Guidelines for Gender based Analysis of Health data for Decision Making

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Introduction

Gender-based analysis (GBA) is a Pan American Health Organization (PAHO) policy. The PAHO Gender, Ethnicity and Health Office (GEH) has a mandate that includes promoting informed decisions and strengthening national capacity to generate, analyze and effectively use health indicators that recognize and accommodate gender and diversity approaches.

This guide describes how to integrate gender-based analysis using health surveillance data and data from surveys or other sources to develop, change and improve health policy, planning and programming.

The PAHO Gender Equality Policy has a stated goal to "contribute to the achievement of gender equality in health status and health development through research, policies and programs which give due attention to gender differences in health and its determinants, and actively promote equality between women and men." (1).

What is gender-based analysis?

What is gender-based analysis?

Gender-based analysis is a tool, a way of thinking, to understand how the experiences of women and men are different and how they are the same. GBA considers the roles and responsibilities men and women have in society, including obvious and subtle differences in power and decision-making. In the case of health, GBA illuminates the differences in health status and its determinants, health care utilization in accordance with health needs, ability to pay for health services, and men's and women's participation in health management.

Thinking about, and documenting, the roles, responsibilities and power differences between and among women and men in specific contexts, uncovers where there are inequalities and inequities.

Gender-based analysis (GBA) is an analytical process. It uses sex and gender as an organizing principle or a way of conceptualizing information. It helps to clarify the differences between women and men, the nature of their social relationships, and their different daily activities, life expectations and economic circumstances. It identifies how these conditions affect women's and men's health status and the different and similar ways they are vulnerable.

GBA is also a diversity analysis, and considers wherever possible, how income, age, culture, ethnicity, sexual orientation, ability and geographical location and other factors also interact with sex and with gender roles, within different groups of people.

Ultimately, gender-based analysis brings into view the influences, omissions and implications of our work in health policy, programming and planning (2).

Why GBA in **health** is important for decision-making ?
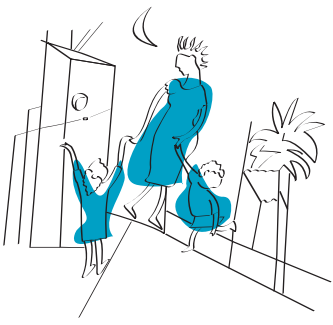
Why GBA in health is important for decision-making?

GBA considers how gender roles and norms interact with biological sex differences to influence women's and men's health throughout their lives. GBA is critical in health decision-making because:

→ Men and women have some different diseases as well as different risks, transmissions, and symptoms for the same diseases (a sex difference). For example, women and men have sex-specific cancers, and show different symptoms for heart disease.

→ Women and men react differently to treatments (sex and gender differences). For example: Women and men react differently to HIV treatment drugs (a sex difference). Men comment more often that anti-depressants affect their sex drive, because of their concerns about being "male" (a gender difference).

Gender-based analysis points the way to more equitable, inclusive and effective options. GBA should become essential in the work of health and equity from beginning to end.

→ Men and women do not access health care systems in accordance with their needs (a gender difference). For instance: women and men have different incomes and socially-imposed rights to decide how household income will be used for health care. Women often see health care providers for childbirth and are more likely to bring children and family for health care, which allows them to be seen more often for care themselves.

Gender-based analysis in health planning challenges any assumptions that all people are affected in the same way by policies, programmes and legislation, and that causes, effects, health outcomes and health service delivery are the same for women and for men. A further analysis of diversity may also show that the interests of women from different socio-economic, ethnic groups (or any other sub-group) are not equally served by existing policies.

GBA example:

In Belize, the number of deaths due to cervical cancer fluctuated between 2000 and 2005. Cervical cancer screening coverage in 2003 was 62.7%. The women who had the least likelihood of screening were illiterate women living in rural areas. They are the women who are not yet reached by screening programs (3).

Policy makers often have more privilege than others and may forget that the people they serve may not have access to the same amenities or resources as they themselves do. However, a gender-based analysis asks the fundamental question, "Who is not included?", that is, what groups have not been thought of in designing health policy or programmes. GBA questions concepts, arguments and language used in health. Where there are biases, discrimination, omissions or unfounded beliefs, GBA points the way to more equitable, inclusive and effective options. As it becomes standard practice to integrate a gender-based perspective, GBA should become essential in the work of health and equity from beginning to end.

Is "gender" the same as "sex"?
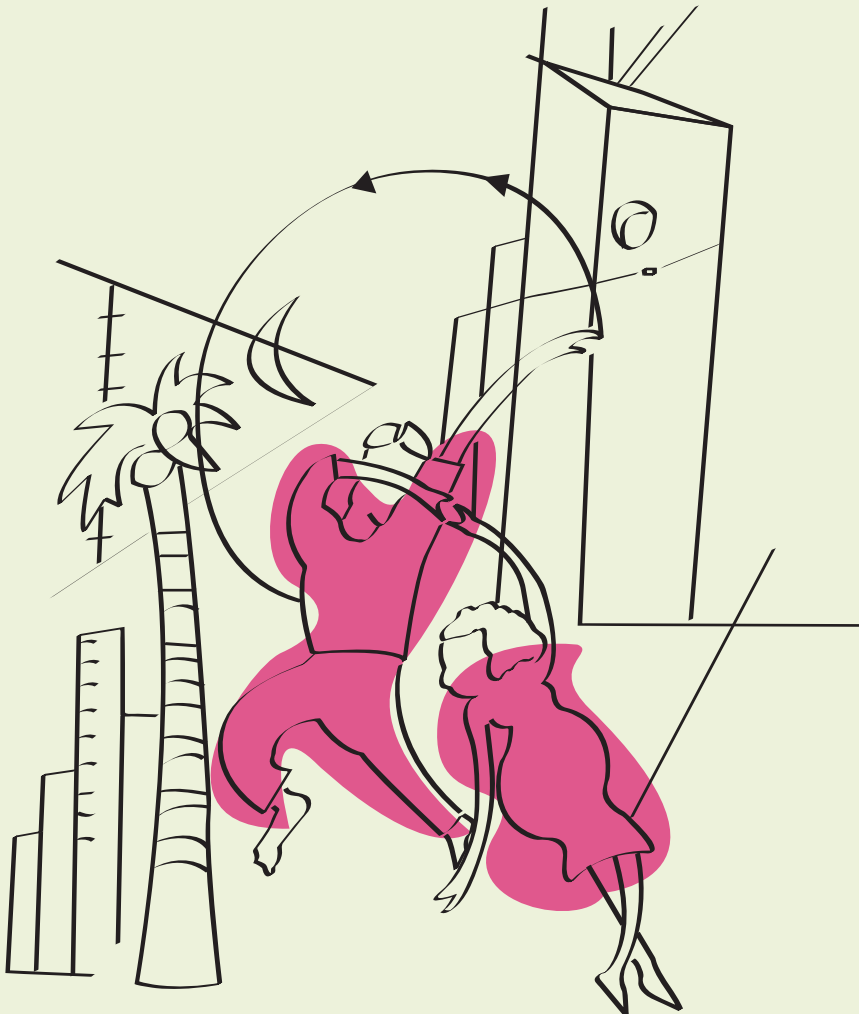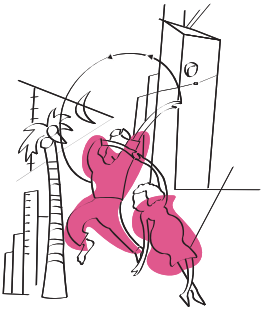
Is "gender" the same as "sex"?

