

OREGON PUBLIC HEALTH DIVISION • DEPARTMENT OF HUMAN SERVICES

INJURIES AREN'T "ACCIDENTS": PUBLIC HEALTH'S APPROACH TO INJURY CONTROL

"The doctor of the future will give no medicine but will interest his patients in the care of the human frame, in diet and in the cause and prevention of disease."

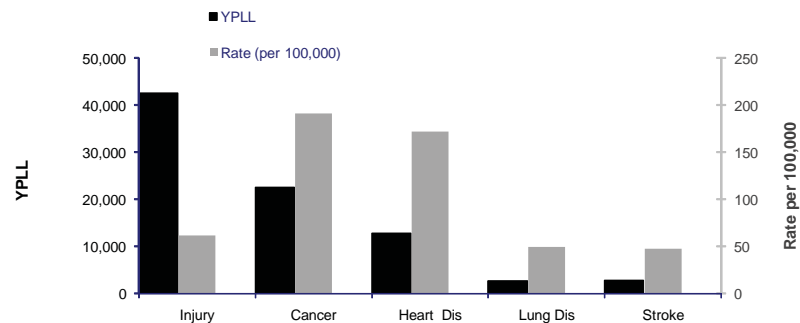
Thomas Edison (1847 – 1931)

Injuries have been a leading cause of death and disability throughout history, but are not often seen as a problem that affects the health of populations. We tend to collectively think of injuries as random misfortunes that have befallen individuals. It is common to consider the events that lead up to an injury as "accidental". This implies that injuries are unpredictable and hence, not preventable. This view is slowly changing as we gain information from injury research that the events that lead up to adverse outcomes are often rooted in societal-level or environmental conditions. Policies and practices that alter environments or collective behavior can have an impact on how frequently adverse events occur in a population. This is the crux of the public health approach to injury prevention: not only do individuals need to change their behaviors, but changes need to occur within communities, institutions, and policies to facilitate this individual behavior change. These environmental changes support conditions that are needed for clinical guidance to bear fruit. This synergy has never been more important as health care planning and reform move forward.

BURDEN

Injury (including both unintentional and violent injuries) is the third leading cause of death in Oregon, behind only cancer and heart disease; in 2007, more than 2,400 Oregonians died from injuries. Injury deaths disproportionately affect younger people: injury is the leading cause of death for persons one to 44 years of age and therefore, is the leading cause of years of potential life lost in our state (figure 1).

Figure 1. Years of potential life lost (YPLL) and crude mortality rates due to leading causes of death, 2007



Injuries are costly as well — in 2007, hospitalization charges for unintentional injuries alone exceeded \$348 million (not including patients seen and discharged from emergency departments). Nor does this include the costs for lost productivity and life-long disabilities associated with injury.

The top causes of injury in Oregon include suicide, motor vehicle crashes, falls, and unintentional poisoning. Among these, suicide is the most prevalent, with 15.5 deaths per 100,000 in 2007. Figure 2 (*verso*) shows trends in injury deaths over the past 20 years. Unintentional poisoning has increased more than any other injury, largely driven by an increase in overdose deaths associated with prescription drugs. While suicides and motor vehicle traffic deaths remain at the top, suicides have flat-lined in incidence, and over the long term, motor vehicle traffic deaths are declining. Falls and poisoning deaths continue to increase.

Injuries can also be classified by the type of damage inflicted. This often paints a very different picture of the injury burden. One example is traumatic brain injury, which is a leading cause of injury death and disability. Between 1999 and 2007, more than 4,500 deaths were associated with traumatic brain injury. Out of more than 18,000 injury hospitalizations that occurred in Oregon in 2007, more than 3,000 (17%) were associated with a diagnosis of traumatic brain injury.

These were injuries that resulted from motor vehicle crashes, firearms, falls, and other mechanisms that caused any jolt, blow, or penetration disrupting the function of the brain. The cost of hospitalizations associated with traumatic brain injuries was greater than \$145 million in 2007. Traumatic brain injuries can lead to lifelong need for help in performing activities of daily living, costing communities long after discharge from the hospital.

