

# **Firearm Related Injury & Violence Prevention**

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**10th Semi-Annual Trauma Symposium**

**Temple, April 26, 2000**

# Goals

- ✘ Epidemiological basis to understanding violence prevention and firearm safety.
- ✘ Types of violence, firearm ownership rates & firearm storage practices.
- ✘ The public health approach to violence prevention and gun safety.

# Gallup Poll

- ⌘ How many of us have at least one firearm in our households?
- ⌘ How many of us have heard about and/or seen a gun lock before?
- ⌘ How many of us always lock our firearms unloaded?

## Gallup Poll (contd.)

- ⌘ How many of us are willing to tolerate a person who introduces cholera germs in the city water, educates everyone to boil their water before drinking it, and then blames anyone who contracts *cholera*?

## Gallup Poll (contd.)

- ⌘ How many of us are willing to tolerate a person who creates a *product or an environment* which is likely to cause an injury, warns users to be careful, and then blames any user when a *mishap* happen with the product?

## Gallup Poll (contd.)

- ✧ What do firearms, automobiles, toys, and pens have in common?
- ✧ How many of us always use our seatbelt when we ride in a car?
- ✧ How many of us tell our kids to always wear a bike helmet?

# Did You Know?

- ✘ Between 15-50% of US households keep at least one gun in the home?
- ✘ A gun kept in the home is used to kill a family member 67% of the time compared to being used to kill a stranger 33% of the time?

# Definition of Epidemiology

- ✧ **Classic**: Study of the distribution and determinants of disease frequency in human population.
- ✧ **Last's**: Study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control the health problems.

# Elements of Epidemiology

- ⌘ ***Distribution*** of the problem.
- ⌘ ***Frequency*** of the problem.
- ⌘ ***Determinants*** of the problem.
- ⌘ ***Control*** measures for problem.

# Distribution of a (Public) Health Problem

- ⌘ **Who** is affected by the problem?
- ⌘ **Where** does problem occur?
- ⌘ **What** is the nature of the problem?
- ⌘ **Why** does the problem occur?
- ⌘ **When** does the problem occur?
- ⌘ **How** can we prevent the problem?

# Frequency of a Problem

- ✘ ***Incidence*** or number of new cases of the problem.
- ✘ ***Prevalence*** or number of existing cases of the problem.

# Determinants of a Problem

- ⌘ ***Risk*** factors.
- ⌘ ***Contributory*** factors.
- ⌘ ***Course*** of the problem.
- ⌘ ***Prognosis*** of the problem.

# Control of a Problem

## ⌘ *Prevention*

- Primary prevention
- Secondary prevention
- Tertiary prevention

## ⌘ *Acute care*

## ⌘ *Rehabilitation*

## ⌘ *Promotion*

# Violence

- ⌘ Threatened or actual use of physical force against a person or a group of persons that is likely to result in or actually results in injury or death.

# Types of Violence

- ✘ Homicides, suicides
- ✘ Domestic violence, child abuse, elder abuse, rape
- ✘ Arson, robbery
- ✘ Wars, landmines
- ✘ Culture-motivated violence

# Levels of Violence

- ✘ Personal or self-inflicted
  - Suicide, para-suicide
- ✘ Interpersonal
  - Homicide, assault
- ✘ Group violence
  - Political violence, gang violence

# Weapons of Violence

## ✘ Firearms & storage practices

- Handguns (*including* pistols, revolvers)
- Shotguns
- Rifles

## ✘ Instruments

- Cutting, piercing
- “Baseball bat”

## ✘ Other, e.g. fist

# Defining Characteristics of Violence

- ✘ ***Motive*** (e.g. robbery, retaliation)
- ✘ ***Enabling*** factors (e.g. TV, laws)
- ✘ ***Precipitating*** factors (e.g. alcohol, drugs)
- ✘ ***Mechanism***/weapon (e.g. fist, gun)
- ✘ ***Assailant*** typology (e.g. age, gender)
- ✘ ***Victim*** typology (e.g. age, gender)