Sex and gender are defined differently, although they are both connected and relate to the health of a person.

Sex refers to the biology and physiology of the body, the outward appearances that separate female and male and that are defined by inherited genes. There are some people who are genetically or physically not clearly male or female, but since health indicator and health surveillance data are usually collected by male or female categories, gender-based analysis starts with the two sexes. However, GBA returns to questions about who in the population may not fit these general descriptions.

Gender, as mentioned above, refers to how people personally and socially identify with being female or being male. Some roles, responsibilities and power differences are imposed by the larger society and culture (such as child-rearing for women and military training for men), others are adopted by the individual (such as an interest in a certain career or risky behaviour).

Gender-based analysis describes the situations most men and women live with day-to-day, relating to their sex and to their masculinity and femininity. There are however, many people who do not fit traditional or social definitions. It is easier, perhaps, to think of gender as a continuum, with some people finding themselves somewhere between the traditional or established ideas of what it is to be male and what it is to be female. Worldwide, there are populations who are becoming more confident about declaring their own concepts of transgender, lesbian, bi-sexual and gay. And there are some indigenous peoples in North America who are reclaiming an identity of being two-spirit, having both the masculine and the feminine in the same body.

The health data available for gender-based analysis are collected by sex, male and female. GBA also involves incorporating our own experience, training and knowledge of how being a woman or being a man, and what society (including family and culture) expects of men and women and how these influence health. As with the fundamental question of who might be left out, or not represented, it is important to include in the GBA an assessment of where and how the experiences and situations of people who do not identify as either masculine or feminine fit the circumstances described, and how their particular needs can be met in health policy, planning and programming.

Did you know ... Women, indigenous people and Afro-descendants generally have less access to social benefits and long-term health care plans in the Americas than men and other ethnic groups. Women experience more breaks in their paid work lives than men because of their roles in child-bearing and rearing, and because culturally and socially they are the main caregivers for the sick and elderly in their family and communities. With less access to employment-related insurance and health care plans, women in some Latin American countries pay as much as 60% more than men for health-related expenses (4).

Data required for a GBA

Data required for a GBA

Ideally, a gender-based analysis is informed by both quantitative (numerical) and qualitative (stories, narratives, artistic depictions, for instance) data and information.

Quantitative data

At a minimum, GBA requires collecting, reporting and analyzing health indicator and health surveillance data that are disaggregated by sex. That is, data on socio-economic determinants of health , health status, health outcomes, treatments used, hospitalizations, cause of death, incidence of disease and morbidity, decision-makers, and formal and informal health providers, are recorded by male and by female. It is important that the data are both collected and reported by sex.

Sex is not a true representation of gender because, as described, gender considers what it means to be male and masculine, or female and feminine. But using data that separates females and males and then analyzing the data by sex, comparing differences between women and men, is the first step in a gender-based analysis. As the following case studies will show, important information is hidden when data are only reported and presented for the whole population.

Wherever possible, the data should be recorded, reported and analyzed with additional, comparable or related quantitative data on age, income, geographic location, and ethnicity. This will allow for better informa-

tion about which women and men are represented in the data. It might be, for instance, that women and men in certain age groups suffer more from a particular condition, or that more women from a particular part of a country are healthier in some way.

As GBA is intended to be used for policy change, it is most valuable if the data used are relevant to the level that health policy decisions are made.

Qualitative data

A full description of population health is enhanced by the addition of qualitative data. Statistical data sets, the surveillance numbers, tell one part of the story. The numbers describe what is happening, and sometimes where, and who, but a full understanding of why may be revealed in personal stories. Qualitative data give information about personal experiences and perspectives, allowing people to describe their lives and progress towards health or illness in the context of their culture and other socioeconomic circumstances. Probing questions and time for full replies also allow people to talk about their motivations, attitudes, behaviours, choices, limitations and so on.

Qualitative research is labour intensive and often draws on fairly small sample sizes, but the questions used allow participants to give more rich information about their experiences,

1: Socio-economic determinants would include education, employment conditions, availability of food, political participation, income, housing, unpaid work and so on.

circumstances and daily lives. It may be very difficult to understand the experience of minority groups through quantitative data, but qualitative research can allow minority groups to tell their own stories.

Qualitative research occurs in natural settings, and often uses multiple methods grounded in people's lived experiences. The methods fall into one of three categories: listening to stories, observing behaviour and examining historical records (5).

Qualitative research may also be the only way to learn about some minority groups, as their numbers in quantitative data sets may be too small to produce rates that are statistically reliable and, thus, publishable. Moreover, people who are marginalized within the society may not be included or identified in quantitative data that are produced by the same formal systems and institutions they cannot access. Yet, often, the experiences of such minorities may be of the greatest interest to planners and policy makers who seek to address the needs of those who are at most risk within the population. Here, qualitative data can fill a gap in the information needed to create appropriate strategies or programs.

Where the direct collection of qualitative data is not possible, then a review of the literature will find studies that have examined aspects of the topic in question and give information that will contribute to the gender-based analysis, and knowledge about the health situation.

The following case studies demonstrate how to use gender-based analysis to learn more and to ask further questions about the health of a population using two different examples, HIV and transport accidents in Belize.

Case study

1. HIV in Belize
2. Transport accidents in Belize

Case study #1 | HIV in Belize [2,3]

Gender-based analysis can help understand how to plan for public health and community needs related to a chronic disease. In this example we look at HIV in Belize.

HIV is a serious health concern, with devastating effects on individuals, families and the larger society. It is a critical public health issue in Belize, where HIV/AIDS reports from 1986 through 2005 have indicated that 3,360 individuals live with HIV, and 762 have de-

veloped AIDS, in a population of less than 300,000 people (3). In 2005, HIV/AIDS ranked as the fourth leading cause of death from defined causes among Belizeans.

What does a gender-based analysis reveal about HIV in Belize and the women and men affected?

