technical job sector, because of the wage income it brings, is increasingly a source of authority and influence within the household, older women may become marginalized.

An important area for study is the extent to which non-familiar or non-residential support networks replace the support once provided primarily by the co-residential family unit.

Access to Health Care Services and Social Security

To formulate health policy that will adequately serve aging populations, it is important to know what services exist currently, and what the service gaps are that could be filled by government or NGO programs. In this section, we examine the health care services and social security benefits currently available to older women.

Health Services for Older Women

It has been estimated that by the end of the century, the elderly will be using 25 percent of the health services in most countries (Nair 1989). A survey of the social security health system in Costa Rica (representative of the country as a whole) showed that in 1986 women 45 and older, who are 8 percent of the population, accounted for 20 percent of all medical consultations and 10 percent of all hospital releases (Moya de Madrigal 1989).

There is little written about the range of general health services that are available to the elderly. This probably indicates that the services available to older adults are the same services that are available to the population at large, except several small community programs that will be described below. According to the World Bank, in 1987 public and private spending on health in developing countries was only 5 percent of that expended in the industrialized countries (Heisel 1988). Per capita expenditure on health is \$9 in low-income countries, \$31 for middle-income countries, and \$670 for industrialized countries.

Most elderly people are too poor to afford even meager health care, and women are more economically disadvantaged than men (Heisel 1988). Doty (1987) also reports that the majority of older persons with long-term care needs do not use any formal services, even in the most developed countries. In the WHO four-country study in Asia, both men and women said that the primary reason for not obtaining health care was its expense (Heisel 1988).

Little else is known about factors influencing the use of health care services among elderly women, but some lessons might be learned from a review of such factors among women of reproductive age. Leslie and Rao Gupta (1989) found that key factors affecting use of formal health services were distance to the health center, hours of availability at the center, transportation options, waiting time at the center, and adequacy of medical supplies. These factors suggest that the main constraints on the use of health services by women of reproductive age are their limited time and household finances. Less is known about the time demands on midlife and older women compared to those of women of reproductive age, but women are expected to continue to have many demands as they grow older, and these demands are expected to continue to affect their utilization of formal health care services. In addition, older women may not seek formal health care because they consider their ailments the consequences of older age, instead of considering them ill health conditions that can be treated (Eldemire 1989).

The type of health care elderly people will need in developing countries will change in the future (Frenk et al. 1988). It will be necessary to shift some health care resources toward early detection of cancers, heart disease, and other chronic diseases, and long-term care for patients with

these conditions. Long-term care is in contrast to the acute, episodic, and short-term care currently available in developing countries, albeit often inadequate, to treat infectious and communicable diseases, provide pregnancy care, and treat accident victims and other conditions. Long-term care will be needed in addition to short-term care, not instead of it. Long-term care, even more than short-term care, requires that the quality of clinical and interpersonal service be planned, in addition to the quantity of care. The planning of health care services for the elderly should also include those services for people of younger ages that could prevent or reduce health problems known to occur commonly at older ages. An example from industrialized countries is promotion of low-fat diets and exercise at younger ages to prevent or reduce heart disease at older ages.

Three examples of small, community-based programs for health care of the elderly are given to show innovative alternatives for meeting the basic health needs of elderly persons. The Mexican National System for Comprehensive Family Development is revitalizing an old organization: the Council of Elders. Older women teach others in the community traditional skills such as crafts, childrearing, and community affairs and in turn are provided with basic preventive and curative medical consultations (American Association of Retired Persons, and International Federation on Aging 1990). In Uruguay, the National Consortium of Organizations on Aging provides training for low-income midlife and older women to become paid caregivers for frail, homebound older persons (American Association of Retired Persons, and International Federation on Aging 1990). In August Town, Kingston, Jamaica, a 14-bed, seven-room home was built for elderly persons unable to financially support themselves. The health center in August Town and the community took responsibility for the home: a committee of community residents meet the needs of the elderly in the home, health center staff visit the home regularly, and the National Council for the Aged provides a hot lunch daily (Eldemire 1989).

