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Key points

Where We Die

Most Americans—around 75 percent, according to opinion polls—would prefer to die at home, free from pain and with their loved ones (IOM, 1997; *Means to a Better End*, 2002). Instead, 70 percent end their lives in institutions—hospitals and nursing homes—too often suffering with pain and other symptoms and without the family contact they imagined.

As people live longer, more are expected to reach a point where technology can keep them alive but cannot restore or even improve their health. A growing number of studies find that people value quality of life as highly as length of life. They fear being kept alive artificially to linger in a state of dependency and unrelieved suffering (Singer, Martin, & Kelner, 1999; Steinhauser et al, 2000). In one study, most people would trade months and even years of life in exchange for quality and comfort at the end (Bryce et al, 2004).

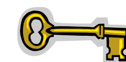
Location of death is a key issue in end of life care given the current contrast between preferences and reality. Where people receive care during their final months and days may affect the nature, quality, and cost of their dying and suggest priorities for improvement in end of life care.

This section examines place of death for Michigan residents by age, race, and cause of death and concludes with implications for policy and programs.

Place of Death by Age and Race

Location of death has evolved over the past 50 years with changes in medical technology, health care financing, and population demographics. National data from death certificates show a steady increase in the proportion of people dying in hospitals from 40 percent in 1949 to 54 percent in 1980 and then a decrease back to

41 percent by 1998 (McMillan et al, 1990; Flory et al, 2004). The rise parallels a post World War II growth in life-extending medical technologies. The decline follows the start of prospective payment for hospital inpatient stays, the advent of the Medicare Hospice Benefit, and the accelerating growth of the segment of older adults aged 85 and over. Each of these factors has contributed to a gradual shift in care of the dying from hospitals to home or nursing home settings.



The hospital is the primary place of death for all age groups except one. Almost half of people aged 85 and older end their lives in nursing homes.

Place of Death by Age

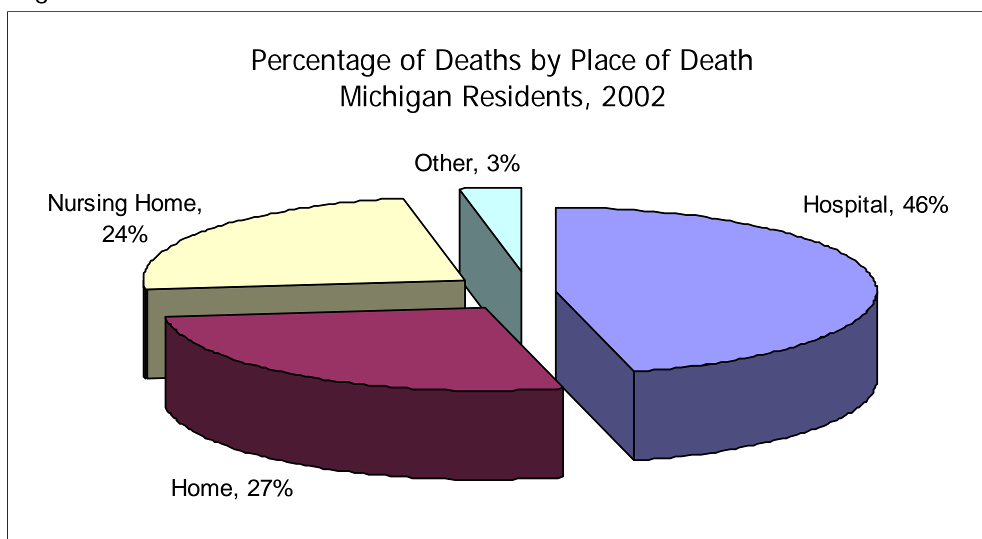
Despite the declining share of deaths in hospital settings, the hospital remains the primary place of death in Michigan.

- Figure 4.1 shows that 46 percent of deaths among Michigan residents in 2002 happened in hospitals. This is almost double the share of deaths in either nursing home or home settings.

- Combined hospital and nursing home deaths yield a 70 percent proportion of people who die in institutional settings.

Brown University researchers used 2001 data to order the 50 states from highest to lowest. Michigan ranks 26th in proportion of hospital deaths, 23rd for nursing home deaths, and 18th for home deaths (*Facts on Dying*, 2004).

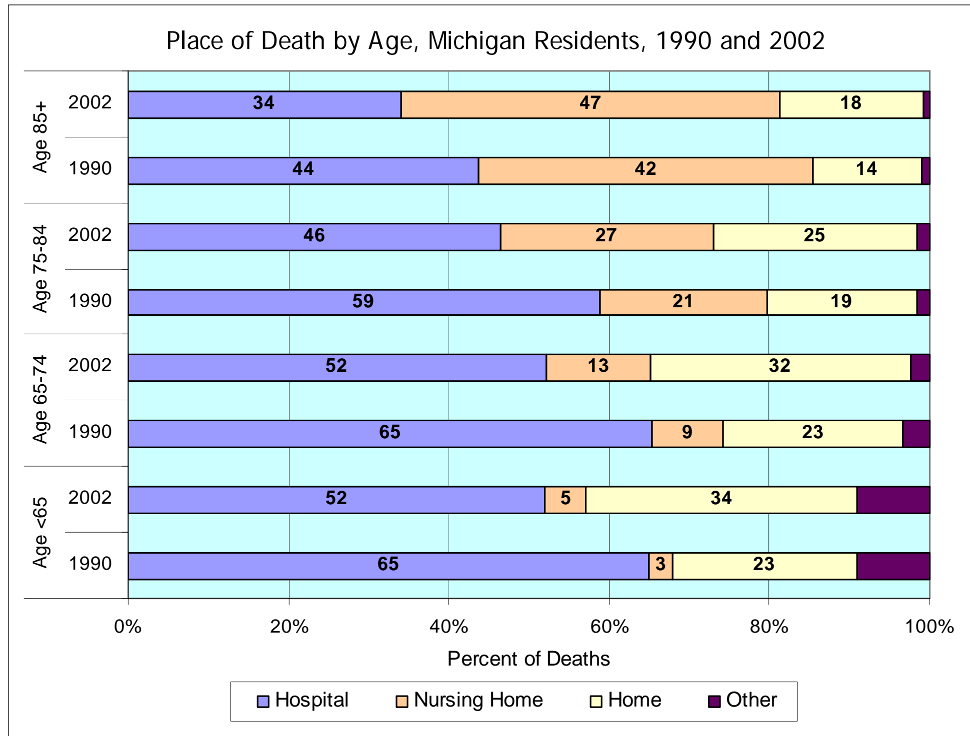
Figure 4.1



Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health

The state level view obscures important variations by age and race. Figure 4.2 illustrates variations in place of death by age.

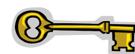
Figure 4.2



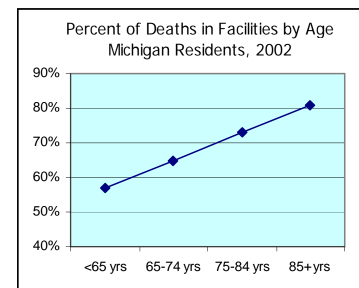
Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health

Note these broad similarities and differences among age groups:

- The proportion of deaths that occurred in hospitals dropped by about 20 percent for each of the four age groups between 1990 and 2002.
- Even so, the hospital remains the primary place of death except for persons aged 85 and over.
- Nursing home deaths increase with advancing age while hospital deaths decrease. For those aged 85 and over, the greatest share of deaths (47 percent) occurs in nursing homes.
- Institutions (hospitals plus nursing homes) account for a steadily higher percentage of deaths as age increases:
  - 57 percent for those under 65;
  - 65 percent for those aged 65 to 74;
  - 73 percent for those aged 75 to 84; and
  - 81 percent for people aged 85 and over.



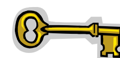
Advancing age means more deaths in facilities—hospitals and nursing homes.



- The highest percentage of deaths at home occurs in those under age 65, followed closely by the 65 to 74 year olds.

- Of the 1054 infant deaths (age <1) in 2002, 90 percent occurred in hospitals. Most of the deaths (70 percent) were caused by perinatal conditions and congenital anomalies.

- In age groups under 65 there is a higher share (9 percent) of deaths in places other than hospital, home, and nursing home. These are primarily fatalities at the scene of accidents, homicides, suicides and to a lesser extent sudden deaths due to heart attacks and related events.