Here is a typical, gender-neutral description of HIV incidence:

Figure 1. Number of New HIV Cases & Incidence Rates, Belize 2001 - 2005

	2001	2002	2003	2004	2005
Cases	330	431	447	457	434
Rates	128.2	162.5	163.3	156.7	148.7
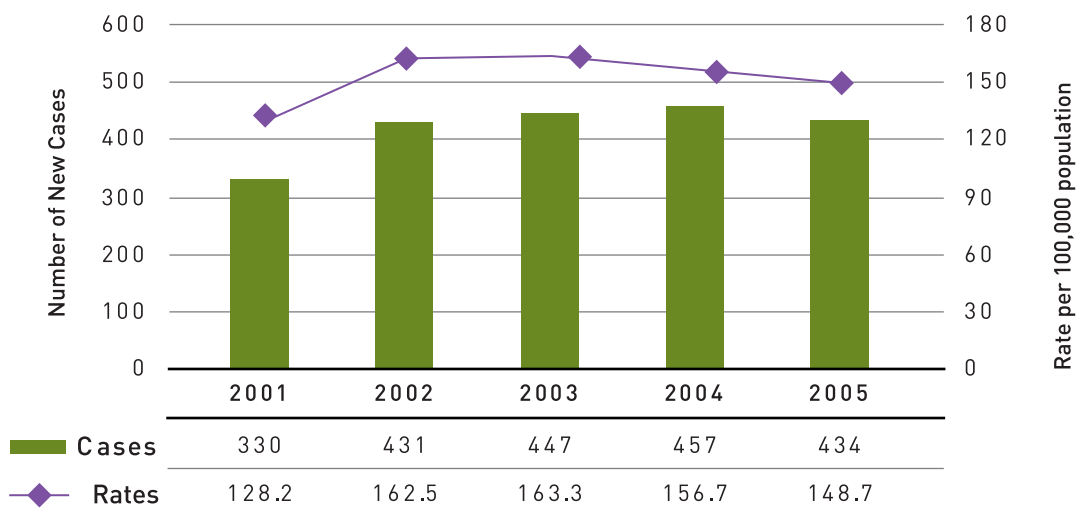
2: Unless otherwise noted, data in this case study are from Health Statistics for Belize, 2006. Epidemiology Unit, Ministry of Health, Belize.

3: These data are provided to illustrate GBA and are not intended as a comprehensive analysis of HIV/AIDS in Belize.

As Figure 1 demonstrates, the annual number of newly confirmed cases of HIV infection increased by approximately 30% over the five-year period. A sharp increase in 2002 was followed by a leveling in the number of HIV cases until after 2004, when a small decrease in cases was recorded. A similar trend is seen in the incidence rates, although rates appear to decline earlier. The trend will need to continue before we can be sure that the incidence of HIV is decreasing in the country, as it may only reflect random fluctuations or changes in the intensity of efforts to identify new cases. Because only a small proportion (3-5%) of the population are tested for HIV, and those who are tested do not necessarily represent the Belize population as a whole, these rates may not reflect the true incidence of infection, but are our best information on the spread of HIV.

These figures point to the spread of HIV in Belize during the past 5 years, and some signs of recent improvement. With critical news of the devastation the disease has created in sub-Saharan Africa and other parts of the world, health planners in Belize are taking action. But how can planners best address the needs of the public? Who are the most vulnerable and at-risk citizens?

What do we learn by looking at the data by sex?

Figure 2 expands the evidence, by looking at new cases and incidence of HIV in Belize by sex. Now the description has some new valuable information:

Figure 2. Number of New HIV Cases & Incidence Rate by Sex Belize 2001 – 2005

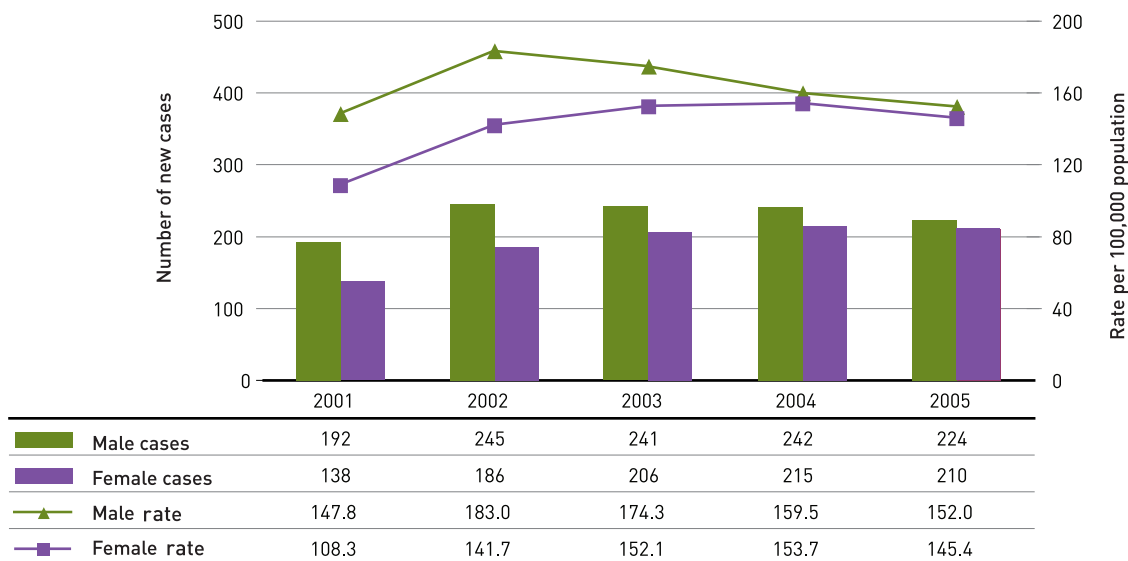|	2001	2002	2003	2004	2005
Male cases	192	245	241	242	224
Female cases	138	186	206	215	210
Male rate	147.8	183.0	174.3	159.5	152.0
Female rate	108.3	141.7	152.1	153.7	145.4

Figure 2 illustrates that more men than women are contracting HIV, but the difference between the sexes is closing.

Women account for a growing number and proportion of newly identified cases of HIV infection in Belize. In 2005, of the 434 people who tested positive for the HIV antibody, 210 were women. This represents a 52% increase in the number of positive test results for women since 2001, when 138 new cases were confirmed in women. By 2005, the number of positive test results among women was nearly the same as for men. We can see from this information that the numbers of men and women with confirmed HIV are converging.

Similarly, the incidence of HIV for women and men is also converging. Figure 2 shows that there has been a decline in HIV incidence for males from 183 confirmed cases of HIV per 100,000 men in 2002 to 152 per 100,000 in 2005. Although the news was not as good for women, whose incidence of HIV grew from 108 to 145 over only a five year period.

The analysis by sex now continues with some considerations of gender differences:

Note that these rates of newly identified HIV cannot provide the true rate of infection (or true incidence rate) in the population, but only cases in individuals who have tested voluntarily. The numbers of women who have tested for HIV have increased dramatically since 2001 and by 2005 represented approximately 60% of those tested. Thus, the increase in HIV incidence among women during this time period may, in some part, be attributable to increased outreach to and testing of women.

However, the results of the present analysis may also reflect an actual feminization of HIV in Belize, which would be consistent with the findings from other research for the Americas overall. The proportion of females among those diagnosed with AIDS in the Americas rose from 6% in 1994 to 31% in 2005. A similar trend has been noted in all sub-regions within the Americas (4).

In Haiti and other Caribbean nations, AIDS is a heterosexual epidemic, fueled by gender inequality and the sex trade industry. Half of those with AIDS are women and young women are 2.5 times more likely to be infected by HIV compared to young men (4).

Women's vulnerability to acquiring HIV during vaginal sex is greater than men's because of the greater surface area of delicate tissue in the vaginal region and genitals. This physiological vulnerability is typically compounded by women's greater vulnerability to forced sex and violence; that is, women are less likely than men to be able to negotiate safer sex practices, or to refuse sex altogether. Some women are vulnerable to HIV because they or their husbands have multiple sexual partners.