Social Security

Social security systems, which includes old age pensions, retirement and disability benefits, social assistance and public health services, are designed primarily for wage earners. As such, they exclude most workers in developing countries, especially women, who are concentrated in informal sector work, farming, or low-wage seasonal work, or home bases. While these activities may not be formally excluded, workers may seldom meet qualifying conditions (Brocas, Callioux, and Oget 1990) or may remain invisible to social service agencies. To the extent that pensions schemes are based upon prior earnings, even women who had participated in the formal sector wage market generally earned very low wages, and may have had an interrupted work career in order to care for children or older parents and other family members.

Latin American and Caribbean regions are considered to be pioneers in the introduction of social insurance programs (Mesa-Lago 1990). By 1985, all countries in the region had pension programs; all but four had protection against occupational risks; nearly 90 percent had either sickness/maternity insurance or national health systems, and six had family allowances and unemployment compensation. Of course, formal social security coverage varied widely from country to country, ranging from 80 percent of elderly in Costa Rica to 1.5 percent in Haiti (Tout 1989).

Theoretically, there is no gender differentiation in the benefits of these programs, yet it is clear that at the very least, the nature and extent of women's labor force participation affects their access to benefits. For example, it is estimated that for the region as a whole, 61 percent of the population is covered by some form of social security, but in poorer countries, only 25 percent of the population is covered. This differential is likely due to high informal sector employment, where it is known that women workers are concentrated. As the informal sector becomes more important, there will be further declines in the coverage of women. An exception to this case is Barbados, where women's unusually high labor force participation rates correlates to a high proportion of women receiving pensions.

In Africa, social security coverage is not widespread. Only three countries in Sub-Saharan Africa --Mauritius, Seychelles, South Africa --have universal social security benefits for the elderly (Adamchak 1989). In Kenya, there are few government-sponsored support mechanisms for older citizens. Limited financial assistance available to impoverished older persons through "relief of distress" service, and some NGOs receive funds for establishing and maintaining self-help programs and integrated community facilities where the elderly live with persons of other age groups. Government coverage for the elderly in Zimbabwe consists solely of assistance from the Ministry of Social Welfare within a public assistance plan for the destitute (Hampson 1985) under which only a small proportion of the elderly benefit. Nationwide, about 70 percent of Zimbabwe's 1 million wage earners--about 15 percent of adult population--are covered by pension schemes (U.S. Bureau of the Census 1989d).

In Asia generally, while modern civil services and commercial enterprises have introduced pension schemes for their workers, the extended family network still widely continues to be the means of provision for the elderly. "Pension" assistance is sometimes afforded in the form of food programmes for the aged and destitute, as in Sri Lanka. In Malaysia, 12 percent of old people had monetary pensions or superannuation. (Tout 1989). In Thailand, of all households reporting receiving transfers 93 percent of those in Bangkok and 97 percent of rural households receive no pensions or annuities.

It is interesting to note that many countries provide for old age care out of funds for "the destitute" or other extremely vulnerable and marginalized group. This may reflect an assumption

that all but the most destitute old people are being cared for within the family, or the extent to which the old and sick are thought to be rare cases, or both.

Research Recommendations

In this paper, we have outlined information about the health status of older women, and the social, cultural, and economic context within which health is determined and evolved. Because the relationships between health and socioeconomic conditions are cumulative and multidirectional, we have emphasized the need to look at the whole of midlife and older women's lives in order to understand current health status. Unfortunately, however, data on any aspect of midlife and older women's lives are limited. What, then, are the research priorities for policy makers concerned with the health of midlife and older women? In this section, we will describe the types of research and information we feel are needed for the design of appropriate policies and projects that effectively promote the lifetime health of women.

The health challenges facing older women throughout the world differ as countries pass through different demographic and epidemiological stages. The extent and efficiency of health care (be it from the family or the state) and social security services varies as well. In addition, cultural and economic circumstances specific to particular countries or regions have clear implications for health research priorities for older women, as do shifting economic trends such as modernization, urbanization, agricultural intensification, and technology innovation and industrialization. All of these factors must be taken into account in establishing research priorities for a given region or country.