# Data Sources - Violence Studies

## ☒ National

- National Crime Victimization Survey
- Uniform Crime Reports

## ☒ Regional/statewide

- Hospital Discharge Data
- Behavioral Risk Factor Surveillance System

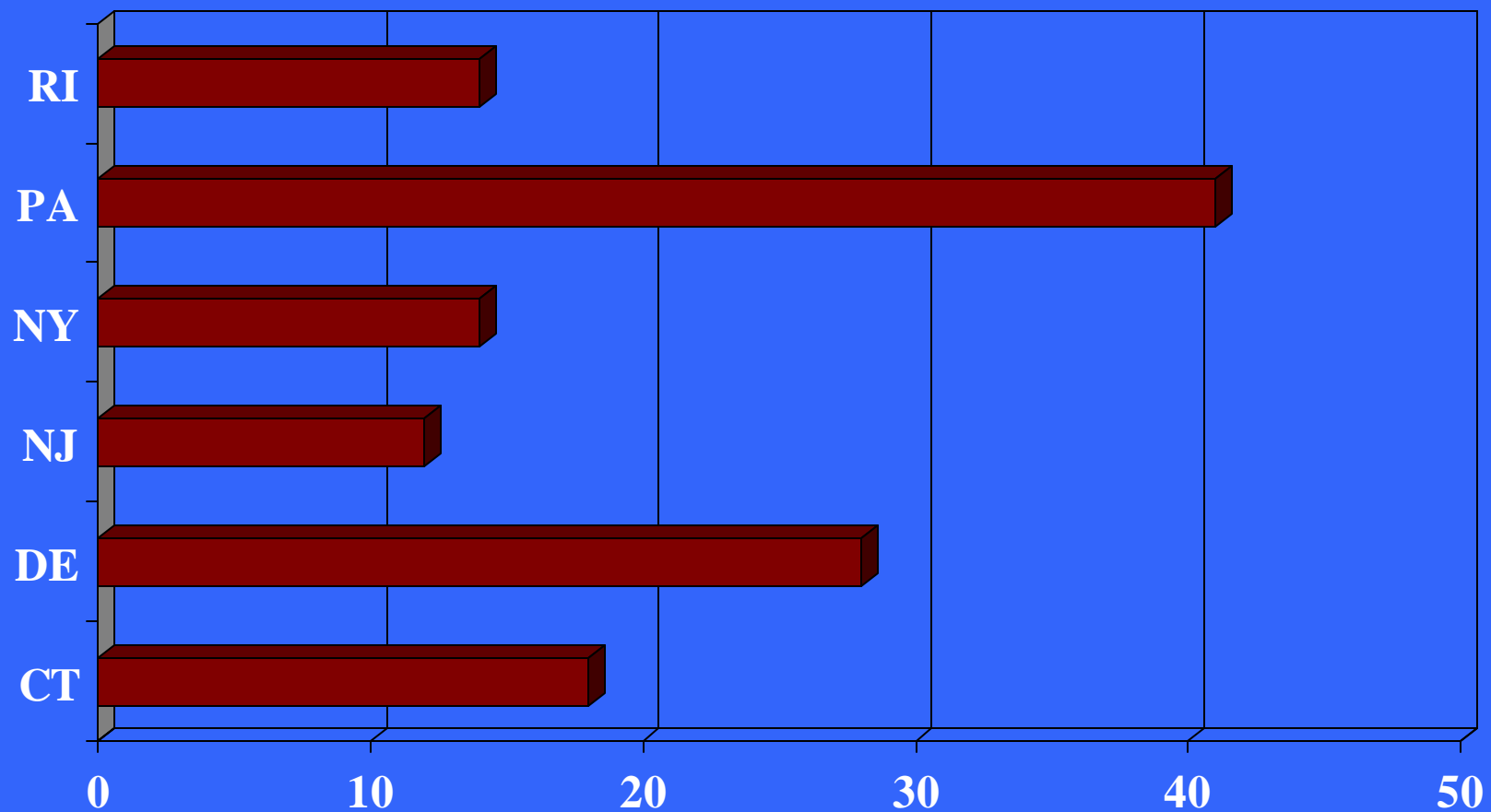
## ☒ Special Reports

- Child abuse reports
- 911 calls



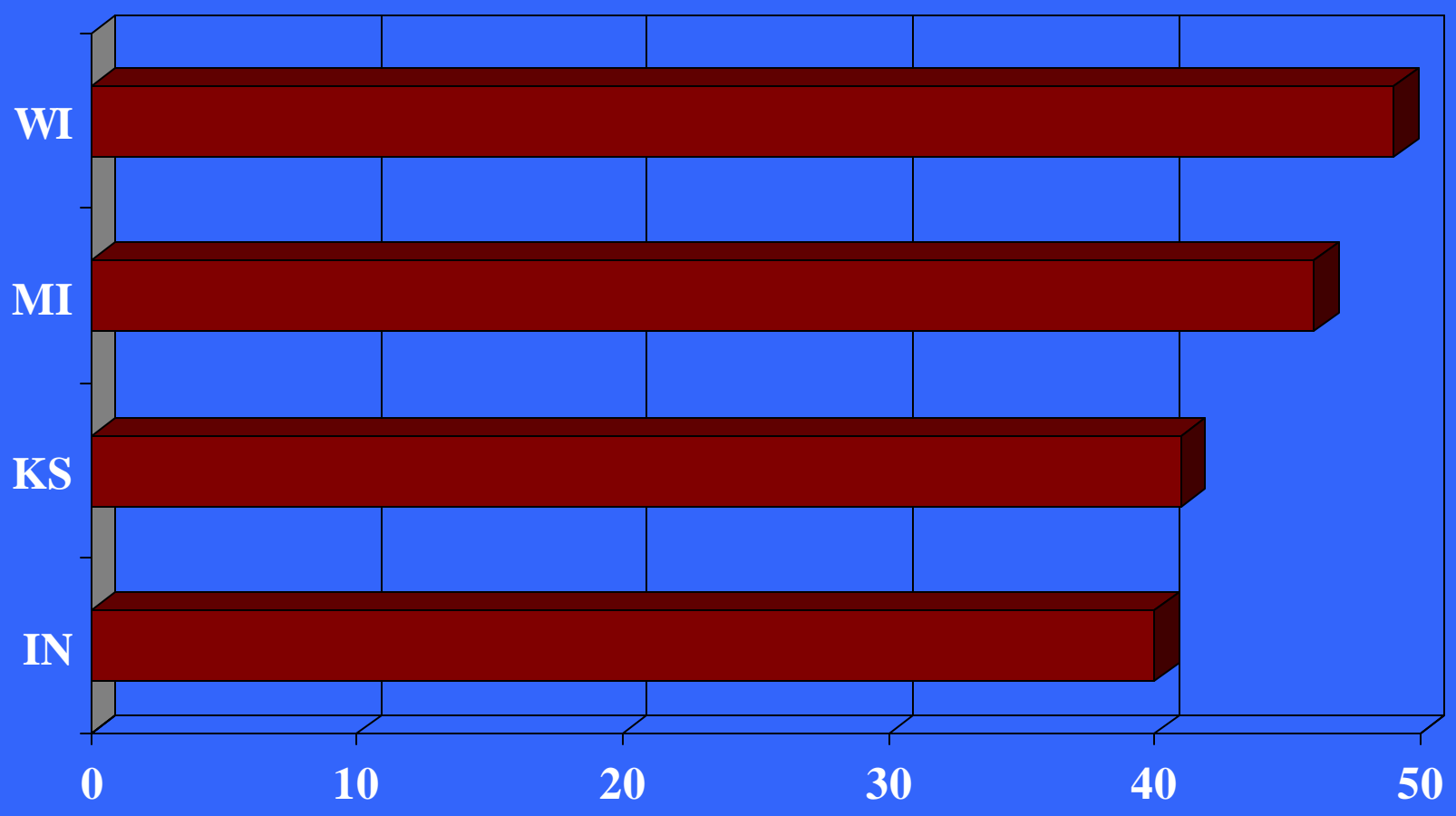