The implications of increasing HIV among women are far-reaching, with serious consequences for women themselves, and for the nature and impact of the epidemic. Increased HIV infection in women carries a threat of increasing the risk of transmission from mothers to their fetuses or breast-feeding infants. It is clearly critical to continue to monitor the rates of HIV and AIDS in Belize, collecting and reporting the data separately for men and for women in the country.

Fifty-six percent of Belizean women aged 15 to 49 who are married or living in a common-law union report use of a contraceptive method. Only 2% of women use a (male) condom (7). It is unclear whether these data include women who use (or have their partner use) condoms to protect against sexually transmitted disease, and not only for contraceptive purposes. However, data from other countries substantiate low rates of condom use in the context of marriage and other unions.

Using the data separated by sex, and considering gender differences that influence the risks and effects of HIV, health planners may ask:

→ Have recent public health and public education initiatives contributed to the slightly declining incidence rates for men? Have recent initiatives been as successful for women?

→ Are there gender differences in the social stigma associated with HIV? What would cause stigma for men? What would cause stigma for women? How do these factors influence women's and men's willingness to be tested?

→ Are there gender differences in access to anti-retroviral drugs? As women tend to shoulder greater health costs, what are the implications for women? Treatment and expanded coverage of treatment improved considerably in 2004-2006, yet some segments of the population (poorer people) may still experience barriers to access. Are differences in access among women evident?

→ What gender relevant effects may globalization have on HIV? Consider, for example, trends in exploitation of women, human trafficking, tourism, migration, and other social changes that have been associated with globalization.

What else does a gender-based analysis reveal?

Gender-based analysis is more than a comparison of women and men; it is also an analysis of diversity among women and among men. HIV data are also collected by age, and gender-based analysis encourages us to use this information to learn more about the population affected.

Figure 3 shows the average number of new HIV cases and incidence of HIV in Belize by sex and by age over a five-year period from 2001 to 2005.

Figure 3. **Number of New Cases and Incidence Rate of HIV by Age & Sex Belize, Averaged for 2001 - 2005**

	< 4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Male cases	11	3	0	8	23	34	31	31	29	23	12	8	6	7
Female cases	8	3	3	18	36	34	30	21	15	8	6	3	2	3
M - Rate	56.9	13.7	2.2	51.5	192.8	272.7	334.8	381.9	431.9	460.8	316.4	289.2	239.2	122.5
F - Rate	40.0	15.1	16.3	120.1	286.7	315.7	322.1	263.0	241.7	177.9	171.5	138.2	98.0	44.9
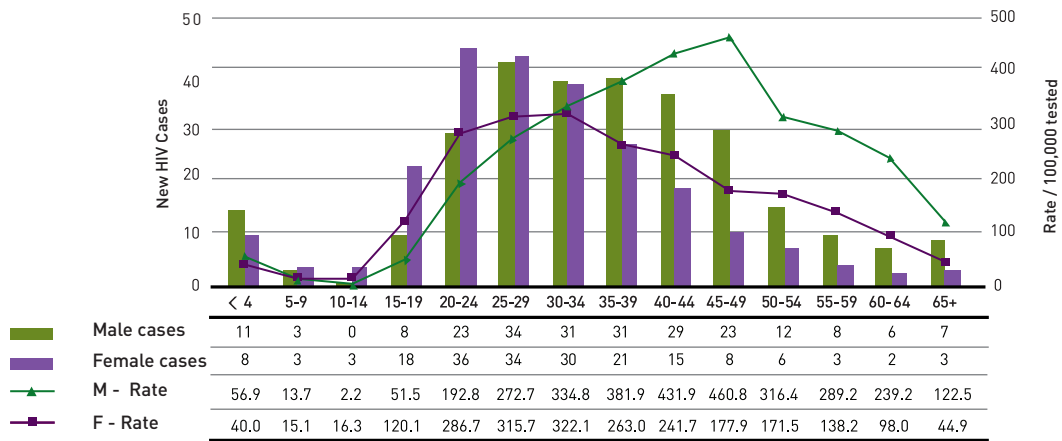
As in other parts of the world, new cases of HIV have disproportionately been found among younger adults. However, looking at the age distribution of new cases of HIV by sex as well as by age reveals a relatively greater burden of HIV among female teens and young adults compared to males of the same age.

Among men, the highest numbers of cases of HIV were found among those aged 25 to 29 in 2001-2005. On the other hand, among women, the peak number of cases occurred among women aged 20 to 24 year old women. In fact, HIV infections were substantially more common among females than males throughout the 10-24 age range, whereas men aged 35-49 appeared to have greater risk for HIV infection relative to females. The risk of HIV appears particularly high for men aged 40-49, whose incidence rates are upwards of 430 per 100,000, which shows that males of this age contract HIV in numbers highly disproportionate to their population size. Note that approximately 85% of new HIV infections among women occur in the child-bearing years (15-49 years).

HIV detected in girls aged 10-14 is a particular concern if transmission is through sexual contact in this age group. Using this information and local knowledge about whether young girls are sexually active for economic reasons, or because of coercion or trafficking or some other reason, it is possible to develop public health initiatives specific to them.

Questions health planners should ask, based on this GBA

This GBA prompts a number of important questions:

→ What are the implications of HIV detection in young girls (aged 10-14)? Are there programs to protect them, as well as to prevent further transmission to other sexual partners or through pregnancy and birth?

→ How can public health and public education initiatives be tailored to address the lives of women and girls in Belize, including their responsibilities to family and community? What can be learned from successful initiatives in other countries to prevent further increases in disease incidence in girls and women?

→ What factors contribute to the high case load among young men and the high incidence of HIV among middle-aged men? How do alcohol and other substance abuse, work that involves travel away from their families, and social expectations that men engage in unsafe sexual behaviour or other relevant social factors, contribute to men's risks for infection? What initiatives have been successful in intervening in the pathways of risk for men?

→ How do men's roles, often including financial responsibilities for the family, social norms for independence and risk-

taking, social expectations for stoicism, and working conditions affect whether they get tested for HIV? How can social, economic, or particular work-place barriers to HIV testing be reduced?

Gathering other information for the gender-based analysis and for gender-sensitive public health policy

Finally, gender-based analysis provides evidence that can be used to develop and implement specific policies and programs that will reduce inequities and improve health:

Early initiation of sexual activity and the prevalence of sexually transmitted infections (STIs) are recognized as major public health concerns relating to HIV/AIDS in Belize. However, it is important to recognize distinct physical, social, and psychological vulnerabilities among women, particularly young women. Women are more physiologically susceptible to transmission of HIV and to other STIs which increase the risks of HIV infection. Girls generally reach sexual maturity earlier than boys, are more likely to have sex by force (than both boys and older women), and more often have partners who are older and have greater exposure to HIV risk factors (e.g. unprotected sex, multiple partners, injection drug use).

Gender roles and power inequalities between men and women limit women's ability to insist on safer sex practices. Young women have even more difficulty

initiating or insisting on safer sex practices than more mature women. Women's greater unemployment, lower incomes, greater likelihood of living in poverty and greater marginalization also increase the likelihood that women and girls resort to work in the sex trade, have multiple partners for economic security, or engage in high-risk activities such as injection drug use, placing them at increased risk of sexually transmitted infections. Sexual violence against women places them at risk for acquiring HIV and other STIs.