There is, however, information that is needed more or less across the board. The following recommendations address the widespread gaps in data that need to be filled. While these recommendations are made in the context of providing health information on older women, they also reflect the urgent need for better information about the health and socioeconomic conditions of women of all ages, and can be utilized to improve health policy for all women.

Descriptive Data on Women's Health and Factors that Influence Health

The task of addressing the health needs of older women's health is greatly complicated by the lack of information on the components that determine their health status, namely morbidity, nutritional status, socioeconomic conditions, the nature and intensity of activity, and access to health services and support.

One of the top research priorities clearly must be to collect data on adult morbidity and malnutrition in developing countries. The data gaps in this area are severe, especially for older women. The limited information on health risks that does exist is rarely gender disaggregated. Female mortality, morbidity and malnutrition have only recently received some attention, and to date the emphasis has been almost exclusively on women in their reproductive years. There are methodological considerations in the collection of morbidity data, as it is difficult to accurately measure the prevalence and severity of illnesses, particularly illnesses that rarely prompt people to seek care at formal health care facilities. Nevertheless, while more reliable tools and techniques are being developed and tested, more use could be made of structured, community-based discussion with women to obtain self-reported morbidity data. This information is essential in order to understand the full dimensions of the health needs of women of all ages, and in particular to move beyond prevention of mortality to improvement in quality of life (Leslie 1991; ICRW 1989).

Both as a basis for programs and to generate research hypotheses, there is also a great need for studies that systematically describe the full range of older women's activities and the socioeconomic context within which they live. A variety of research methodologies could be used to gather such data, ranging from qualitative techniques, such as focus group discussions, to random spot observations and other time allocation studies. Researchers could build upon and supplement existing data in order to more rapidly collect the information needed. For example, where agencies providing health services to midlife and older women have adequate records of morbidity for a certain population, research could be undertaken to document the work patterns and socioeconomic status of the same population. Although such a study would be biased by the selection criteria for participants, it would allow researchers to develop a fairly complete description of a wide variety of activities and behaviors, and provide valuable insights into the interactions between older women's health and the broader context of their lives.

Lifecycle Research on Women's Health

Knowledge about women's current health status and its influences is a necessary, but not sufficient, step in increasing our understanding of older women's health. Individual women are affected variously, by different types of ill health throughout their life cycle. Disease and malnutrition have cumulative and interactive effects that are difficult to measure precisely because they are imbedded in the interplay among biological, social, and economic factors. Innovative research designs will be needed to disentangle causality, so that we can better understand the direction, nature, and magnitude of the multiple influences on older women's health as well as the linkages that are most open to modification through policy changes or direct intervention.

Although the ideal way to track and understand the changing and cumulative nature of women's health throughout her life into old age is through longitudinal studies, the difficulty with such studies is that they are expensive and difficult to design and maintain. In some cases, cross-sectional and recall data might be used to more quickly and less expensively provide adequate information.

Health Care Needs of Older Women

To care for older women in the near- and mid-term, we will need information on their specific health needs that is currently not available from health statistics or arising from biomedical research in this area. In particular, we need to know the health conditions and care needs that are specific to older women, and successful ways of addressing them. We also need research on issues such as access and utilization of existing services, quality and appropriateness of care.

Focus group studies are an excellent way to understand health needs from the perspective of women themselves, including both users and nonusers of formal health services. Knowledge of what women perceive to be their greatest health problems, what they understand to be the etiology of their health problems, what they perceive as potential solutions (either within or outside the formal health system), and what constraints they face in protecting or promoting their own health is essential.

Preventive Health Services for Girls and Younger Women

Given the cumulative nature of health, the best way to ensure the good health of midlife and older women in the future is to ensure their good health as children and during their reproductive years. Research is needed to determine the most effective preventive health strategies for girls and young women.