Hospital and home rank one and two as place of death for all races.

Blacks have the most hospital deaths and the fewest home deaths. Whites have double the share of nursing home deaths.

Place of Death by Race

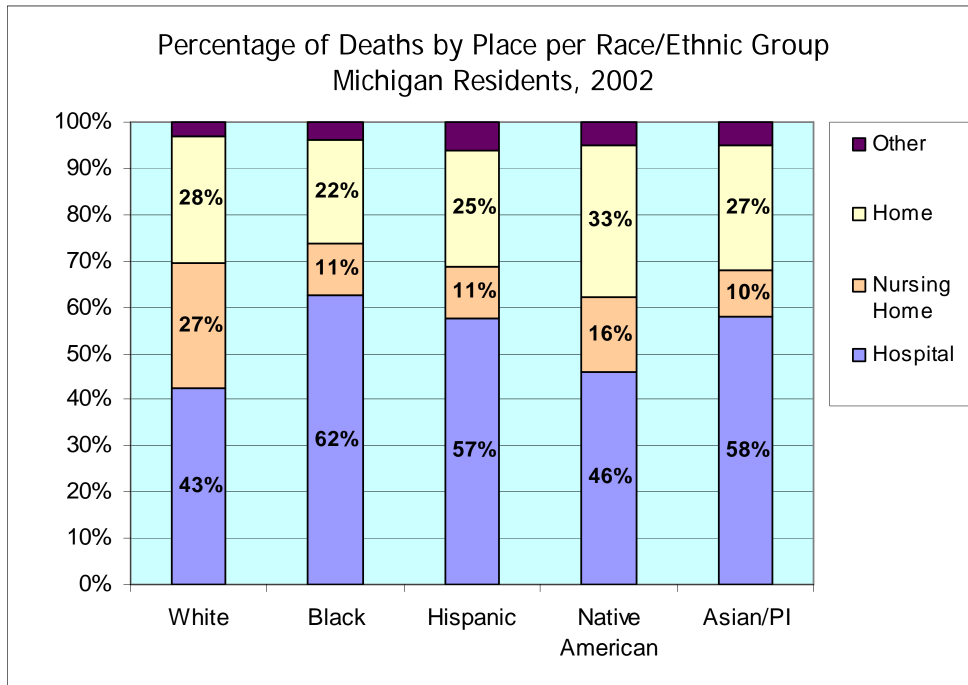
Figure 4.3 shows the distribution of deaths by location for the white, black, Hispanic, Native American, and Asian/Pacific Islander populations in Michigan in 2002. Note these broad variations among groups:

- The hospital is the number one place of death for all racial/ethnic groups.
  - The black population has the highest proportion of hospital deaths at 62 percent, while whites have the lowest at 43 percent.

- Home is the number two place of death for all races.
  - Deaths occur twice as often at home as in nursing homes for all groups except the white population. For them, non-hospital deaths are evenly divided between nursing home and home.
  - Blacks have the lowest share of home deaths at 22 percent and Native Americans have the highest at 33 percent.

- Nursing home deaths are highest among whites at 27 percent. This proportion is 2.5 times higher than that in the black, Hispanic, and Asian/Pacific Islander populations and 1.7 times higher than Native Americans.

Figure 4.3

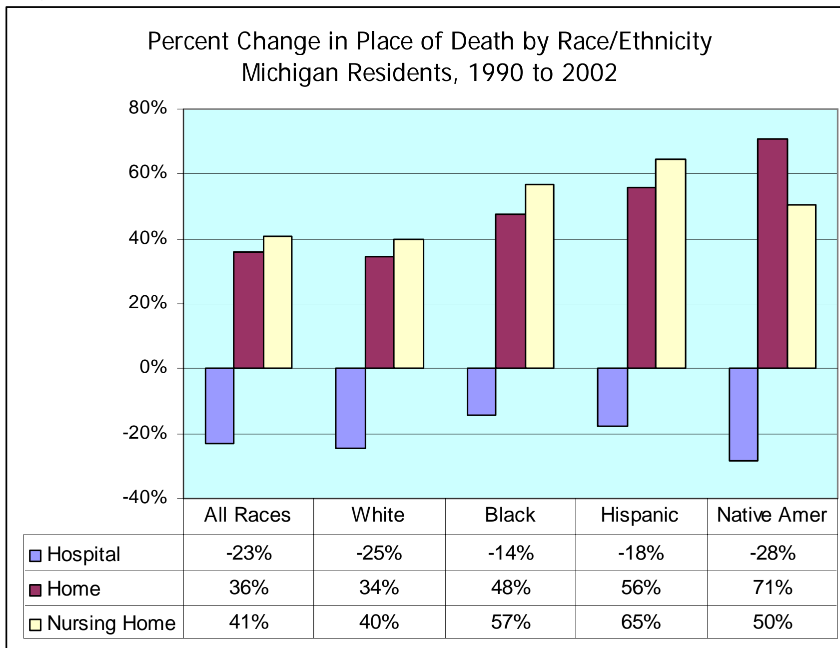


Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health

Changes since 1990

Place of death by race has changed substantially over the past decade. Since 1990, hospital deaths have declined and home and nursing home deaths have increased for all racial/ethnic groups. Figure 4.4 shows the magnitude of change.

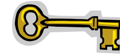
Figure 4.4



	All Races	White	Black	Hispanic	Native Amer
Hospital	-23%	-25%	-14%	-18%	-28%
Home	36%	34%	48%	56%	71%
Nursing Home	41%	40%	57%	65%	50%

Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health.

Between 1990 and 2002, hospital deaths dropped most for Native American and white populations and least for blacks and Hispanics. For most groups nursing home deaths grew at a faster pace than did home deaths. The greatest growth in both home and nursing home deaths occurred in minority populations.



For ages below 65, the hospital is the primary place of death for all races.

Blacks have the highest share of hospital deaths and whites have the highest share of home deaths.

Age and Race Combined

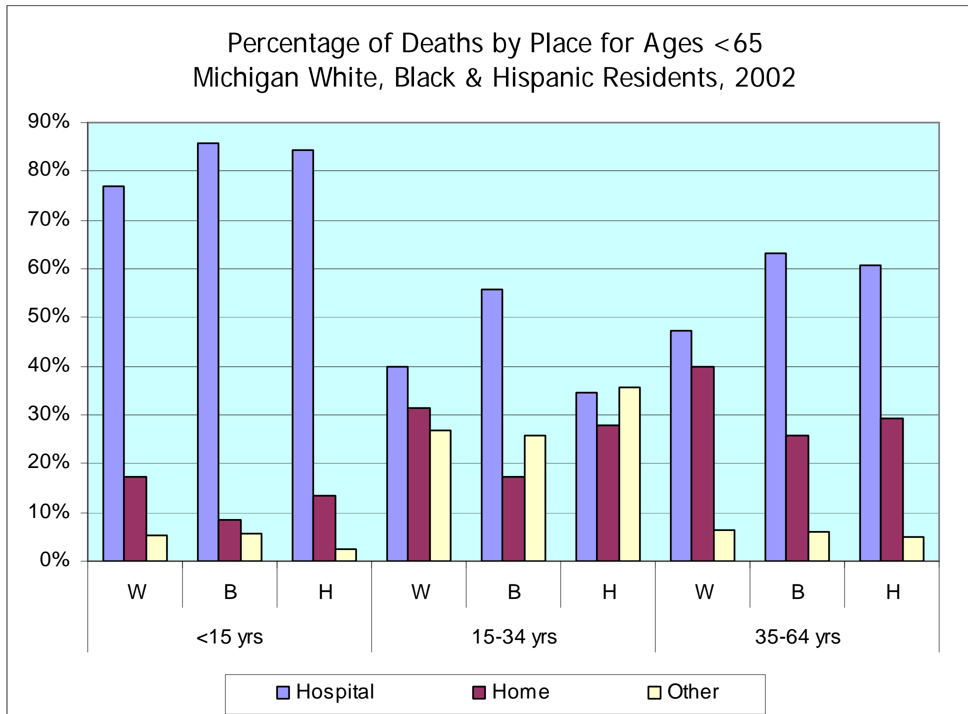
Examining location of death by age and race together reveals additional patterns related to end of life in Michigan. Figures 4.5 and 4.6 focus respectively on ages below and beyond 65.