This analysis has highlighted some important similarities and differences with respect to HIV infection among men and women in Belize. The data suggest a trend of increasing similarity in the rate of new cases of HIV among men and women, which carries importance for the future of the epidemic in Belize. The data have also revealed a younger age distribution of cases among women than men. Together with greater knowledge of women's social vulnerabilities in the context of their relationships, this information can help inform HIV/AIDS prevention efforts

Case study #2 | Transport accidents in Belize[4,5]

Transport accidents in Belize claim many lives and result in serious injuries with large personal costs to individuals and their families, economic impacts, and associated resource costs for medical and social services that support treatment and rehabilitation. This case study looks at how a gender-based analysis can deepen our understanding of data on transport accidents

Urban growth, throughout the Americas, has increased the need for transport and, in turn, led to greater risks for injuries (4).

Analyzing transport accidents without Gender

Here is what a standard analysis of transport accident deaths and injury for the population of Belize might say:

In 2005, 78 people in Belize died in transport accidents. This represents 5.7% of all deaths that year, making transport accidents the 4th leading cause of death in the country. Nevertheless, fewer transport fatalities occur than in the past. As Figure 1 shows, in recent years, the rate of death from transport accidents declined from approximately 34 to 27 deaths per 100,000 population, an overall decline of 20%.

Figure 1. Death rates for Transport Accidents Belize 2001 - 2005

	2001	2002	2003	2004	2005
Rates	33.8	31.3	27.4	21.6	26.7
Deaths	87	83	75	63	78
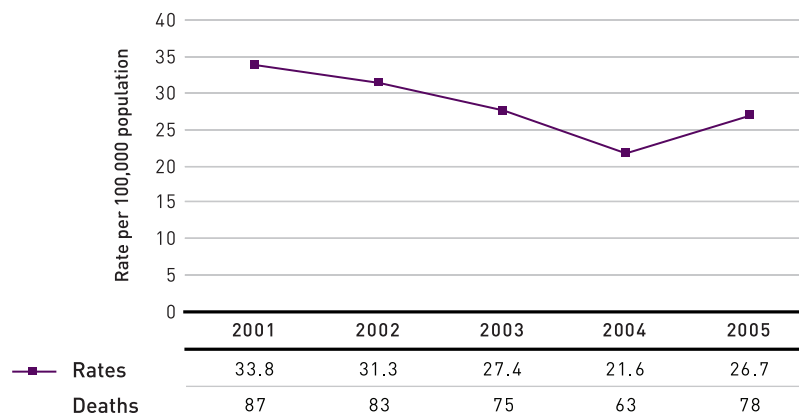
**4:** Unless otherwise noted, all data in this case study is from Health Statistics for Belize, 2006. Epidemiology Unit, Ministry of Health, Belize..

5: These data are provided to illustrate GBA and are not intended as a comprehensive analysis of transport accidents in Belize.

Figure 2 shows, however, a dramatic increase in rates of hospitalization for transport related injuries. Hospital records indicate that 293 individuals were treated in hospital for transport accident-related injuries in 2005, three times the number treated in 2001. Thus, Belizeans were hospitalized for such injuries at a rate of 100 in 100,000 population in 2005—an equivalent of one in every thousand individuals. Thus, while improvements have been seen in the number of transport fatalities, more people have been treated in hospital for transport accidents. We cannot determine from the data whether these trends are a result of fewer serious transport incidents that are less likely to be fatal but result in more treatable injuries, or whether the trends observed are a result of more individuals accessing care at hospitals for injuries than in the past.

Figure 2. Rate of Hospitalization for Transport Accident Injury Belize 2001–2005

	2001	2002	2003	2004	2005
Hosp. Cases	94	129	237	285	293
Rate	36.5	48.6	86.6	97.7	100.4
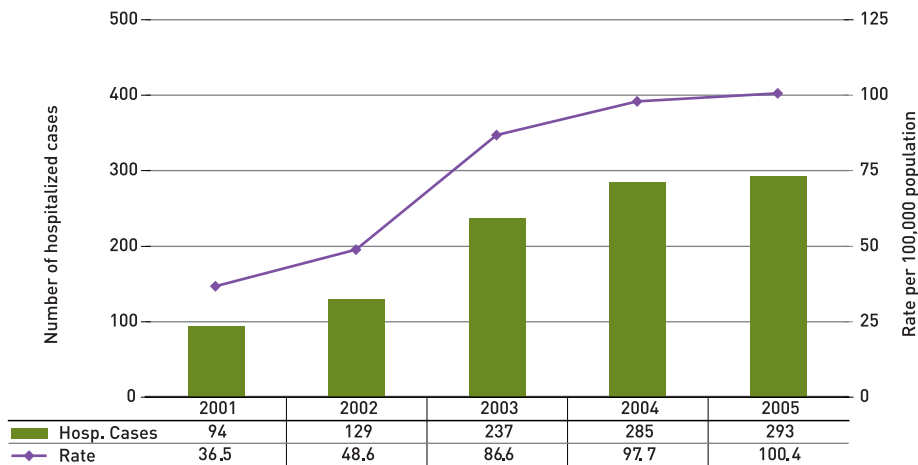
As accidental death and injury are understood to be closely associated with age, a typical analysis would also proceed with a break-down of deaths and hospitalizations for various age categories in the population:

Mortality data averaged over the 2001-2005 period (Figure 3) showed that 54% of transport accident fatalities occur among individuals aged 15 to 39. As well, seniors (age 65+) account for a disproportionate number of deaths from transport accidents, relative to their proportion of the population. Consequently, we actually see the highest rates of death occurring among seniors.

Figure 3. Deaths and Death Rates from Transport Accidents by Age. Belize, Average for 2001 – 2005

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Deaths	4.2	3.8	1.8	6.6	9.8	9.2	7.0	8.6	5.4	4.4	3.8	2.2	3.0	7.4
Rate	10.6	10.1	5.1	21.9	40.1	39.6	37.8	53.0	41.9	44.9	53.4	42.1	66.0	64.3
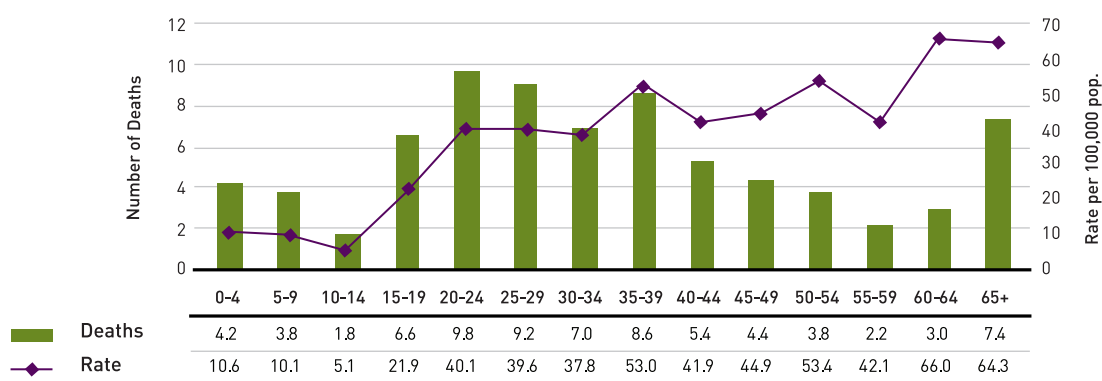
From this analysis, planners may see the value of directing interventions toward young adults and seniors. However, some information that may help them deliver the most effective programs would be missed.