Using Existing Information

Research from a number of settings and using a variety of different designs is needed to examine the many complex issues and connections highlighted in this paper. However, there may already exist a considerable amount of data that has either been collected and not analyzed, not disaggregated and analyzed by gender and age, or analyzed for other purposes, that could be used to provide some information on questions raised in this paper. In the interest of cost-effectiveness and efficiency, these data bases should be re-examined and where useful, re-analyzed. For example, large scale household surveys such as the Living Standards Measurement Surveys and the Demographic and Health Surveys can provide a wealth of socio-economic and health data on aging women (see Deaton and Paxson 1991).

Researchers and policymakers should also be aware of ongoing efforts to collect and analyze information on aging, such as the U.S. Bureau of the Census International Data Base on Aging and the United Nations Statistical Office Demographic Yearbook. In 1992, the U.N. plans to publish a special issue of the Demographic Yearbook on population aging and the situation of elderly persons, including statistics on living arrangements, family relationships, and disability. The U.N. also plans to produce a report on the situation of elderly women, an update and review of the Disability Statistics Data Base, and the production of a Statistical Chart on Aging. In addition, the United Nations International Research and Training Institute for the Advancement of Women (INSTRAW) held a consultative meeting to review the "Technological Report of the Compilation and Methodology on Statistics for Elderly Women." Other, smaller scale data collection efforts are also important to track. For example, the London School of Hygiene and Tropical Medicine (LSHTM) is currently conducting a program entitled the "Public Health Implications of Ageing Programme", which will use existing data sources to construct country profiles of population aging. Additional studies on the consequences of disability in adulthood, adult morbidity, and the magnitude of aging related problems in countries undergoing mass population displacement are planned by LSHTM.

Multidisciplinary Research

Innovative approaches to research can sometimes make use of existing data sources and also meet the need for multidisciplinary viewpoints. For example, valuable, client-centered information on older women's health problems may be available from women's organizations or specific programs for older women in developing countries. Links could be established among such organizations, which run the gamut from grassroots organizations to rural women's groups to women-focused research institutions, and health service providers. Such collaboration would minimize the need for time consuming training of biomedical researchers in social science research techniques and the implementation of costly surveys of ethnographic studies. Conversely, women's organizations often lack access to specialized medical and research information, technologies, and resources, and would benefit from interacting with more formal academic and health sector institutions. This type of collaboration would also ensure that information generated by the research is not only policy relevant at the macro-level, but also useful to organizations currently conducting programs that effect women's work and health.

References

- Adamchak, Donald J. 1989. Population aging in Sub-Saharan Africa: The effects of development on the elderly. *Population and Environment* 10 (3): 163-177.
- American Association for International Aging. 1991.
- _____. 1986. *Aging and the Global Agenda for Women Conversations in Nairobi*. Washington, D.C.
- _____. 1985a. Aging populations in developing nations. Prepared for The United States Agency for International Development (Purchase Order No. OTR-0000-0-00-5086-00). Washington, D.C.
- _____. 1985b. U.S. perspectives: International action on aging for the select committee on aging. Paper prepared for the House of Representatives Ninety-Eighth Congress Second Session (Comm. Pub. No. 98-478). Washington, D.C.
- American Association of Retired Persons/IFA (International Federation on Aging) Global Link for Midlife and Older Women. 1990. Background report on elderly women. Paper prepared for the Expert Group meeting on Vulnerable Women, November 26-30, UN Division for the Advancement of Women, Vienna.
- American Association of Retired Persons and Pan American Health Organization, eds. 1989. *Midlife and Older Women in Latin America and the Caribbean*. Washington, D.C.
- _____. 1988a. Final report. Paper prepared for Meeting on Mid-Life and Older Women, October 18-20, Washington, D.C.
- _____. 1988b. Midlife and older Women in Latin America and the Caribbean: Current situation and policy implications. Paper prepared for the Consulting Group Meeting. Washington D.C.
- Anker, R. 1983. Female labour force participation in developing countries: A critique of current definitions and data collection methods. *International Labour Review* 6.
- Barnett, Elyse Ann. 1988. "La edad critica: The positive experience of menopause in a small Peruvian town." In Patricia Whelehan, ed., *Women and Health: Cross Cultural Perspectives*. Massachusetts: Begin and Garvey.
- Barroso, Carmen. 1989. Women, health and development. Paper presented at PAHO Technical Discussions.
- Basta, S. S., Soekirman, D. Karyadi, and N. S. Scrimshaw. 1979. Iron deficiency anemia and the productivity of adult males in Indonesia. *American Journal of Clinical Nutrition* 32: 916-925.
- Biswas, Suhar K. 1989. Review article. *Population and Development Review* 15(2).
- Brocas, Anne-Marie, A. M. Callioux, and V. Oget. 1990. *Women and Social Security: Progress Towards Equal Treatment*. Geneva: International Labour Organization.
- Cain, Mead T. 1990. The activities of the elderly in rural Bangladesh. Paper prepared for the United Nations International Conference on Aging Populations in the Context of the Family, October 15-19, Japan.
- _____. 1978. *The Household Life Cycle and Economic Mobility in Rural Bangladesh*. Center for Policy Studies Working Papers. Washington, D.C.: Population Council.