Ages Younger than 65

Figure 4.5 focuses on three age groups below 65 years for white, black, and Hispanic populations in 2002. Because nursing home deaths account for less than 6 percent of deaths for each group at each age, they are not included in the chart. Note these similarities and variations among groups:

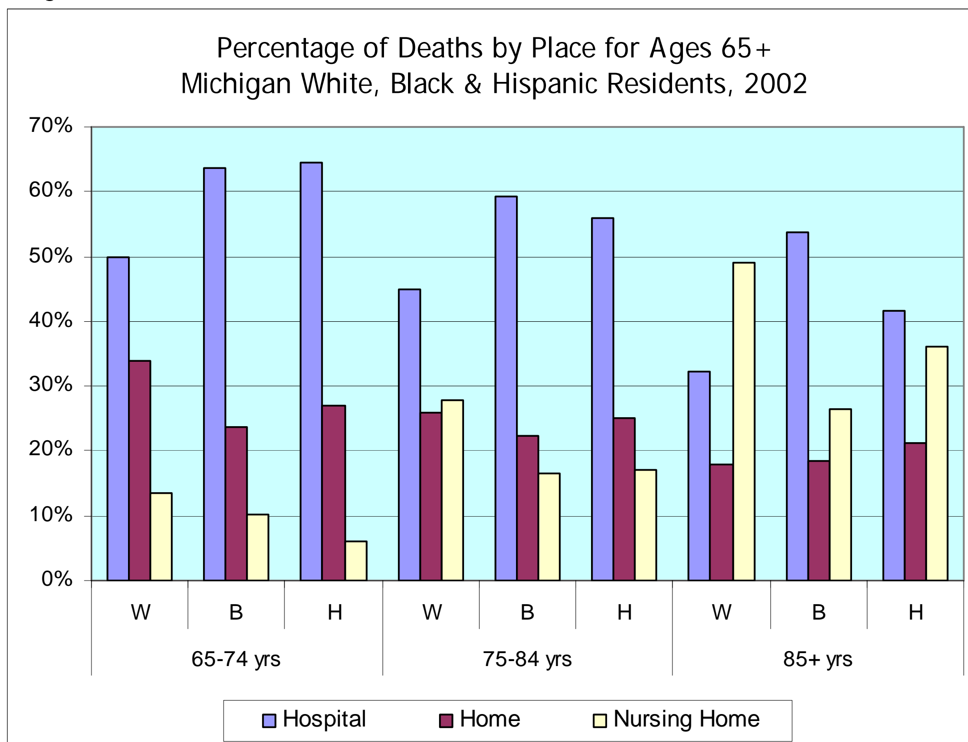
- The hospital is the number one place of death for all ages, but particularly for children under 15. For them, 77 percent to 86 percent of deaths occur in hospitals.
- The black population has the highest percentage of hospital deaths at every age.
- The white population has the highest proportion of home deaths at every age.
- The highest percentage of home deaths for all races occurs in the 35 to 64 year age range. In 2002 this group contains the baby boomers, who were aged 38 to 56 that year.
- Other places of death (not hospital, home, or nursing home) peak in the 15 to 34 year age group, which has a higher percentage of deaths due to traumatic causes. They may involve sudden death at the scene.
- The primary cause of death for whites and Hispanics in the 15 to 34 year age range is accidents, most commonly motor vehicle crashes. For blacks the primary cause is homicide.

Figure 4.5



Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health

Figure 4.6



Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health

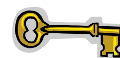
Ages 65 and Older
Figure 4.6 shows the percent distribution of deaths by place and race for persons aged 65 and over. Note these similarities and variations among groups:

- The hospital declines as a place of death with advancing age, but less so for blacks than for whites and Hispanics. The proportion of hospital deaths is 30 percent higher in blacks than in whites for ages 65 to 84, and 70 percent higher in blacks for ages 85 and beyond.

- With advancing age home declines as a place of death for all races and nursing home increases. Both of these changes are more prevalent in the white population.

- The percentage of nursing home deaths is highest in the white population for all age groups. In persons aged 85 and over, more whites die in nursing homes (49%) than in hospitals or at home.

- The white population has the highest proportion of home deaths for ages 65 to 84 and the lowest for ages 85 and over.



For ages 65 and over the hospital is the primary place of death.

Hospital and home deaths decline with advancing age while nursing home deaths increase.

Place of Death by Cause

Cause and Race

Six chronic diseases account for 70 percent of deaths in Michigan—heart disease, cancer, stroke, chronic lung disease, diabetes, and Alzheimer's disease. Figure 4.7 shows the percentage of deaths by place and race for each of these conditions in 2002.

Notable trends emerge across all causes and races. In most cases:

- Minority populations have the highest proportions of deaths in the hospital setting.The white population has the highest percentage of nursing home deaths.

- The hospital is the primary place of death by a wide margin for heart disease, stroke, diabetes and chronic lung disease. Cancer is the only leading cause for which home is the primary setting for death.

- Alzheimer's disease is the only condition for which the nursing home is the primary place of death. The nursing

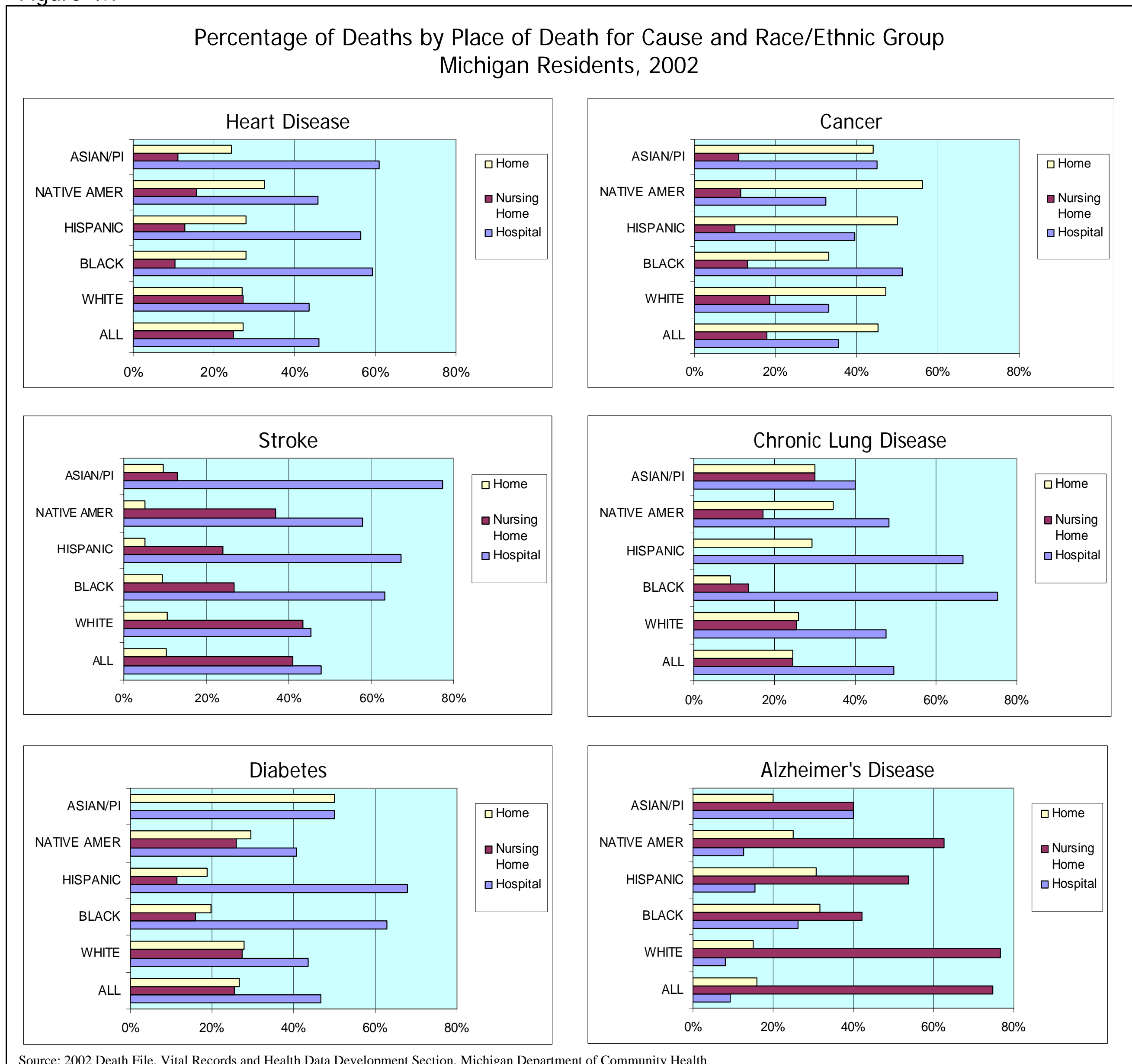
Statistics for Minority Groups

Values are included for Hispanics, Native Americans, and Asian/Pacific Islanders, for comparison only. In most cases the actual number of deaths for these groups for each cause for a single year is too small to support stable conclusions about the particular population.

home also registers as a strong number two setting for stroke deaths.

