Sullivan County approach to 'Mobilizing for Action through Planning and Partnerships' (MAPP) in 2007

Sullivan County, TN

MAPP

In 2007, the Sullivan County Health Council (SCHC) initiated the MAPP process to improve community health. This community-driven strategic planning tool was facilitated by the Sullivan County Regional Health Department (SCRHD). MAPP is an iterative process that can improve the performance of health outcomes and local public health systems. Recognizing that health issues are not the result of one risk factor alone, the SCHC adopted the MAPP process to emphasize the importance of a community-driven assessment, planning and implementation (action) cycle. MAPP focuses on improving the community's health but is only able to do so as long as you have adequate collaboration and partnerships with community groups and citizens. For more information on MAPP, go to http://www.naccho.org/topics/infrastructure/MAPP.cfm

The SCHC also chose to utilize a logic model developed by Mary Peoples-Sheps (UNC, Chapel Hill) which ensures a systematic approach to assessment (of health status and health services), interventions (development, selection and planning), and evaluation.

The MAPP Diagram

Visioning
Health Council members had several meetings to develop a vision and value statements that would provide a structure for developing long-term goals for the County. The statements were:

Vision: A safe, healthy, and educated Sullivan County.

Value Statements:

Education: We value community health education.
Access: We value access to community resources.
Collaboration: We value partnerships and collaborative efforts.
Safety: We value safe communities.
Compassionate Commitment: We value a caring holistic approach to community health.
Culture: We value the various cultures and the diversity they bring to our community.
Accountability: We value a commitment from both individuals and the community to take ownership for a healthier Sullivan County.

THE FOUR ASSESSMENTS
The MAPP process begins with four assessments, providing a complete picture of the issues that must be addressed.

A.) Community Health Status Assessment
B.) Community Themes & Strengths Assessment
C.) Forces of Change Assessment
D.) Local Public Health System Assessment

A.) The **Community Health Status Assessment (CHSA)** looked at the trends of the top causes of death, along with inpatient and outpatient hospitalizations from 1990-2004 and 1990-2006. These data were also reviewed by age and sex. (For further details, see the "Summary of Data Prepared for Sullivan County's Health Assessment, Years 1990 – 2006" available at http://www.sullivanhealth.org). The SCHC used the Peoples-Sheps' matrix of scoring criteria to establish a ranking for health outcomes of concern. Important criteria used included severity of consequences, trend, extent of disease and its impact on different subgroups, and acceptability of community to intervention. A list of 12 top health outcomes beginning with the most serious was the result of this assessment:

Top 12 Health Outcomes of Concern (as of December 2007)

1. Upper Respiratory Infection
2. Motor vehicle accidents
3. Heart Disease, Stroke, Hypertension
4. Lung Cancer (tie with)
5. Infant Mortality
6. Lower Respiratory Disease, Pneumonia, COPD in older, asthma in younger
7. Colon Cancer
8. Falls
9. Diabetes
10. Drug and Alcohol
11. Sexually Transmitted Diseases
12. Oral Health

Other health outcomes that were assessed but did not fall in this list include Suicide, Breast Cancer, Noninfectious Colitis/Enteritis, Assault, Chronic Rhinitis and Sinusitis, Anxiety, Nephritis, Alzheimer's, Mood (Depression), Ulcer/Gastritis, Cirrhosis of the Liver, Gallbladder Disease and Lead Poisoning. Literature searches were performed to identify risk factors and consequences for each disease, including those not in the top 12. Many health outcomes share risk factors and consequences and some health outcomes also can be risk factors for other diseases such as Drug and Alcoholism, Sexually Transmitted Diseases, Oral Health, Anxiety and Depression. Programs addressing one risk factor will ultimately affect several health outcomes. A table of all risk factors was created with the number of health outcomes each risk factor affected. The top five risk factors that directly or indirectly affect the 28 health outcomes assessed are:

Top Five Risk Factors (affecting health outcomes)

- Less than High School Education
- Lack of Resources/Poverty
- Access Barriers (e.g., lack of insurance, lack of transportation)
- Limited Employment Opportunities
- Health Literacy/Hygiene Knowledge and Practice

B.) The **Community Themes & Strengths Assessment (CTSA)** consisted of a survey that asked individuals in the community what they feel are the most important issues to them concerning quality of life, health care, the environment and neighborhood issues. A total of 115 completed surveys were analyzed with a majority of the responses coming from residents with Kingsport zip codes. Respondents felt that there was too much usage of the Emergency Department, especially by those who have health insurance. Respondents also expressed environmental concerns around neighborhood crime patrol and air quality. A ranking of health concerns included all the health outcomes or risk factors that fell into the top 15 causes of death and illness.