- Chaney, Elsa M. ed. 1990. *Empowering Older Women: Cross Cultural Views*. Washington, D.C.: American Association of Retired Persons.
- Clark, Robert L. and Richard Anker. 1990. Labour force participation rates of older persons: An international comparison. *International Labour Review* 129 (2): 255-271.
- Deaton, Angus and Christine Paxson. 1991. Patterns of Aging in Thailand and Côte d'Ivoire. LSMS working paper number 81. The World Bank. Washington, D.C.
- De vos, Susan. 1990. Extended family living among older people in six Latin American countries. *Journal of Gerontology* 45(3): S87-S94.
- Dixon-Mueller, Ruth and Judith Wasserheit. 1991. *The Culture of Silence Reproductive Tract Infections Among Women in the Third World*. New York: International Women's Health Coalition.
- Doty, Pamela. 1987. Health status and health services use among older women an international perspective. *World Health Statistics Quarterly* 40: 279-290.
- Dunlop, J. B., A. Germain, J. Wasserheit, R. Richart, S. Holck, and J. Barzelatto. 1990. *Special Challenges in Third World Women's Health*. New York: International Women's Health Coalition.
- Dwyer, Daisy and Judith Bruce, eds. 1988. *A Home Divided Women and Income in the Third World*. Stanford, California: Stanford University Press.
- Edgerton V.R., G.W. Gardner, Y. Oshira, K.A. Gunawardena and B Senewiratne. 1979. Iron-deficiency anaemia and its effects on worker productivity and activity patterns. *British Medical Journal* 2: 1546-1549.
- Eldermire, Denise. 1989. "Medical care for the elderly: A study in Kingston, Jamaica." In American Association of Retired Persons and Pan American Health Organization, eds., *Midlife and Older Women in Latin America and the Caribbean*. Washington, D.C.
- Flint, M. 1975. The menopause: Reward or punishment? *Psychosomatics* 16:161-163.
- Folta, Jeannette R. and Edith S. Deck. 1987. Elderly black widows in rural Zimbabwe. *Journal of Cross-Cultural Gerontology* 2: 321-342.
- Foner, Nancy. 1988. Older women in nonindustrial cultures: Consequences of power and privilege. *Women and Health* 14 (314):227-237.
- Frenk, J., J. L. Bobadilla, J. Sepúlveda, and M. L. Cervantes. 1988. Health transition in middle income countries: New challenges for the organization of services. Paper presented at the International Congress for Infectious Diseases, April 17-21, Rio de Janeiro.
- Goldstein, M., S. Schuler, and J. Ross. 1983. Social and economic forces affecting intergenerational relations in extended families in a Third World Country: A cautionary tale from South Asia. *Journal of Gerontology* 38(6):716-724
- Grau. Lois. 1988. Mental health and older women. *Women and Health* 14(3/4): 75-89.
- Hampson, J. 1985. Elderly people and social welfare in Zimbabwe. *Aging and Society* 5: 39-67.
- Heisel, Marsel A. 1988. Older women in developing countries. *Women and Health* 14 (3/4): 253-272.