- The proportion of home deaths for heart disease shows minimal variation among races. All are at or close to the 27 percent share for the state.

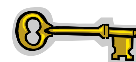
Figure 4.7



Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health

Figure 4.7 also reveals variations in place of death by race and cause.

- For most leading causes minority groups have a proportion of home deaths that is either greater than the white share or no more than five percentage points lower. Notable exceptions to this pattern lie in the black population.
- For blacks 50 percent more cancer deaths occur in the hospital (51 percent) than at home (33 percent). And for chronic lung disease, their 75 percent share of hospital deaths is almost six times greater than the 13 percent share at home.
- For the white population 77 percent of deaths due to Alzheimer's disease occur in nursing homes, five times more than the 15 percent that happen at home. This is a far wider gap between nursing home and home deaths than for any minority group.



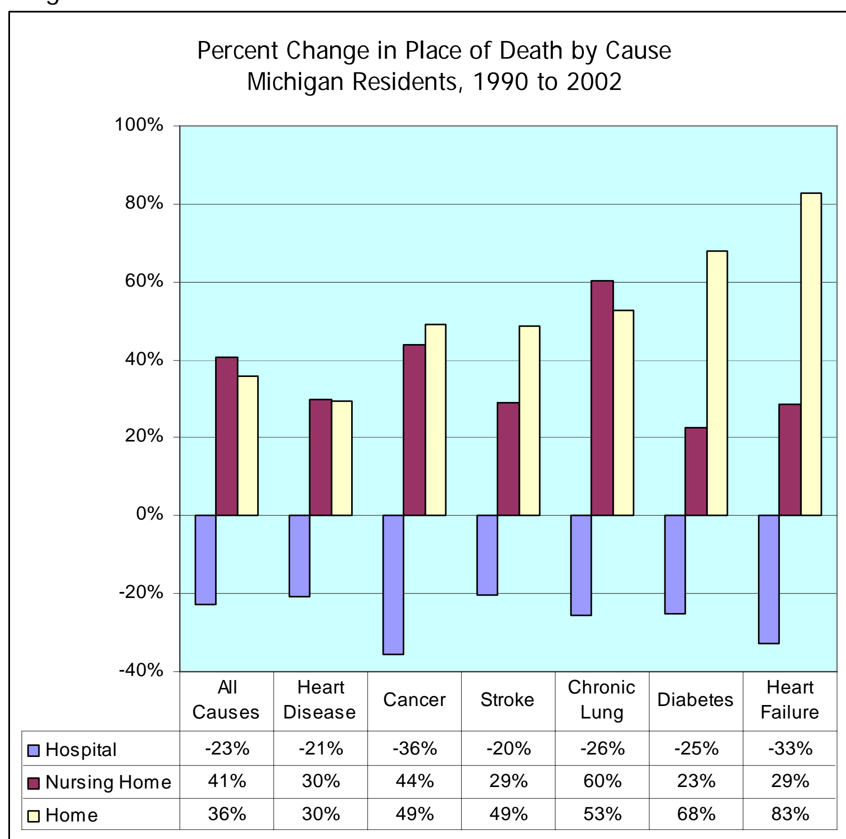
The hospital is the leading place for death by chronic disease. For all races and leading chronic causes, minority populations have the highest share of hospital deaths. The white population has the highest share of nursing home deaths.

Home is the primary setting for cancer deaths and nursing home is primary for deaths due to Alzheimer's disease.

Changes since 1990

The 2002 patterns for place of death by cause reflect marked changes over the past decade. Since 1990, hospital deaths have declined. For most of the leading causes, home deaths grew at a faster pace than did nursing home deaths. Figure 4.8 shows the magnitude of change.

Figure 4.8



	All Causes	Heart Disease	Cancer	Stroke	Chronic Lung	Diabetes	Heart Failure
Hospital	-23%	-21%	-36%	-20%	-26%	-25%	-33%
Nursing Home	41%	30%	44%	29%	60%	23%	29%
Home	36%	30%	49%	49%	53%	68%	83%

Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health.

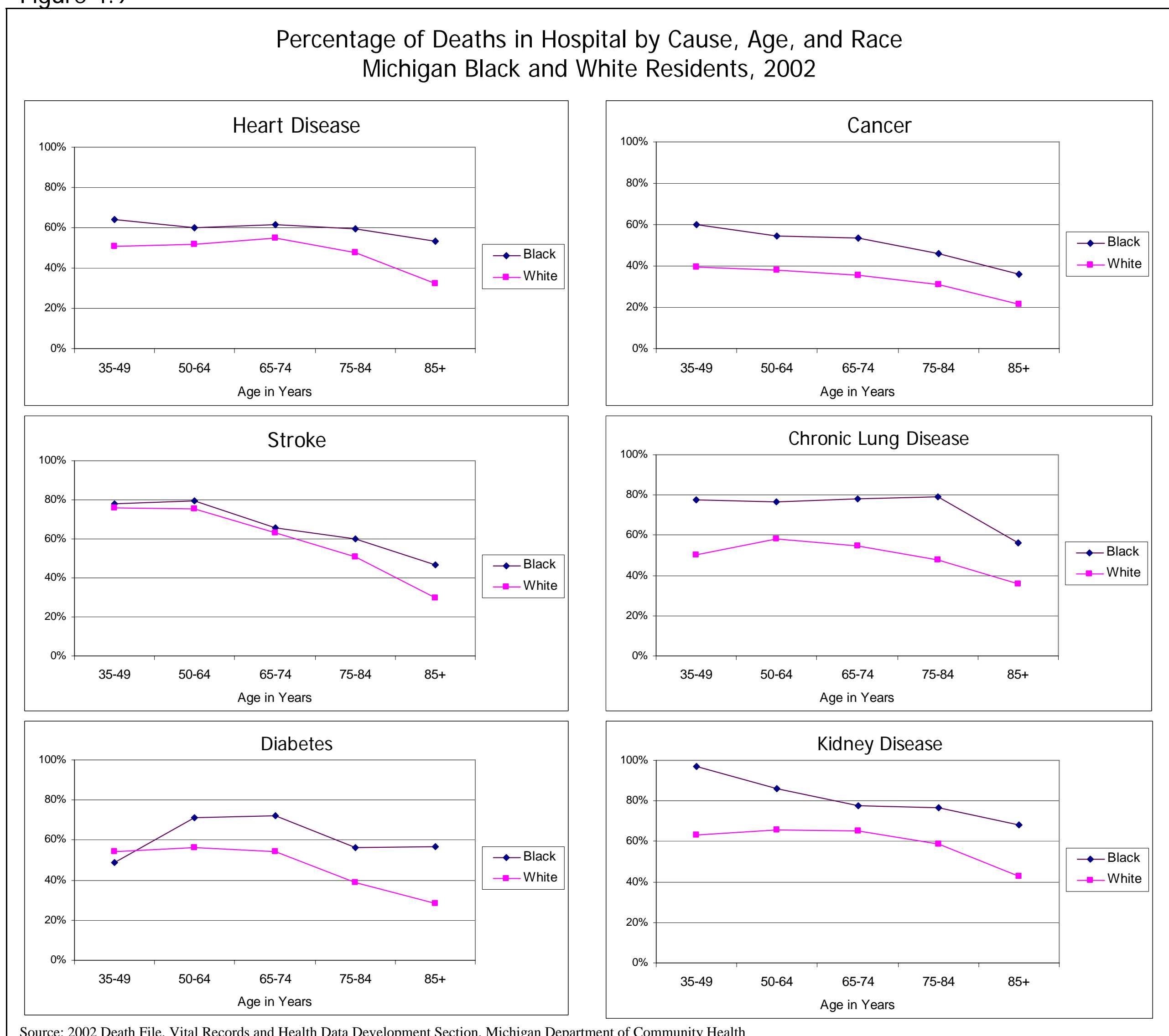
Cause, Race, Age Combined

So far the data show higher percentages of black deaths in hospitals for every age group and for six leading causes. Figure 4.9 shows that this pattern holds for race, age, and cause combined.