PREVENTION

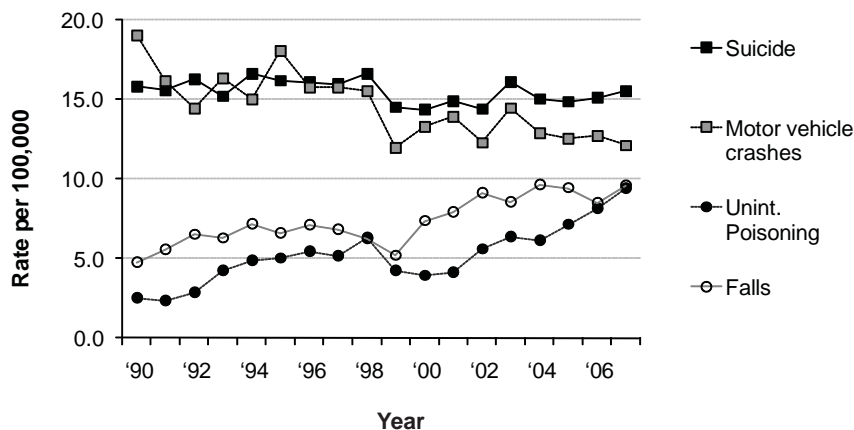
There is an increasing recognition that injuries are preventable and efforts to reduce death and disability are increasing. Most Oregonians are familiar with safety slogans calling for action such as "Stop, look, and listen", "Click it or ticket", "It's better to lose the friendship than the friend", and the iconic "Friends don't let friends drive drunk". These and a myriad of other targeted safety efforts have one thing in common — they put the burden to reduce injuries entirely on individuals. Public health approaches can broaden prevention efforts with complementary actions aimed at creating the conditions that make communities safer for individuals. Much of the "broader" work requires efforts to change public policy, monitor death and disability through surveillance and data analysis, apply available evidence-based practice where it will make the most difference, and partner



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Figure 2. Age-adjusted mortality rate of select causes of injury, Oregon, 1990–2007



with others to focus limited resources on community level efforts where they are most needed.

Examples of successful population-level prevention efforts are many. Motor vehicle crash injury as an issue was the first to apply a broad range of strategies to address the problem. Oregon is one of the top three states in the nation for seat belt use. This policy effort, coupled with speed limits, child safety and booster seats, safety seat distribution and fitting in communities, and improvements in environmental and vehicle design have resulted in motor vehicle death rates that have continued to decline.

Public health principles and the public health approach to injury prevention must play a role in health planning and health reform if we ever hope to make life safer and healthier for all Oregonians. How can we apply public health principles to guide some of the target setting and planning in healthcare reform to reduce injuries?

An important example is the consequences and injuries that occur among seniors due to falls. Fall deaths are increasing, and among seniors who fall and are hospitalized for a hip fracture, some 60% are discharged to long term care — more than 3,200 per year — and many never return home. For many, this results in early entry into long term care — a system that is overwhelmed as the “gray tsunami” approaches. We also know that long term care is the most expensive care option to the state and individuals and takes from seniors what they may value the most — their independence. Research has shown that community-based physical activity is the single most important intervention to reduce senior falls.¹ Unfortunately, community-level evidence-based practices that can prevent falls are not covered by Medicare or other insurance.

What is our role in guiding a health policy that will actually reduce the need for care for this kind of trauma? First and foremost leadership is need-

ed to advance the efforts to include community-based exercise for an aging population. A multiple health outcome focus can build the necessary critical mass needed to assure that community-based exercise is a vital part of planning and funding of community health. We also have a role to play in piloting projects that bring communities experience and technical assistance needed to carry out their role in community health.

Fall prevention is but one example. From falls, to motor vehicle crashes, traumatic brain injuries and many other outcomes, injuries present a formidable health challenge. But effective community-level approaches to preventing injury can contribute to the health of Oregonians. We can promote a community health plan and accompanying interventions that create the conditions needed for people to live safely. Public health approaches can help frame injury priorities, inform policies, and work to change outcomes at the community level. An effective approach to reducing the burden of injuries in Oregon must take account of both public health and clinical approaches.

RESOURCES

For more information see: www.oregon.gov/DHS/ph/ipel/index.shtml

REFERENCES

1. Gillespie LD, Robertson MC, Gillespie WJ, Lamb SE, Gates S, Cumming RG, Rowe BH. Interventions for preventing falls in older people living in the community. Cochrane Database Syst Rev 2009, Apr 15;(2):CD007146.
2. CDC, National Center for Injury Prevention and Control, see www.cdc.gov/injury/index.html. (Accessed: 21 July 2010.)