Adding sex disaggregated data

When the sex disaggregated data is added to the analysis, the most striking evidence is the large difference in transport accident fatalities and hospitalized injuries between males and females:

In 2005, 58 of the 78 transport fatalities were males, while the remaining 20 were females. Similarly, males accounted for 211 of 293 hospitalizations for transport accident related injuries. Thus, males had nearly three times the rate of transport fatalities and 2.5 times the rate of hospitalization for transport accident related injuries compared to females (39.3 versus 13.9 per 100,000 and 143.1 versus 56.8 per 100,000 respectively)

Separating and reporting the data by sex shows that males are apparently at much greater risk than females of death and injury requiring hospitalization from transport accidents (Figure 4). Although fatalities among men have generally declined over the last five years, there has been little change in the relatively low rate of deaths among women. However, in terms of hospitalization for injuries, males and females are seen at hospitals in escalating numbers for transport accident related injuries, both their rates of hospitalization nearly tripling from 2001 to 2005 (Figure 5).

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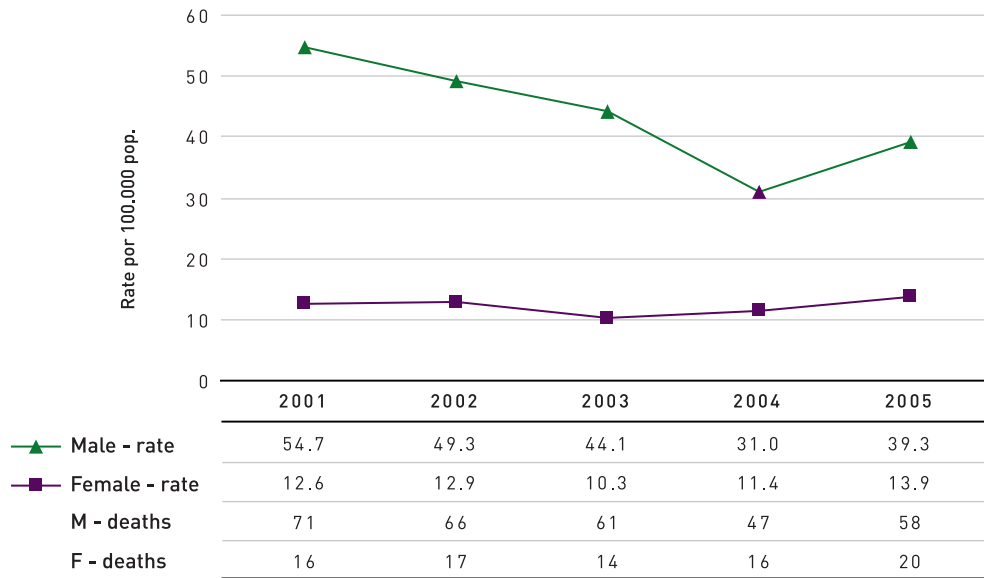**Figure 4.** Death Rates from Transport Accidents by Sex
Belize, 2001 - 2005

	2001	2002	2003	2004	2005
Male – rate	54.7	49.3	44.1	31.0	39.3
Female – rate	12.6	12.9	10.3	11.4	13.9
M – deaths	71	66	61	47	58
F – deaths	16	17	14	16	20

Figure 5. Rate of Hospitalization for Transport Accident Injury by Sex
Belize, 2001 - 2005

	2001	2002	2003	2004	2005
Male – rate	51.6	69.5	127.3	129.2	143.1
Female – rate	21.2	27.4	45.1	63.6	56.8
M – cases	67	93	176	196	211
F – cases	27	36	61	89	82
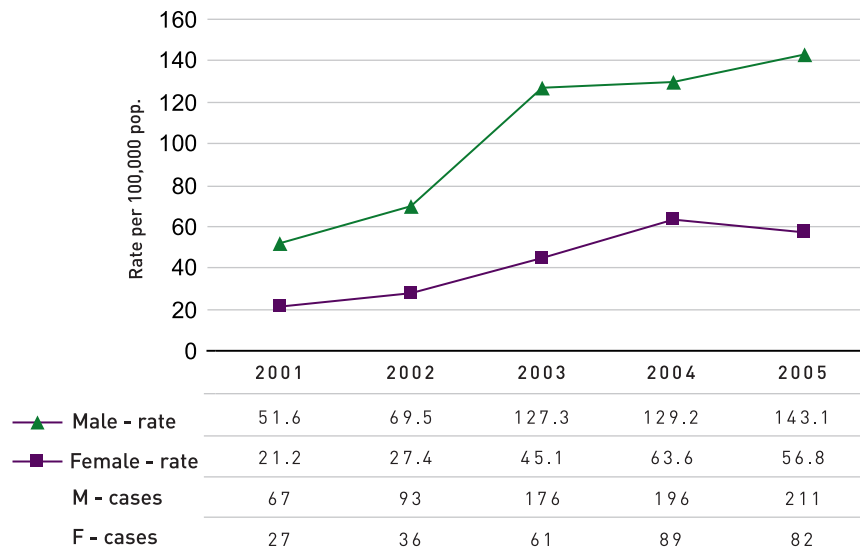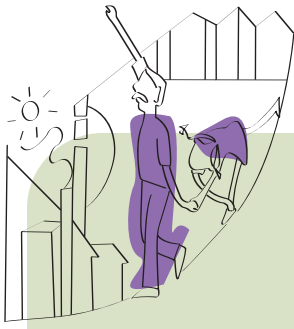
Risk factors for crashes, injuries, deaths:

Speed - Car occupants crashing at 50 miles per hour are 20 times more likely to die than those who crash at 20 miles per hour.

Alcohol - The risk of drivers being involved a traffic crash increases significantly at blood alcohol concentrations of just .04% (many jurisdictions in the Americas allow up to .08%).

Fatigue - In one study, more than half of single-vehicle crashes of heavy trucks were related to driver fatigue, and in nearly 18% of the cases, drivers admitted they had fallen asleep.

Youth - Teenagers, and especially 16- and 17-year-olds, are at higher risk of traffic death or injuries than any other age group, and their risk triples during late-night hours.