- More deaths occur in the hospital for blacks than for whites for each cause of death at every age from 35 on (with the exception of diabetes for ages 35 to 49). Differences most often range between 10 and 20 percentage points.

- A shared trend for both races is a higher percentage of hospital deaths at earlier ages and a gradual decline after age 65.

Figure 4.9

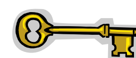


Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health

Trauma Deaths

Accidents, homicide, and suicide warrant examination separately from chronic causes of death. Combined they account for 5026 deaths for Michigan in 2002—5.7 percent of the total.

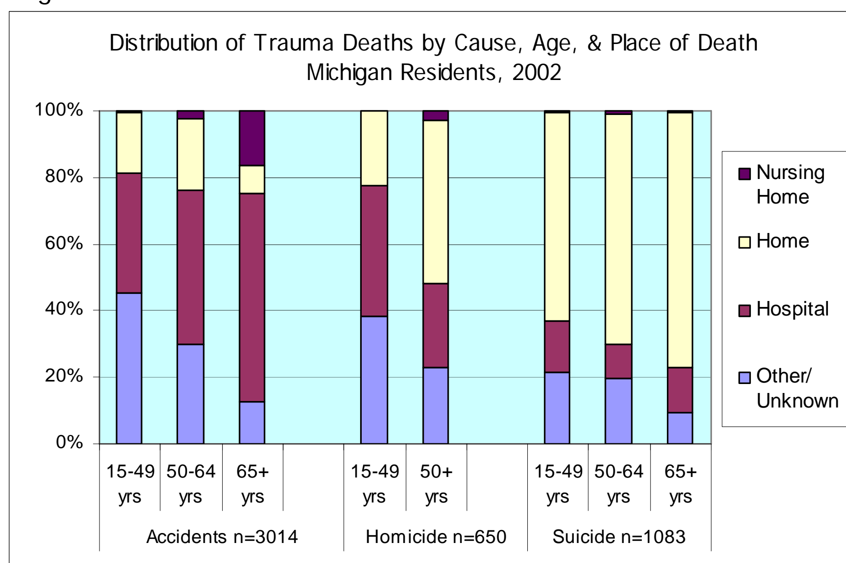
- While this volume ranks fourth among leading causes of death, the 148,213 years of potential life lost rank second only to cancer.
- Accidents, suicide, and homicide affect minorities disproportionately and young men in particular. Together they account for
  - 58 percent of deaths in persons aged 15 to 34; and
  - 38 percent of deaths for those aged 35 to 49.



Trauma deaths from accidents, homicide, and suicide disproportionately affect minorities and young men.

Each type of trauma presents a unique distribution of deaths by age and location. Figure 4.10 illustrates.

Figure 4.10



Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health.

Accidents

Deaths caused by accidents in 2002 occurred most often in the hospital or other location—presumably the scene of the event or somewhere between there and health care.

Age 15 to 49—Most deaths due to accidents (45percent) occurred in persons aged 15 to 49. Many were due to motor vehicle crashes. For this age group the largest proportion of accidental deaths (45 percent) happened in an “other” location. Among victims who were transported to the hospital, two thirds were dead on arrival or

pronounced dead in the emergency department. One third died as inpatients.

Age 65+—Persons aged 65 and beyond accounted for 34 percent of accidental deaths in 2002. For that group the primary place of death shifts to the hospital. For those taken to the hospital, 40 percent were dead on arrival or pronounced dead in the emergency department and 60 percent died as inpatients.

Homicide (Assault)

Homicides peak in the 15 to 49 age range; 83 percent of assault deaths occur in that group. Location of death due to homicide is commonly registered as other or unknown for about 40 percent of these young victims. Another 40 percent die in the hospital and 20 percent at home.

For assault victims aged 50 and beyond, the scenario shifts toward home as the primary place of death. Half of deaths happen there. The remaining half is evenly divided between the hospital and other or unknown locations.

Suicide

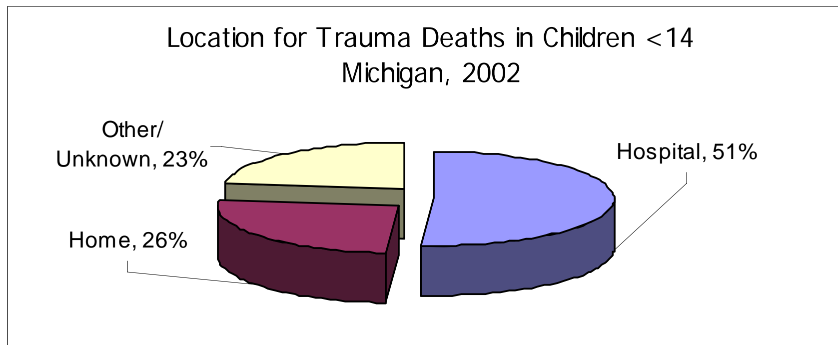
Suicides happen primarily at home—60 to 80 percent, depending upon the age group. About 20 percent occur in other or unknown locations through age 64. The proportion drops to 10 percent for those aged 65 and above. Fewer than 20 percent of suicide victims of any age survive to die in a hospital.

Trauma in Children

Accidents and homicides occur in children of all ages, while suicides were registered only in the 5 to 14 year age group in 2002. Statewide for children under 14 there were 279 trauma deaths—228 accidents, 39 homicides, and 12 suicides.

- Accidents are the leading cause of death for children aged 1 to 14 years. They account for 36 percent of deaths in that age group.
- As Figure 4.11 shows, half of trauma deaths for children under 14 occurred in the hospital. The other half was divided almost evenly between home and other locations.
- The majority of victims—70 percent—were transported to a hospital and pronounced dead there. Among that group, 77 percent were pronounced dead on arrival or died in the emergency department; 23 percent died as inpatients.

Figure 4.11



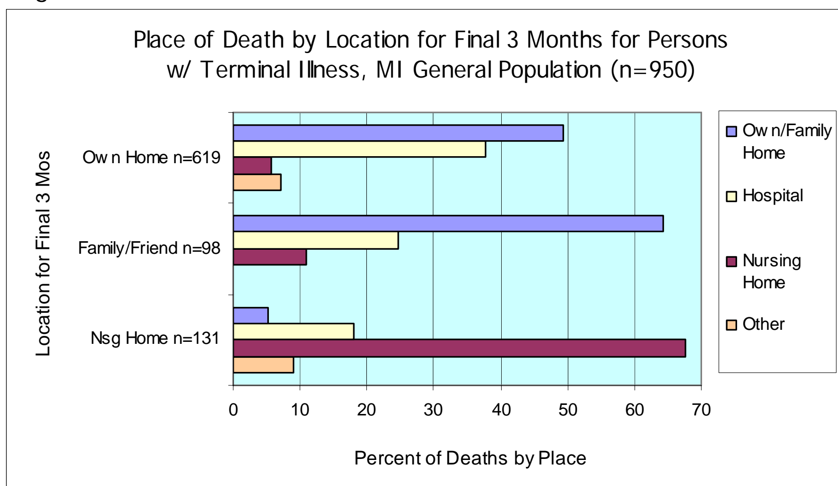
Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health.

Final Residence vs Place of Death

Data from the caregivers who responded to the Special Cancer Behavioral Risk Factor Survey in 2002 indicate that 89 percent of the terminally ill people they cared for spent their final three months in these locations:

- 65 percent in their own homes;
- 10 percent at relative's or friend's home; and
- 14 percent in a nursing home.