# Household Ownership Rates

Any Firearm (%) for NORTHEAST STATES 1991-1995



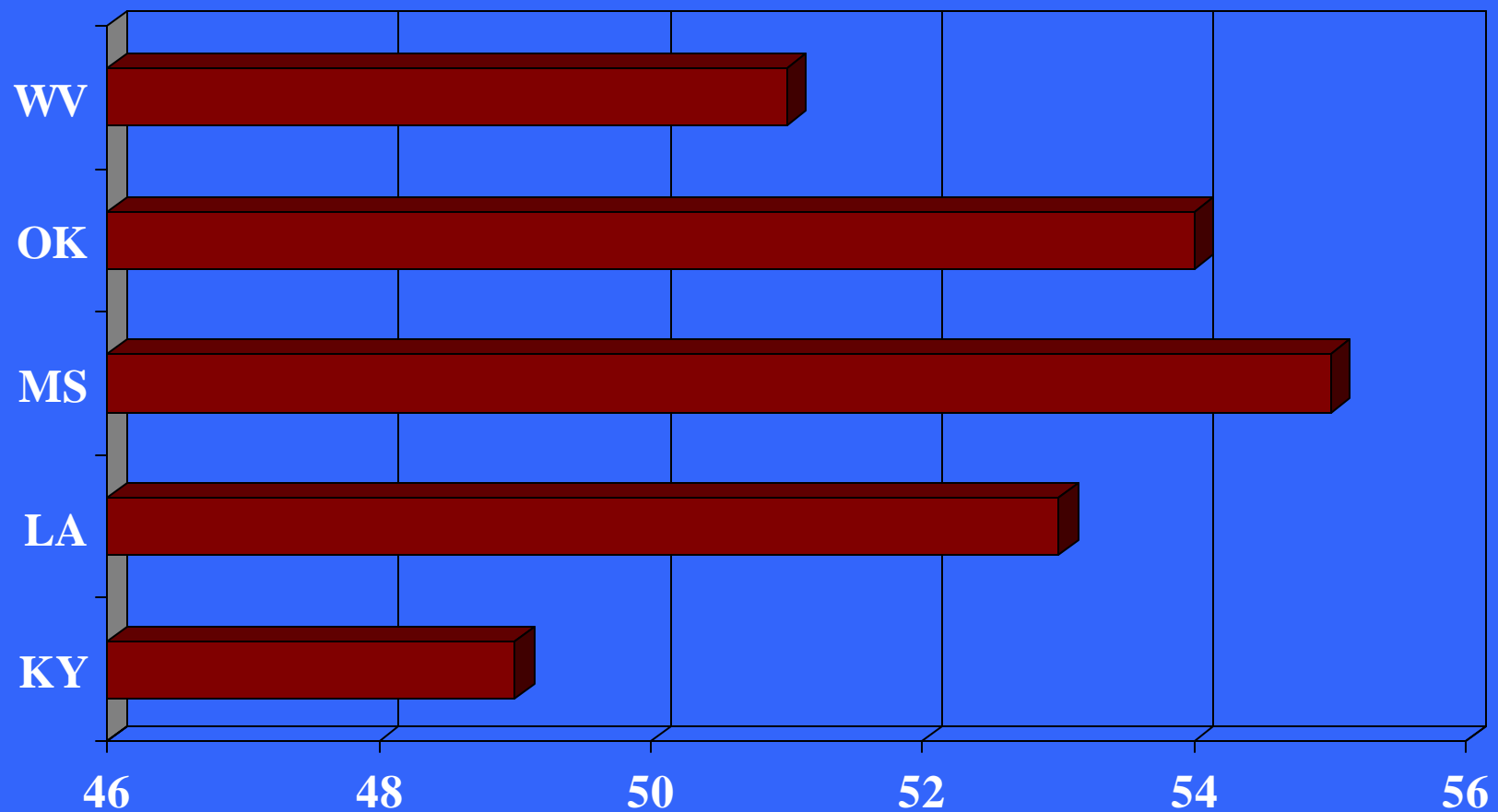
# Household Ownership Rates

Any Firearm (%) for MIDWEST STATES 1991-1995



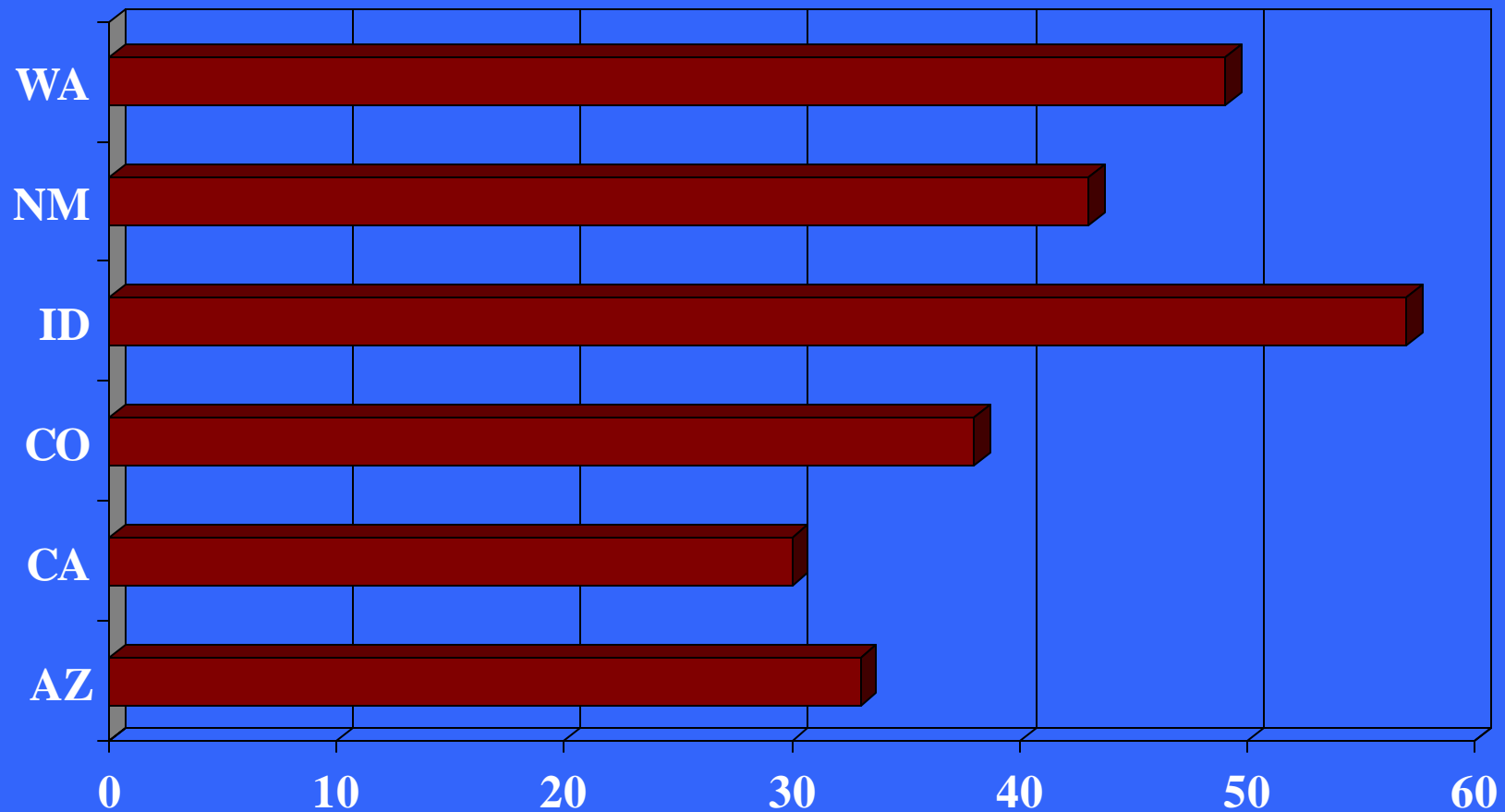
# Household Ownership Rates

Any Firearm (%) for SOUTH STATES 1991-1995



# Household Ownership Rates

Any Firearm (%) for WEST STATES 1991-1995



# 1994 PA Households

- ❏ 37% own at least one firearm
- ❏ 23% own a single firearm
  - 40% handguns
  - 20% shotguns
  - 40% rifles
- ❏ 76% own one or more
  - 57% included a handgun

Source: Forjuoh et al. (1996)

# Barriers to Firearm Use

## Firearm Storage Practices

- ✘ Taken apart
- ✘ Trigger lock applied
- ✘ Kept in an unlocked place
- ✘ Unloaded
- ✘ No other ammunition
- ✘ Locked ammunition

Source: Forjuoh et al. (1996)

# 1994 PA Households

## Firearm storage practices

- ✘ 20% used 4 barriers of storage
- ✘ 28% used 3 barriers of storage
- ✘ 25% used 2 barriers of storage
- ✘ 22% used 1 barrier of storage
- ✘ 6% used 0 barrier of storage

Source: Forjuoh et al. (1996)