Help Age International. 1991a. *Age Action* (London) 3 (Spring).

_____. 1991b. *Age Action* (London) 2 (Winter).

_____. 1990. *Age Action* (London) 1 (Autumn).

Holmboe-Ottensen, G., O. Mascarenhas, and M. Wandel. *Women's Role in Food Chain Activities and the Implications for Nutrition*. ACC/SCN State-of-the-Art Series, Nutrition Policy Discussion Paper, no. 4. United Nations.

Hoskins, Irene, ed. 1989. *Coping with Social Change: Programs that Work*. Washington, D.C.: American Association of Retired Persons, and International Federation on Aging.

Hunter, SS. 1990. Orphans as a window on the AIDS epidemic in Sub-Saharan Africa: initial results and implications of a study in Uganda. *Social Science and Medicine* 31: 681-90.

International Center for Research on Women. 1989. *Strengthening Women: Health Research Priorities for Women in Developing Countries*. Washington, D.C.

International Federation on Aging. 1985. *Women and Aging Around the World*. Washington, D.C.

International Labor Organization. 1987. *1987 Yearbook of Labor Statistics*. Geneva.

_____. 1986. *Economically Active Population: Estimates and Projections 1950-2025*. Vols. 1-4. Geneva.

_____. 1977. *Labor Force Estimates and Projections 1950-2000*. Geneva.

International Women's Health Coalition, ed. 1990. *Special Challenges in Third World Women's Health*. New York.

Kalache, Alex. n.d. Public health implications of aging. London School of Hygiene and Tropical Medicine.

Kinsella, Kevin. 1988. *Aging in the Third World*. International Population Reports Series P-95, no. 79. Washington, D.C.: U.S. Department of Commerce, Bureau of the Census.

Kunugi, Tatsuro. 1989. Women and population aging. *Asia-Pacific Population Journal* 4 (2).

Leslie, Joanne. 1991. Women's nutrition: The key to improving family health in developing countries? *Health Policy and Planning* 6(1):1-19.

Leslie, Joanne and Geeta Rao Gupta. 1989. *Utilization of Formal Services for Maternal Nutrition and Health Care in the Third World*. Washington, D.C.: International Center for Research on Women.

Livi-Bacci, Massimo. 1982. Social and biological aging: Contradictions of Development. *Population and Development Review* 8(4):771-781.

Manton, K. G., G. C. Myers, and G. R. Andrews. 1987. Morbidity and disability patterns in four developing nations: Their implications for social and economic integration of the elderly. *Journal of Cross-Cultural Gerontology* 2: 115-129.

Merrick, Thomas W. with Population Reference Bureau staff. 1986. World population in transition. *Population Bulletin* 41 (2).