Safety equipment - Seat belts reduce injuries in head-on collisions by 43% and in roll-over crashes, up to 77%. For infants, rear-facing car seats (when appropriate to the baby's weight and height) reduce all injuries by 76% and severe injuries by 92%. (8)

Men's higher rates of death from transport accident fatalities are seen in nearly every country within the Americas. Table 1 lists transport accident death rates from several examples among 39 American countries for which rates (2000-2005) were available. The data showed the sex ratio of female to male deaths from transport fatalities in Belize (0.2:1) to be consistent with that for other nations (16 of 39 countries had a ratio of 0.2:1). The results also demonstrated that Belizean men had the highest rate of death from transport accidents (56.0 per 100,000 population) and women had the second highest death rate (12.9 per 100,000) among 39 American nations.
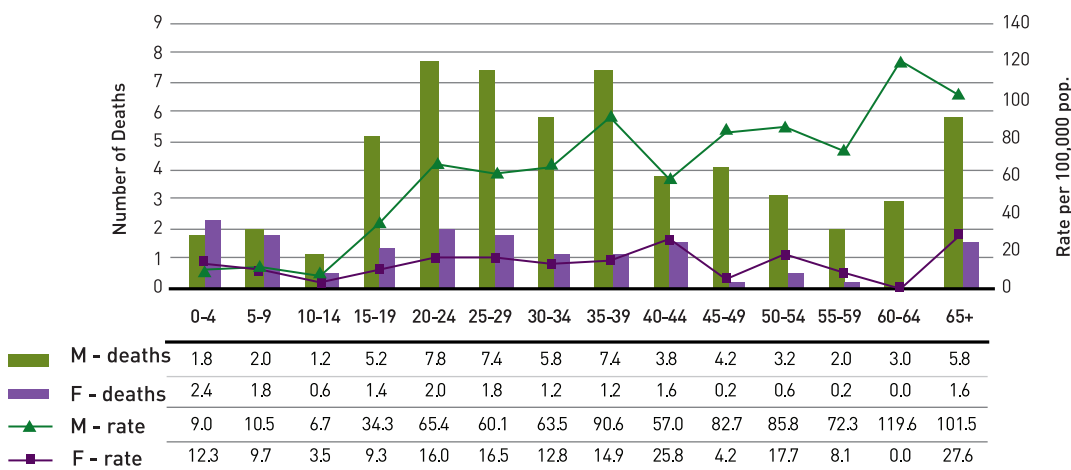
Table 1: Death Rates[1,2] for Transport Accidents, Selected Nations in the Americas

	Females	Males	Ratio F:M
Belize	12.9	56.0	0.2
Guatemala	1.2	5.3	0.2
Mexico	7.1	28.5	0.2
Turks & Caicos Islands	6.4	39.4	0.2
Brazil	8.5	37.6	0.2
El Salvador	11.0	42.3	0.3
Bahamas, the	10.4	39.6	0.3
Canada	5.6	14.0	0.4
Estados Unidos	9.7	22.5	0.4
United States	6.6	6.2	1.1

Source: Adapted from, Gender, Health and Development in the Americas, Basic Indicators 2007 PAHO
Notes: 1. Rates per 100,000 population. **2.** Latest data available, 2000-2005

What do we learn by also looking at the death rates for males and females by age?

Figure 6. Deaths and Death Rates from Transport Accidents by Sex and Age Belize. Averaged for 2001 – 2005

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
M – deaths	1.8	2.0	1.2	5.2	7.8	7.4	5.8	7.4	3.8	4.2	3.2	2.0	3.0	5.8
F – deaths	2.4	1.8	0.6	1.4	2.0	1.8	1.2	1.2	1.6	0.2	0.6	0.2	0.0	1.6
M – rate	9.0	10.5	6.7	34.3	65.4	60.1	63.5	90.6	57.0	82.7	85.8	72.3	119.6	101.5
F – rate	12.3	9.7	3.5	9.3	16.0	16.5	12.8	14.9	25.8	4.2	17.7	8.1	0.0	27.6

Young men aged 15 to 39 had death rates ranging from 35 to 90 deaths per 100,000, representing an average of 5 to 8 deaths per year. In contrast, boys had a low risk of death (10 deaths per 100,000 or less). Middle-aged and older men had a level of risk disproportionate to their numbers, with average death rates ranging from 80 to 120 deaths per 100,000. However, the death rate among women and girls differed very little; even young women's rates of death remained under 15 deaths per 100,000 (2 or fewer deaths per year).

Young men are also much more likely to be hospitalized for injuries than males of other ages and women. For example, during the 2001-2005 period the rate of hospitalization for transport accidents for men aged 20 to 24 was 218 per 100,000, representing approximately 130 men per year. In contrast, the rate for women in this age range was 62.5 per 100,000, representing 39 women treated in hospitals for their injuries. However, both men and women of this age showed the greatest increases in hospitalization, that is, four times the number treated in 2005 compared to 2001.

Thus, men aged 15 to 39 stand out as suffering serious consequences in transport accidents with over four times the rate of death and nearly three times the rate of injury treated in hospital compared to women. As well, young women are increasingly requiring treatment for such injuries.
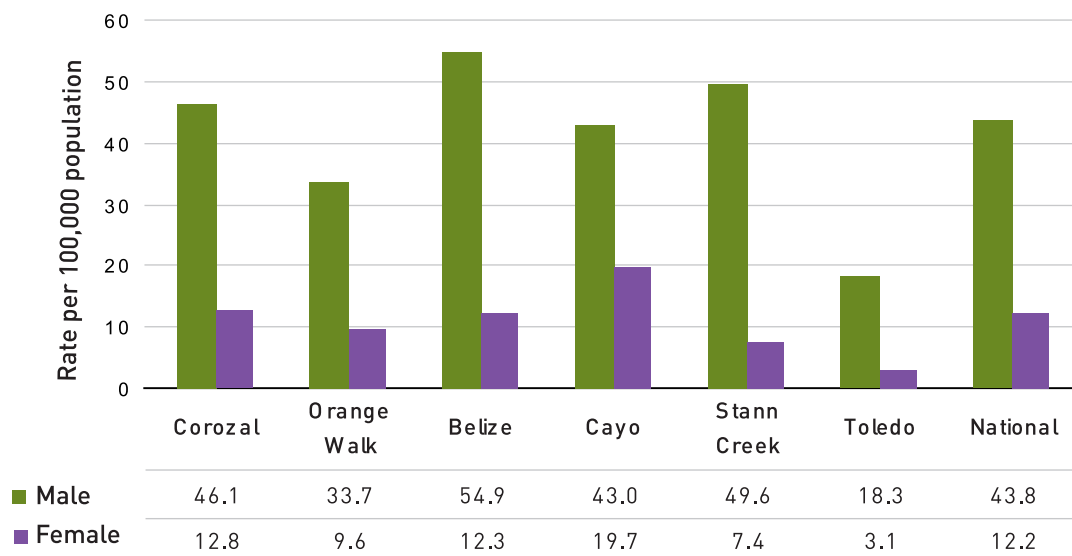
**Expanding the gender-based analysis.
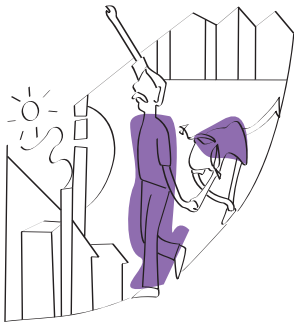What can be learned when looking at data more locally?**

More can be learned by also examining the data by geographical district.

Males living in the Belize District show the highest risk of death from transport accidents (Figure 7). Data averaged for 2001-2005 showed that the death rate from transport accidents for males in this district was approximately 55 per 100,000 population, three times the rate for males in the Toledo District. The higher number of fatalities in the district may be related to the addition of more fishing and shipping industry-related transport accidents, urban transport conditions in Belize City, or other factors which need to be further explored. As the difference between males and females is greater in this district than in others, the factors involved are likely to also be associated with gender differences.