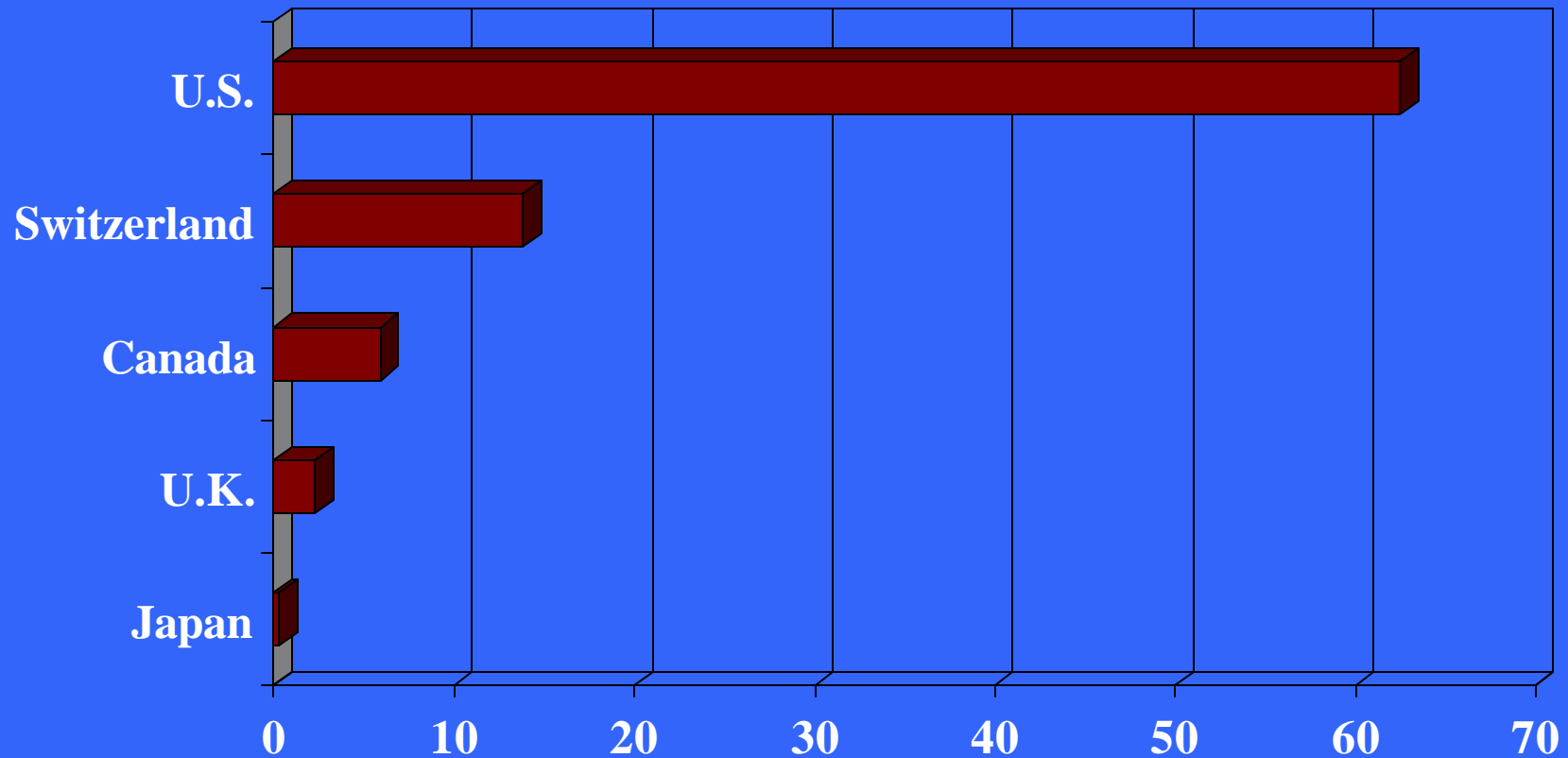
# International Comparisons

*Commenting on the Japanese figures, Dr. Yamanaka writes: “ ... about firearm statistics ... I have never thought about [this]. In Japan, firearms are strictly controlled, I believe ... I am 48 years old but have never touched a gun ... I only see firearms on the waist of a policeman.”*

Source: *Injury Prevention* 1996; 2: 282.

# International Comparisons

Annual Death Rates by Firearms per 100,000 population



# Culture of Violence in the U.S.

- ✘ Children & teens have become **witnesses** of violence.
- ✘ Children & teens have become **victims** of violence.
- ✘ Children & teens have become **perpetrators** of violence.