Ranking of Community Health Concerns
1. Alcohol and Drugs
2. Obesity
3. Cancer
4. Heart Disease/Stroke
5. Diabetes
6. Cigarette Smoking
7. Depression
8. Teen Pregnancy*
9. Child Abuse + Neglect
10. High Blood Pressure

*Although teen pregnancy was not identified in the CHSA (see A) as a health outcome, it was identified as a risk factor for Low Birth Weight babies and poor birth outcomes. Risk factors associated with Teen Pregnancy (and Child Abuse and Neglect) include a) less than high school education, b) lack of resources/poverty, c) health literacy, d) drug and alcohol, e) lack of social support, f) lack of coping skills, g) risky behavior, and h) lack of parenting skills and involvement. Each of these risk factors was identified as being areas with opportunities for improvement.

C.) The **Forces of Change Assessment** consisted of two focus group sessions to which individual leaders in the community were invited. Attendees consisted of legislators, police, local government, non-profit health care agencies, schools, United Way, various agencies representing child and youth issues, and citizens. Employees of the health department facilitated a discussion around topics that affect the context in which the community and its public health system operate. The PESTLE (political, environmental, socio-cultural, technological, legal, and economic) format was used to guide the discussion and classify responses. Results were grouped by common theme and the community system that has been, or, will be affected by the force. A summary of the main events, factors and trends are as follows:

Top Issues Identified by Focus Groups
TennCare disenrollment
Lack of affordable, safe housing
Poor air quality
Steady use of fast food restaurants
Sub-optimal level of prenatal education for teens
Sub-optimal level of high school completion rate relating lack of educated workforce
Lack of political lobbying: local and state level
Increased drug use
Increase in family violence
Increase in depression

Aging population

Each community system affected by these forces is in the top causes of death and illness as identified in the Community Health Status (A) and the Community Themes & Strengths (B) Assessments, either as a health outcome or risk factor. It is worth noting that the 2 additional health outcomes that surfaced in the Community Themes + Strengths Assessment (Teen Pregnancy and Child Abuse + Neglect) also fell out in the Forces of Change Assessment except the focus on teen pregnancy was prenatal care and not the prevention of the teen becoming pregnant. Child abuse + Neglect also surfaced but under a broader category of Family Violence. A third major factor of concern is the quality of the ambient air. Respiratory and other related illnesses are significant in Sullivan County, mainly because these illnesses such as lung cancer, heart, stroke and chronic lower respiratory disease all have a smoking component. However, residents with these illnesses are at an increased risk for health complications during 'bad air days' or during confinement to smoky or mold-ridden environments. Education and advocacy are 2 immediately apparent responses.

D.) The **Local Public Health System Assessment** measures how well a community's total public health system is doing in providing the Ten Essential Public Health Services identified by CDC (listed below). Results from this assessment showed five areas with opportunity for improvement (bolded and underlined below):

Ten Essential Public Health Service

1. Monitor health status to identify community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. **<u>Inform, educate, and empower people about health issues.</u>**
4. Mobilize community partnerships to identify and solve health problems.
5. **<u>Develop policies and plans that support individual and community health efforts.</u>**
6. **<u>Enforce laws and regulations that protect health and ensure safety.</u>**
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure a competent public health and personal healthcare workforce.
9. **<u>Evaluate effectiveness, accessibility, and quality of personal and population-based health services.</u>**
10. **<u>Research for new insights and innovative solutions to health problems.</u>**

As in the Forces of Change (C) and Community Health Status Assessment (A), education and advocacy emerged as known, effective responses to prevent the risk factors for most, if not all of the health outcomes.

Improvement in each of the Essential Public Health Services will be achieved automatically as the entire assessment, planning, intervention and evaluation process is being carried out following the rigors of 2 systematic structures as mentioned earlier.