**Figure 7. Transport Accident Mortality Rates by Sex and District
Belize, Averaged for 2001 - 2005**

	Corozal	Orange Walk	Belize	Cayo	Stann Creek	Toledo	National
Male	46.1	33.7	54.9	43.0	49.6	18.3	43.8
Female	12.8	9.6	12.3	19.7	7.4	3.1	12.2

Questions health planners should ask

Gender-based analysis seeks more information by asking more questions:

What local gender roles, responsibilities, and transport access, mobility, and needs are prevalent, which can account for differences in men's and women's experience of transport fatalities and injuries?

A variety of road users (pedestrian, cyclists, motorcycle, car, public transit) with varying levels of vulnerability and levels of training and safety education may affect rates of accident and injury. How do gender and age differences in road use influence rates of injury and death from transport accidents?

What do we know about the lives and circumstances of young men in Belize? How do their roles, responsibilities and employment conditions affect their risks for death and injury? What strategies could address social pathways that place men at risk for transport accidents? For example, can other safe recreational opportunities, more traffic signs, different licensing procedures, or improved workplace policies reduce risks for men?

What factors have contributed to the decrease in transport accident mortality among men in recent years?

What about women? What do we know about the lives and transport of women that has exposed them to fewer deaths, but increasing rates of hospitalization? Have changes in women's roles (e.g. more women in the labour force, greater acceptance of women drinking alcohol) influenced these rates?

Are the differences in transport accidents and their consequences among women and men distinguished by rural and urban residence, income group, or employment?

When considering current and future transport projects, how can we assess their potential impact on men, women, young and senior men? How can risks be averted?

What additional information is needed for the GBA?

What does the literature say about differences in driving behavior by gender, and association with accident rates?

What do we know about the types of transport accidents that occur? How many are land, water, air transport incidents? Who is most vulnerable in ground transport accidents: motorists, passengers, pedestrians, cyclists? Public vehicle accidents or owner operated vehicle accidents?

What further information might insurance claim, police data, and other statistics collected provide on transport fatalities and injuries?

What local attitudes and behaviours affect the availability and use of safety features or measures that could reduce transport accidents and their consequences?
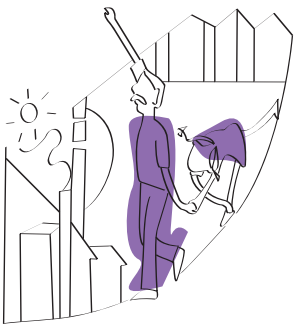
How can GBA inform program and policy needs?

Do men and women need different types of education on road and driving safety?
Do youth or the elderly have different needs?

What changes to traffic and roadways might enhance the safety of pedestrians, addressing the needs, circumstances, life situation of men, women, youth, or elderly?

### Who do you need to involve to develop a gender-sensitive strategy?

Reducing transport-related fatalities and injures among men and women requires coordinated planning to prevent accidents, address workplace and community hazards, and enhance safeguards that can minimize risks and harm to individuals. Understanding gender influences and sex differences in outcomes, as well as attitudinal, behavioural and situational risks can help public health planners and their community partners prepare programs, policies, and infrastructures that enhance the effectiveness of prevention and treatment.

Who should be involved in planning programs, policies, and initiatives that can prevent transport accidents and better protect young men from serious consequences; e.g. what local industries may be involved, which community organizations and government officials, community organizations, etc?
How can women's and men's views about the best transport and non-transport options be taken into account to meet local needs?

Conclusions:
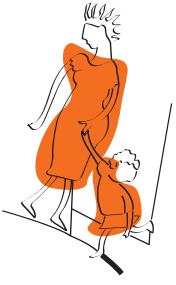
Conclusion: Questions to answer in a GBA

Gender-based analysis asks a series of questions from the available information, both quantitative and qualitative, starting with questions about very basic differences between men and women, and then digging further to understand differences among groups of women and among groups of men.

The first questions asked ensure that the GBA starts with all the information available, and establish what other information is needed.

Investigating the data:

→ What information or data do you have about men, and what do you know about women?

→ What are the differences for girls and women, boys and men at different ages?

→ What are the differences for girls, women, men and boys in different parts of the country? In rural or urban communities? In different ethnic communities? In different socio-economic groups?

Investigating other sources of information:

→ When you are gathering information, have you looked for and found statistics and other kinds of data (including qualitative information) for both females and males?

→ Have you looked for and been able to find up-to-date, relevant research on gender differences, social power differences, opportunities and barriers, racial discrimi-

nation and the history of colonization to inform your work?

Interpreting the data and information requires learning more about local conditions:

Considering local knowledge of gender:

→ Have you considered the ways in which gender roles, norms and social expectations can create different types and degrees of risk or need among females and males?

→ Have you thought about the pressures on and the needs of different groups of women and men:
- urban or rural migration and displacement trends?
- for those in different socioeconomic strata?
- low-income and wealthy?
- youth versus older women and men?
- culturally and racially diverse?
- lesbian, gay, bisexual, two-spirit, trans - gendered, and/or heterosexual?
- street-involved or homeless?
- those engaged in sex trade or survival sex?
- those in conflict with the justice system?

→ Have you tailored your work to the specific group with whom you will be working, taking these factors into consideration?

Citizen participation:

→ Have you consulted local agencies and individuals? Who are your community partners? Have you included the concerns and perspectives of both men and women in your program or policy, as appropriate?

Policy implications:

→ What health authority (e.g. a particular district level health authority, or a national health department) can make policy change to improve the health issues your data show? Do health authorities in different districts or regions have similar policies to reduce differences for people who migrate?

→ Have you considered the ways in which gender roles and expectations will make it easy or difficult for women and men to be involved in, access or use your study, program or policy?

→ Does your study, program or policy support both women and men? If you are focusing on one sex or gender, can you explain why?

And finally, ask: Who is not included in the data and information? What should be done to include the people who are missing from the numerical data and the supporting literature and consultations?

GBA example:
More men die of ischemic heart disease in all regions of the Americas and from pneumonia and influenza in 6 of the 8 regions. Ultimately, gender-based analysis brings into view the influences, omissions and implications of our work (3).

References

1. Pan-American Health Organization. Resolution CD46.R16: PAHO Gender Equality Policy. Pan-American Health Organization, 2005.
2. Health Canada. Exploring Concepts of Gender and Health. Ottawa: Minister of Public Works and Government Services Canada, 2002.
3. Pan-American Health Organization. Health in the Americas, 2007; Volume II-Countries, Belize. Washington, DC: Pan-American Health Organization, 2007.
4. Pan-American Health Organization. Health in the Americas, 2007; Volume I–Regional. Washington, DC: Pan-American Health Organization, 2007.
5. Kirby SL, Greaves L, Reid C. Experience Research Social Change: Methods Beyond the Mainstream. Second Edition. Toronto: Broadview Press, 2006.
6. Donner, L. Gender in Health Planning: A Guide for Regional Health Authorities. Prairie Women's Health Centre of Excellence, 2005.
7. Pan-American Health Organization. Gender, Health and Development in the Americas: Basic Health Indicators 2007. Washington, DC: PAHO, Gender, Ethnicity and Health Unit, 2007.
8. World Health Organization. 2004 World Report on Road Traffic Injury Prevention. Geneva: World Health Organization, 2004.