Figure 4.12



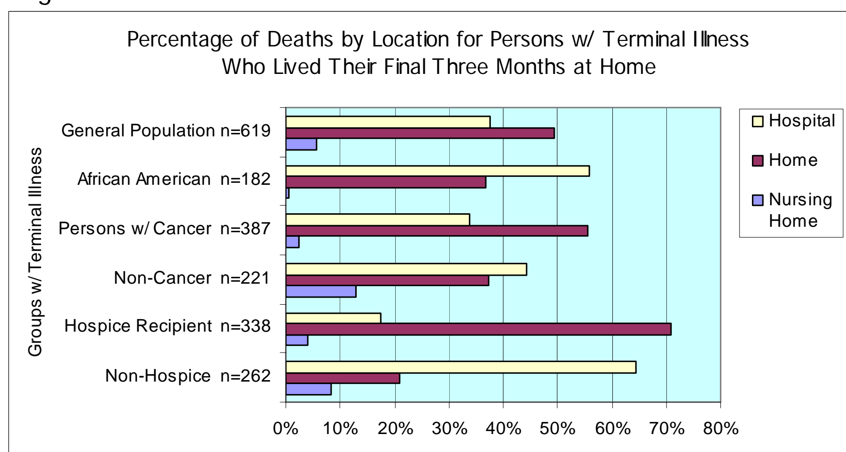
Source: Special Cancer Behavioral Risk Factor Survey, End of Life Section, 2002; Michigan Public Health Institute

Figure 4.12 shows that the people most likely to die where they lived for their final three months were nursing home residents. People who stayed in a private residence were most likely to remain there to die if they lived with a family member or friend. About half of those who resided in their own homes were able to

stay there to die. In all settings, people who were unable to die in place most commonly died in the hospital.

Figure 4.13 provides additional data for subgroups of the terminally ill people who lived their final three months in their own homes. (Except for cancer vs. non-cancer and hospice vs. non-hospice, these groups are not mutually exclusive. For instance, some persons with cancer were hospice recipients.)

Figure 4.13



Source: 2002 Special Cancer Behavioral Risk Factor Survey, End of Life Module, Michigan Public Health Institute

Note the impact of hospice:

- While 64 percent of people who did not have hospice support died in the hospital, only 17 percent of hospice recipients died there.
- While 71 percent of hospice recipients died in place, only 21 percent of people without hospice died at home.
- 77 percent of cancer patients received hospice care, and 56 percent of them were able to die at home.
- 31 percent of non-cancer patients received hospice care, and just 37 percent died at home.

Hospice: The Gold Standard

Hospice care helps the 75 percent of Americans who want to die at home do just that. It is palliative in nature—focused on alleviating suffering and promoting quality of life rather than on curing the underlying illness.

- Along with pain and symptom relief, the hospice team provides the emotional, spiritual, and practical support that people who are dying and their loved ones need to round out life with comfort and closure in the setting of their choice.
- Following the person's death, hospice sticks with the caregivers and family to provide grief support as needed during their first year of bereavement.
- The staunchest supporters of hospice are those who have experienced first hand what it can achieve (Jennings, Ryndes, D'Onofrio, & Baily, 2003).

Hospices first began serving people in the United States 30 years ago. Hospice care was approved as a Medicare benefit in 1982. Along with Medicare participation came these eligibility requirements:

- Two doctors must certify that the hospice recipient is likely to die within six months if the disease progresses along its usual course (the "six-month rule").
- The hospice recipient must acknowledge terminal illness and forego curative treatment for the condition.

Hospice serves people where they are—in a hospital, in a nursing home, or wherever they live. Most hospice care is provided in private homes, since that is where most people prefer to be.

Palliative Care

Palliative care as a discipline distinct from hospice is new on the medical scene. The National Consensus Project for Quality Palliative Care (2004) describes the goals of palliative care as preventing and relieving suffering and supporting the best quality of life for patients and their families, regardless of the stage of the disease or the need for other therapies. Like hospice care, palliative care is patient- and family-centered and provided by a team that aims to manage symptoms, help with end of life planning and decision-making, coordinate care, and provide psychosocial and spiritual support.

There are not as yet any federal regulations for palliative care, so programs differ in the composition of the team and in the combination of services that they offer. While palliative care programs are not limited to serving patients at the end of life, many of them do primarily work with persons who are dying.

Most palliative care programs in Michigan are housed in larger hospitals and serve inpatients there, although a small number are based in nursing homes or in the community doing home visits.

The Geography of End of Life

Despite higher proportions of residents aged 65 and over in northern Michigan and Upper Peninsula counties, deaths are concentrated in the southern part of the state where the population is most dense.

In Figure 4.14, the shaded counties in the southern portion of the Lower Peninsula accounted for 90 percent of decedents in 2002. The other 10 percent were residents of the northern regions of Michigan. Table 4.1 shows the number and percentage of deaths for each area of the state.

Figure 4.14 Distribution of Deaths by Region

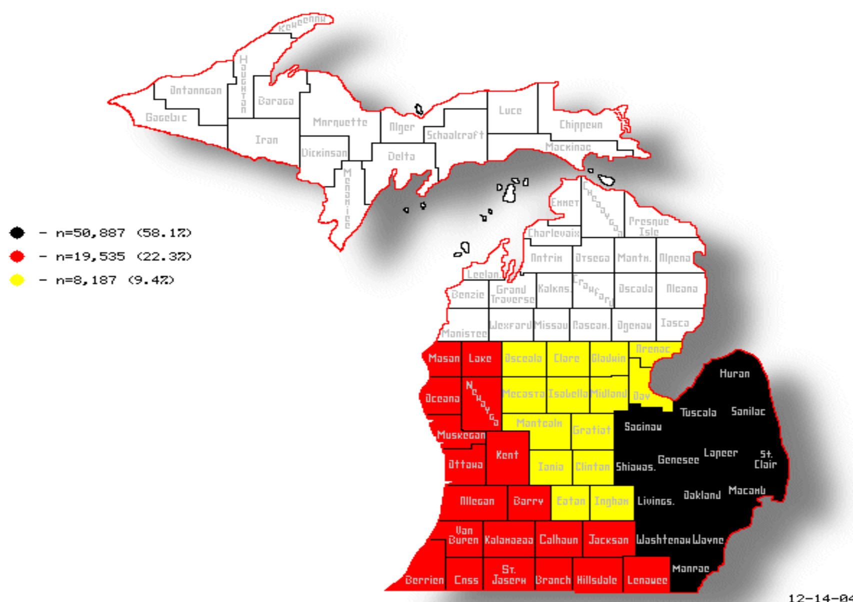


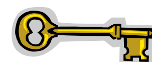
Table 4.1. Distribution of Deaths by Region, 2002		
Area of Map	*Number of Deaths*	*Percentage of Total Deaths*
Black (Southeastern & Thumb)	50,899	58.1
Dark Gray (Southern and Western)	19,535	22.3
Light Gray (Central)	8,187	9.4
White (UP and Northern Lower)	8,913	10.2

Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health.

Of the almost 51,000 deaths in the thumb and southeastern regions of Michigan in 2002, 72 percent occurred in residents of Wayne, Oakland, and Macomb counties. This represents 42 percent of the statewide total. Wayne County alone accounts for 23 percent of Michigan deaths.

In other parts of the state, decedents were divided about equally between the southern and western areas of the Lower Peninsula. (The lower two tiers of counties in that area are southern and the rest western.) In northern regions, 6 percent of decedents were

residents of northern lower Michigan (3 percent northeast and 3 percent northwest) and 4 percent lived in the Upper Peninsula.



The hospital is the leading place of death in 2002 for 75 percent of Michigan counties.

Many of the counties with high numbers of deaths are also the counties with high proportions of hospital deaths.

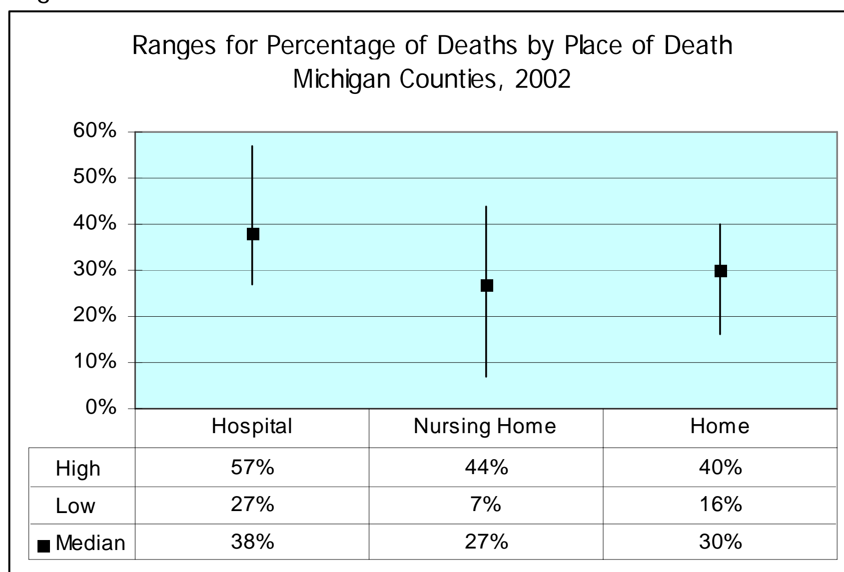
Variation in Place of Death by County

The distribution of deaths among hospital, nursing home, and home locations varies widely among counties in Michigan. Some of the contributing factors may be regional differences in:

- Population demographics and diversity;
- Access to services;
- Physician practice patterns;
- Consumer values and preferences;
- Education and awareness of consumers and physicians;
- Availability of family and community support; and
- Leading causes of death.