- Mesa-Lago, Carmelo. 1990. "The current situation, limitations, and potential role of social security schemes for income maintenance and health care in Latin America and the Caribbean: Focus on women." In Irene Hoskins, ed., *Coping with Social Change: Programs that work*. Washington, D.C.: American Association of Retired Persons.
- Ministry of Community Development and Women's Affairs. 1982. *Report on the State of Women in Zimbabwe*. Harare, Zimbabwe: UNICEF.
- Moya de Madrigal, Ligia. 1989. "Patterns of medical service use among midlife and older women in Costa Rica." In American Association of Retired Persons and Pan American Health Organization, eds., *Midlife and Older Women in Latin America and the Caribbean*. Washington, D.C.
- Myers, George C., and Constance Nathanson. 1982. Aging and the family. *World Health Statistics Quarterly* 35.
- Nair, N. Vijakrishnan. 1989. *World Health* (November).
- Nair, Sokha B. 1990. *Social Security and the Weaker Sex*. Delhi: Renaissance Publishing House.
- Niedworok, Nelly. 1989. "Perception and diagnosis: Two aspects of chronic disease in the midlife woman in Uruguay." In American Association of Retired Persons (AARP) and Pan American Health Organization (PAHO), eds., *Midlife and Older Women In Latin American and the Caribbean*. Washington, D.C.: Pan American Health Organization.
- Nugent, Jeramy B. 1990. Old age security and the defense of social norms. *Journal of Cross Cultural Gerontology*. Vol. 5.
- Palloni, Alberto and Ju Lee Yean. 1990. The social context of HIV and its effects on families, women and children. Paper prepared for the Expert Group Meeting on Women and HIV/AIDS and the Role of National Machinery for the Advancement of Women, September 24-28, Vienna.
- Palloni, A., J. L. Yean, and L. Lamas. 1990. The effects of HIV/AIDS on family organization in Africa. Draft no. 2.
- Palmore, Erdman. 1987. Cross-cultural perspectives on widowhood. *Journal Cross-Cultural Gerontology* 2: 93-105.
- Paltiel, Freda L. 1989. "Occupational health of midlife and older women in Latin America and the Caribbean." In American Association of Retired Persons and Pan American Health Organization, eds., *Midlife and Older Women in Latin America and the Caribbean*. Washington, D.C.
- _____. 1987. Women and mental health: A post Nairobi perspective.
- Pan American Health Organization. 1985. *Health of Women in the Americas*. Scientific Publication no. 488. Washington, D.C.
- Pan American Health Organization (PAHO), and World Health Organization (WHO). 1989. Report of the activities of the program on women, health and development 1988-1989. Report presented to the special subcommittee on women, health and development of the executive committee of PAHO.
- Panos Institute. 1990. *Triple Jeopardy: Women and AIDS*. London.
- Piot, P. and M. Carael. 1988. Epidemiological and sociological aspects of HIV-infection in developing countries. *British Medical Bulletin* 44: 68-88.
- Powell, D. 1984. The role of women in the Caribbean. *Social and Economic Studies* 33: 97-122.

- Prentice, A. M., P. G. Lunn, M. Watkinson, and R. G. Whitehead. 1983. Dietary supplementation of lactating Gambian women: Effect on maternal health, nutritional status and biochemistry. *Human Nutrition Clinical Nutrition* 37C: 65-74.
- Rayman, Paula and Kimberly Allshouse. 1990. *Resiliency Amidst Inequity: Older Women Workers in an Aging United States*. Project on Women and Population Aging, report series. Southport, CT: Southport Institute for Policy Analysis.
- Rao Gupta, Geeta. 1985. Role conflict and coping strategies: A case study on Indian women. Ph.D. diss., Bangalore University.
- Richart, Ralph. 1990. "Cervical cancer." In International Women's Health Coalition, ed. New Yor.
- Riley, James C. 1990. The risk of being sick: Morbidity trends in four countries. *Population and Development Review* 16 (3): 403-432.
- Royston, Erica and Sue Armstrong. 1989. *Preventing Maternal Deaths*. Geneva: World Health Organization.
- Scott, Gloria L. N. 1990. Factors influencing the economic vulnerability of older women. Part of Background report on elderly women, submitted by AARP/IFA Global Link for Midlife and Older Women to U.N. Expert Group Meeting on Vulnerable Women, November 26-30, Vienna.
- Seager, Joni and Ann Olson. 1986. *Women in the World*. New York: Simon and Schuster.
- Sennott-Miller, Lee. 1990. Factors influencing the physical and emotional vulnerability of older women. Part of Background report on elderly women, submitted by AARP/IFA Global Link for Midlife and Older Women to U.N. Expert Group Meeting on Vulnerable Women, November 26-30, Vienna.
- Siegel, Jacob S., and Sally L. Hoover. 1984. *International Trends and Perspectives*. Aging International Research Document, no.12. Washington, D.C.: United States Bureau of the Census.
- Sinha, Dinesh P. 1988. Nutritional status, socioeconomic environment and the lifestyle of the elderly in August Town Kingston, Jamaica. Paper prepared for the AARP/PAHO Consulting Group Meeting, October 18-20.
- Sokolovsky, Jay, ed. 1990. *The Cultural Context of Aging*. New York: Bergin and Garvey Publishers.
- Sommer, A., J. Katz, and I. Tarwotjo. 1984. Increased risk of respiratory disease and diarrhea in children with preexisting mild vitamin A deficiency. *American Journal of Clinical Nutrition* 40: 1090-1095.
- Sorensen, Gloria, and Lois M. Verbrugge. 1987. Women, work, and health. *Annual Review of Public Health* 8: 235-251.
- Spratt, Jennifer E., Luis A. Crouch, and Luis M. Cebeddu. 1990. *Socioeconomic Impacts of Female Education in Developing Countries*. Research Triangle Institute.
- Statistics Canada. 1986. Census. Unpublished.
- Tout, Ken. 1989. *Aging in Developing Countries*. Oxford University Press for Helpage International.
- Treas, J. and B. Logue. 1986. Economic development and the older population. *Population and Development Review* 12 (4): 645-673.