# U.S. Teen Violence Epidemic

✘ School shootings have become all too common:

- Littleton, Colorado
- Springfield, Oregon
- Jonesboro, Arkansas
- Fayetteville, Tennessee
- Conyers, Georgia
- Pearl, Mississippi

# Injuries are no Accidents

- ✘ Injuries occur to *high risk groups*.
- ✘ Injuries occur in *high risk places*.
- ✘ Injuries occur with *high risk products*.
- ✘ Occurrence of injuries is as *predictable* as that of any disease.

# Public Health Approach

- α **Define** the problem.
- α **Identify** causes and associated risks.
- α **Design** interventions.
- α **Implement** and **evaluate** interventions.

# Strategies for Prevention

- ✘ *Education* - storage practices
- ✘ *Engineering* - gun lock and design issues
- ✘ *Enforcement* - background check
- ✘ *Economic incentive/equity* - gun back programs
- ✘ *Empowerment* - community (COPS)
- ✘ *Evaluation* - what works and how?

# Primary Prevention of Violence

- ✕ **P**arenting skills training.
- ✕ **R**esolution of conflict training.
- ✕ **E**ducation of discipline techniques.
- ✕ **V**iolence witnessing counseling.
- ✕ **E**ducation on substance abuse.
- ✕ **N**o firearms in the home.
- ✕ **T**elevision viewing monitoring.

# Interventions to Reduce Firearm Violence

- ⌘ Firearm use
- ⌘ Firearm users
- ⌘ Firearm lethality
- ⌘ Number of firearms

Source: Powell et al (1996)

# Firearm Use

- ✘ Restriction of gun-carrying in public places.
- ✘ Firearm detectors.
- ✘ Increased punishment for felony gun users.
- ✘ Owner liability for harm to others.
- ✘ Public education on *proper* storage and use of guns in self-defense.

Source: Powell et al (1996)

# Firearm Users

- ✘ Licensing of owners.
- ✘ Waiting periods (Brady Law).
- ✘ Restriction of sales to those at high risk.
- ✘ Disruption of illegal markets.
- ✘ Technology to “individualize” firearms.

Source: Powell et al (1996)

# Firearm Lethality

- ✘ Firearm design:
  - Barrel length
  - Magazine size (“assault” weapons).
- ✘ Ban on dangerous ammunition.

Source: Powell et al (1996)

# Number of Firearms

- ✘ Restrictive licensing.
- ✘ Increased taxes.
- ✘ Restriction of imports and domestic manufacture.

Source: Powell et al (1996)

# How Can Nurses Help?

- ✘ Ensure safe communities & schools.
- ✘ Recognize problem kids.
- ✘ Support anti-violence programs.
- ✘ Improved documentation.
- ✘ Improved surveillance in the E.D.
- ✘ Research.
- ✘ Lobby for appropriate legislation.

# Recognizing a Problem Kid

- ✘ Vandalizing - e.g. intentional damage
- ✘ Venting - e.g. angry outburst
- ✘ Victimizing - e.g. feeling of victimization
- ✘ Viewing - e.g. witness abuse of others
- ✘ Vocalizing - e.g. threats of harm
- ✘ Vying - e.g. weapon carrying

Source: Stegar (2000)

# Early Predictors of the Problem Child

- ✘ Pre-natal or peri-natal complications
- ✘ History of head injury
- ✘ Low I.Q.
- ✘ Behavior problems
- ✘ ADHD
- ✘ Learning disability

# What Else Can You Do?

- ✘ Limit teen access to violent movies, TV shows, & video programs
- ✘ Spend quality time with teens
- ✘ Teach teens morals & ethical behavior
- ✘ Be a role model for teens
- ✘ Adopt a problem child as a potential Scott & White Ranger

# The Firearm Problem Misconception

- ✘ Not a racial or ethnic problem!
- ✘ Not an inner-city problem!
- ✘ No relation with economically disadvantaged kids with bleak futures!

# Recent Assailant Profile

- ✘ Perpetrators of recent school shootings
  - Mostly middle-class
  - Two-parent homes
  - Intelligent kids who do well in school
  - Kids without long histories of discipline or substance abuse problems
  - The last kids you would expect to shoot someone

# Does Prevention Work?

- ⊗ *Prevention* is better than cure!
- ⊗ *Prevention* makes a lot of sense!
- ⊗ *Prevention* is cheaper!
- ⊗ *Prevention* works!
- ⊗ *Prevention* has worked for others!

**Thank You for Your  
Attention**