Figure 4.15 illustrates the ranges for percentage of deaths in hospital, nursing home, and home settings across the state.

Figure 4.15



	Hospital	Nursing Home	Home
High	57%	44%	40%
Low	27%	7%	16%
■ Median	38%	27%	30%

Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health.

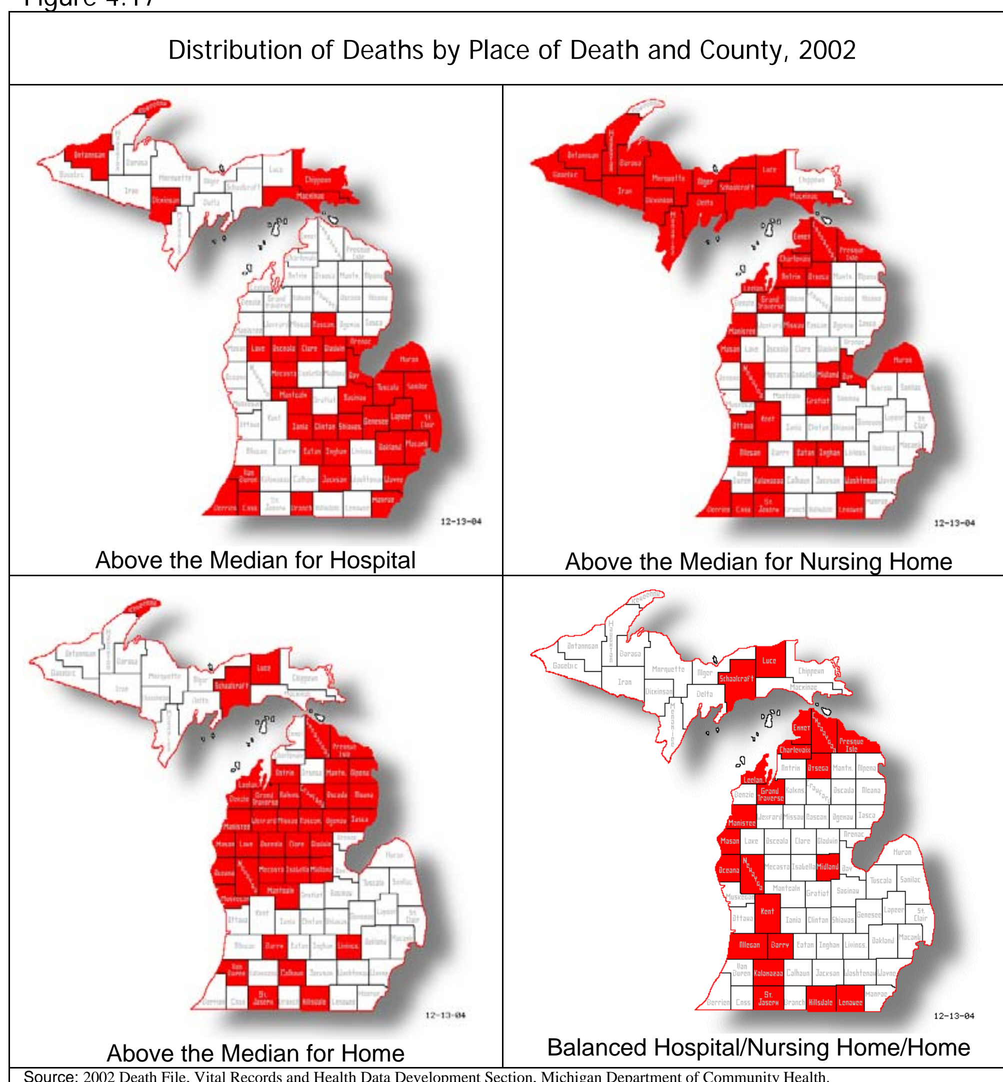
For each of the three places of death in Figure 4.15, the highest percentage in the range is more than double the value of the lowest. For nursing home, the difference is more than six fold.

The hospital is the leading place of death in 2002 for 62 of the 83 counties in Michigan (75 percent). This is true even in some counties for which the proportion of nursing home or home deaths or both rank above the median. The maps in Figure 4.17 show the

counties that are above the median percentage of deaths for hospital, for nursing home, and for home settings..

Note that the highest proportions of hospital deaths occur mainly in the southern half of the state and particularly in southeastern Michigan. The counties with the highest proportions of nursing home deaths are clustered in the Upper Peninsula, at the tip of the mitt, and along the western shore. And counties with the highest percentages of deaths in home settings are concentrated in the northern half of the Lower Peninsula. Many of the counties with high proportions of nursing home and home deaths are the same ones that have high percentages of elderly residents.

Figure 4.17

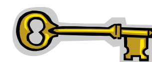


Distribution of Deaths by Place of Death and County, 2002

Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health.

The 21 counties highlighted on the map titled *Balanced Hospital/Nursing Home/Home* are those with a fairly equal

distribution of deaths across all three settings. They each have a share of hospital deaths below the median of 38 percent and values for hospital, nursing home and home deaths that are within 8 percentage points of each other. These counties constitute one quarter of Michigan's 83 counties and are located mainly at the tip of the mitt and along the western shore of the Lower Peninsula.



Distribution of deaths by location varies widely among Michigan counties. There are strong regional differences.

Most counties in southeastern Michigan fall below the median for both home and nursing home deaths. Part of the reason for this is their very high proportions of deaths in hospital settings. Wayne County leads the state, and the others rank in the top quartile of hospital deaths. (See Table 4.1 for percentages.) These 11 counties account for 54 percent of Michigan deaths in 2002:

Table 4.1

Counties with Highest Percentage of Deaths in Hospitals
Michigan 2002

Rank	*County*	*% of Deaths in Hospitals*	*Total No. of Deaths*
1	Wayne	57%	19,984
3	Macomb	53%	7,448
4	Oakland	50%	9,109
5	St Clair	49%	1,504
6	Saginaw	48%	2,026
7	Genesee	48%	4,101
9	Shiawassee	47%	639
12	Lapeer	45%	628
14	Sanilac	44%	469
17	Tuscola	43%	555
18	Monroe	42%	1,212
		Total	47,675

Source: 2002 Death File, Vital Records and Health Data Development Section, Michigan Department of Community Health.

Variation in End of Life Care by Region

Michigan's experience with location of death in 2002 mirrors findings of an extensive 1997 study of medical care in the state. Commissioned by Blue Cross Blue Shield of Michigan, the project was directed by John Wennberg MD MPH and his associates at the Dartmouth Medical School Center for the Evaluative Clinical Sciences. Findings were released in 2000 as the *Dartmouth Atlas of Health Care in Michigan* and are available online at http://www.bcbsm.org/atlas.

The Atlas study includes an examination of care for Medicare recipients at the end of life. Using Medicare claims from 1995-1996 for each hospital service area in Michigan, researchers examined several measures of the intensity of service in the last six

months of life. The indicators include:

- Rates of primary care, specialty, and total physician visits;
- Percent of Medicare decedents seeing 10+ specialists;
- Percent of Medicare decedents admitted to intensive care;
- Percent of Medicare deaths that occurred in hospitals.

To ensure fair comparisons among regions, all rates were adjusted to remove variations that might be caused by different age, gender, and race compositions of local populations.

- Overall, the study findings demonstrate that the intensity of end of life care varies considerably among communities in Michigan.

- For each indicator studied, the highest rate is two or three times the value of the lowest rate:

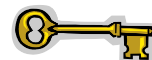
All health care services show different degrees of variation. Where diagnosis is clear-cut and treatment options are limited, less variation is typical. More is likely when there are many options or greater uncertainty about when to begin or end treatment. Evidence from years of study across America demonstrates that most differences in care are caused less by patient preference and more by the capacity of the local health care system and the practice habits of local physicians.