- United Nations. 1987. *Economic and Social Implications of Population Aging*. Proceedings of the International Symposium on Population Structure and Development, September 10-12, Tokyo, Japan.
- United Nations Economic and Social Commission for Asia and the Pacific. 1987. *Young Women Workers in Manufacturing: A Case Study of Rapidly Industrializing Economies of the ESCAP Region*. Bangkok.
- United States Bureau of the Census. 1989a. *Aging Trends Barbados*. Washington, D.C.
- _____. 1989b. *Aging Trends Guatemala*. Washington, D.C.
- _____. 1989c. *Aging Trends Kenya*. Washington, D.C.
- _____. 1989d. *Aging Trends Zimbabwe*. Washington, D.C.
- United States Bureau of the Census. n.d. International data base on Aging. Washington, D.C.: Center for International Research.
- Valleroy, Linda A. 1988. "AIDS case reporting and HIV surveillance in developing countries." In Ruth Kulstad, ed., *AIDS 1988*. American Association for the Advancement of Science.
- Verbrugge, Lois M. 1989a. "Gender aging and health". In Kyriakos S. Markides, ed., *Aging and Health: Perspectives on Gender, Race, Ethnicity and Class*. Newbury Park, C.A.: Sage Publications.
- _____. 1989b. "Pathways of health and death." In Rima D. Apple, ed., *The History of Women, Health and Medicine in America*. New York: Garland Publishing Inc.
- _____. 1988a. Recent, present, and future health. *Annual Review of Public Health*. In L. Breslow, J.E. Fielding, and L.B. Lave eds., Palo Alto, CA: Annual Reviews Inc. 1989.
- _____. 1988b. "Unveiling higher morbidity for men the story". In Matilda White Riley, ed., *Social Change and the Life Course*. American Sociological Association Presidential Series. Newbury Park, CA: Sage Publications.
- _____. 1986. Role burdens and physical health of women and men. *Women and Health* 11 (1): 47-77.
- _____. 1985. Gender and health: An update on hypotheses and evidence. *Journal of Health and Social Behavior*. 26 (September): 156-182.
- Verbrugge, Lois M., and Deborah L. Wingard. 1987. Sex differentials in health and mortality. *Women and Health* 12 (2): 103-145.
- Verbrugge, Lois M., and Jennifer H. Madans. 1985. Social roles and health trends of American women. *Health and Society* 63 (4): 691-753.
- Wasserheit, Judith. 1990. "Reproductive tract infections." In International Women's Health Coalition, ed. New York.
- Wolgemuth, J. C., M. C. Latham, A. Hall, A. Chesher, and D. W. T. Crompton. 1982. Worker productivity and the nutritional status of Kenyan road construction laborers. *The American Journal of Clinical Nutrition* 36 (July): 68-78.
- World Health Organization. 1988. *Special Program for Research on Aging*. Preliminary version. Geneva.