- For most medical conditions, hospital admissions are more likely when the supply of hospital beds is large.

- The Atlas study results suggest that in Michigan, as in the rest of the county, the likelihood of a hospital death is closely linked to the area of the state where we live.

The Atlas list of Michigan regions with the highest percentages of hospital deaths overlaps considerably with the Figure 4.17 map of counties that ranked above the median for hospital deaths in 2002.

- The southeastern counties consistently score high proportions of hospital deaths in both Medicare claims data and in state death files. In the Atlas study, residents of these same regions also had higher rates of intensive care admissions and of primary, specialty, and total physician visits in the last six months of life.



For most medical events, death included, hospital admissions are more likely when the supply of hospital beds is large.

In Michigan the likelihood of a hospital death is closely linked to the region of the state where we live.

- In contrast, hospital service areas and counties in western and northern Michigan had lower percentages of hospital deaths and lower rates of intensive care and physician visits. According to Michigan 2002 death certificates, they also had higher proportions of home and nursing home deaths.

The Atlas study found no evidence that more intervention results in better outcomes or that less intervention yields worse outcomes.

Where end of life is concerned, most chronic conditions feature a pattern of long slow decline with no clear turning point between treatable and terminal status. As a result physicians may be disinclined to talk about adjusting treatment goals from curing to caring and patients may be reluctant to consider such a change.

- According to the Dartmouth research team, higher intensity of care in the last six months of life reflects a greater tendency to use life saving technology.

- So higher proportions of hospital deaths may be linked with a greater likelihood for the aggressive interventions that 70 percent of Americans say they don't want at the end of life.

Implications for Policy and Programs

The hospital is the primary setting for death statewide for most ages, races, and causes of death. This fact stands in stark contrast to people's polled preferences for a peaceful death in familiar surroundings. This incongruity points to two priorities for action:

1. To ensure people a good death in their preferred settings.
2. Short of this, to ensure people a good death wherever it occurs.

Good Death in Preferred Setting

There are a number of reasons why people with who want to stay home to die do not. These are just a few:

- They do not realize that they have a choice.
- They do not state their wishes in advance or make a plan to support those wishes.
- They are used to acute episodes and hospital stays, and they also are used to coming home again.

- They do not know they are close enough to death to need a plan or to activate one.
- They try to stay home but they have no caregivers or their caregivers become overwhelmed.
- They try to stay home but their symptoms grow intense and they and their caregivers are afraid or unable to manage at home.

Hospice helps people stay home to die and provides the comprehensive, person-centered support that they and their caregivers need to ensure a manageable, comfortable ending. But despite our best efforts to educate people about advance care planning and the benefits of hospice care, most do not get hospice. Those who do tend to enroll very late in their decline.

These are strategies that would help to ensure Michigan residents a good death in their preferred setting:

Target high risk people for advance care planning

Practical research shows that when people with advanced illness are offered the opportunity for an open, caring dialogue well before death is imminent, they jump at the chance to talk about their disease and what lies ahead. Once they understand that they have a choice, the majority choose home with several weeks of hospice support when the time comes. And most die that way (Della Penna, 2000; Pattison, 2000; Ratner, Norland, & McSteen, 2001).

The approach to advance care planning in Michigan should be sharpened to focus on early, informed decision-making and planning for people with advanced illness and their caregivers. Interventions should target people with late stage chronic disease and occur in clinical and home settings.

Ensure quality care at home

It would be prudent to ensure that home deaths are good deaths. Quality of care varies in the hospice industry, and some hospice providers complained that there is very little state oversight of hospices. The perception is that hospice surveys are performed randomly and in response to complaints and new applications. In a recently released report, state auditors reported that a review done in 2003 found that only 38 of 125 hospices had been surveyed in the prior four years (Detroit Free Press, 2005). One hospice contact noted that without survey oversight, hospices have no external accountability for quality of care and business practices.

Home health care agencies also care for persons at the end of life. Many work with an affiliated hospice and some offer combined hospice and home care services, but others have no such link. Some have model palliative care programs that could serve as models for other agencies to adapt.

MDCH teams who survey home health and hospice agencies are positioned to monitor their practices in end of life care. A first step would be to assess how they currently address end of life in their survey process.

Good Death Wherever It Happens

If people do not die at home, chances are they die in an institutional setting. Credible studies and input from stakeholders provide evidence that death is not always good in the hospital or in nursing homes. So another piece of the approach in Michigan should be to ensure access to palliative care services or hospice in those settings. As one hospice director put it:

> *The central issue at the end of life needs to be a good death. This is bigger than access to hospice care, because patients who don't choose hospice still deserve a good death. Palliative care will help with this; it complements hospice care. Basic requirements for a good death include informed choice and effective pain and symptom management.*

Ensure access to inpatient palliative care

More deaths happen in hospitals—for every leading cause at almost every age—for African Americans than for other racial/ethnic groups. These some of the factors that may contribute to this reality:

- Half of deaths among Blacks happen before age 65, when treatment is likely to be more aggressive based upon age alone.
- Black populations are concentrated in urban areas where hospital admissions are more common at the end of life.
- African Americans are more often impoverished and lack access to primary care. They may enter the health care system at later stages of disease that require more complicated treatment.

- Deaths due to trauma often occur in hospitals and disproportionately affect the black population

- African Americans may have cultural preferences that lead them to seek full treatment even with small odds of success.

The MDCH should take steps to expand access to palliative care and grief support services in inpatient settings and to assess the availability and scope of grief support services in culturally diverse communities.

Ensure access to palliative care in nursing homes
People in nursing homes now need access to hospice and palliative care, and the need will increase as the aged population expands. The most rapidly growing segment is the 85+ group, and their primary place of death is the nursing home. They are among the most vulnerable persons at the end of life. Most have multiple diseases and functional losses, and half have some degree of dementia. Nursing facilities face steep regulatory and staffing challenges that can hamper end of life care.

The MDCH should accelerate actions to increase access to hospice or other palliative care in nursing homes.

Assess access to grief support
The hospice vision of a good death includes safe, comfortable dying, self-determined life closure, and effective grieving. At a minimum people who die in facilities should be ensured effective symptom management for a safe, comfortable death. Ideally there also should be a process for providing or linking family members with quality grief support services. This is true for deaths across units of the health system and across the age spectrum—from miscarried pregnancies and infant deaths to deaths in emergency departments and critical care units to deaths in nursing homes.

It would be a useful first step to assess what happens now in hospitals and nursing homes and build from that to ensure access to effective grief support for bereaved family members.

Regional Action
The strong regional differences in place of death support the contention that needs and strategies for improving end of life care may vary across the state. If resources allow, partners should be mobilized to facilitate regional action as well as statewide interventions.

Key Points

Despite wishes otherwise, 70 percent of Michigan residents die in institutions—hospitals and nursing homes. The proportion rises to 80 percent for those aged 85 and above.

The hospital remains the primary setting for death statewide for most ages, races, and causes of death. In 2002 the hospital was the primary place of death for residents in 75 percent of Michigan counties.

The percentage of people who die at home or in nursing homes has grown by 40 percent in the past decade. The nursing home is the primary place of death for our most vulnerable residents. Half of people aged 85 and over die in that setting. The majority (75 percent) of Alzheimer's deaths happen in nursing homes.

Minority populations end their lives more often in hospitals. This is especially true for African Americans—for every leading cause of death at almost every age.

Home ranks as the number two place of death for all races. Compared to the white population, minority groups have a comparable or greater share of home deaths for most leading causes.

Deaths due to trauma (accidents, homicide, and suicide) disproportionately affect minority populations. Their unique needs for support should be addressed.

There are strong regional differences in place of death in the state. The proportion of hospital deaths in Michigan counties ranged from 27 percent to 57 percent in 2002. The locations with the highest share of hospital deaths also had higher rates of intensive care admissions during the final six months of life.

It is important to ensure people a good death wherever it occurs. Hospice helps people stay home to die, but access is limited and late. People with advanced illness respond positively to advance care planning offered well before death is imminent. Most choose to stay home with hospice support. Michigan should implement strategies for early, informed decision-making in both clinical and home settings and target people with late stage chronic disease and their caregivers.

Michigan should implement strategies to ensure that health care services in hospital, nursing home, and home settings provide palliative symptom management for dying persons and effective grief support for their survivors. Hospitals should be a priority since most deaths happen there. Nursing homes should be a priority because the fastest growing and most vulnerable group of older adults (aged 85+) dies there.