DISEASE MATRIX, MAPPING and RANKINGS

Disease Mapping

To fully understand a health problem, the Peoples-Shep model suggests preparing diagrams for each of the top health problems. Diagrams are to include the problem, precursors, consequences and how they are all linked. Literature searches for each disease enabled the initial diagrams to be drawn out. Afterwards, the Health Council members worked in groups to review related diseases and add their local perspective to the diagram. Diagrams for Chronic Obstructive Pulmonary Disease and Motor Vehicle Accidents are provided as examples.

Disease Matrix and Ranking

Limited finances and human resources make it impossible to address the entire list of health problems in Sullivan County. A priority-setting matrix described in the Peoples-Shep Logic Model was used as a way to organize all the information to achieve this goal. Death and hospitalization data for each health outcome were assessed together using a simple matrix. Each health outcome was listed on a row and the corresponding data were scored using 6 criteria, namely, Severity of Consequences, Trends (increasing or decreasing), Extent of the Problem (prevalence in some subgroups vs. total population), a Healthy People 2010 goal, a Tennessee Dept of Health Priority, the community's perception of the problem and its willingness to accept interventions to change. For example, Heart Disease is a life threatening and debilitating disease and from a range of 1-5, a score of 5 was assessed. Some criteria might be viewed as being more important and weights. Individual Health Council members gave their weights and an average was applied to each criterion. Scores for Severity of Consequences, Trend and Prevalence in the Community were all weighted with a score of 2.47 or 2.67. After each score was multiplied by the respective weight, a total of the 6 weighted scores were produced for each health outcome.

Appendices I. Disease Matrix & Ranking

Health Problem/ Criterion	% Deaths	% Hosp ER	% Hosp In Pt	Severe Consequences	Trends ↑↓	Extent High I/P	In HP 2010	In-State Priority	Acceptability to Citizens	Total
[Weight]				2.47	2.47	2.67	0 or 1	1.38	1.83	
Blood + Heart	**31.9**	**1.3**	**14.4**							
Heart				5 X 2.47	3 X 2.47	13.35	1	2 X 1.38	5 X 1.83	**46**
Stroke				5 X 2.47	2 X 2.47	5.34	1	2 X 1.38	5 X 1.83	**35.5**
Primary HPN				5 X 2.47	2 X 2.47	8.01	0	2 X 1.38	5 X 1.83	**34.7**
Cancer	**22.5**		**3.3**	**4 X 2.47**	**4 X 2.47**	**10.68**	**1**	**2 X 1.38**	**5 X 1.83**	**65.6**
Lung Cancer				5 X 2.47	4 X 2.47	10.68	1	2 X 1.38	5 X 1.83	**45.8**
Breast Cancer				5 X 2.47	3 X 2.47	5.34	1	2 X 1.38	5 X 1.83	**30.7**
Prostate Cancer				5 X 2.47	3 X 2.47	2.67	1	2 X 1.38	5 X 1.83	**35.3**
Colon Cancer				5 X 2.47	2 X 2.47	2.67	1	2 X 1.38	5 X 1.83	**42.8**
Respiratory	**8.9**	**9.5**	**5.2**							
Chronic Lower Resp.Dis				5 X 2.47	4 X 2.47	10.68	1	1 X 1.38	5 X 1.83	**44.4**
Pneumonia				5 X 2.47	2 X 2.47	5.34	1	1 X 1.38	5 X 1.83	**34.2**
Upper Resp Infection				1 X 2.47	4 X 2.47	10.68	1	0 X 1.38	2 X 18.3	**47.5**
Chronic Rhinitis+Sinusitis				2 X 2.47	4 X 2.47	5.34	0	0 X 1.38	5 X 1.83	**29.3**
Other Resp Diseases				2 X 2.47	3 X 2.47	2.67	0	0 X 1.38	5 X 1.83	**24.2**
All Injuries	**7.8**	**29.7**	**15.6**	**4 X 2.47**	**4 X 2.47**	**13.35**	**1**	**1 X 1.38**	**4 X 1.83**	**42.8**
Falls				4 X 2.47	5 X 2.47	13.35	1	1 X 1.38	2 X 18.3	**41.6**
Motor Vehicle Accdnts				4 X 2.47	5 X 2.47	13.35	1	1 X 1.38	5 X 1.83	**47.1**
Suicide				5 X 2.47	3 X 2.47	2.67	1	1 X 1.38	4 X 1.83	**32.1**
Assault				5 X 2.47	4 X 2.47	2.67	1	0 X 1.38	2 X 18.3	**29.6**
Digestive	**1.1**	**6.8**	**4.2**							
Oral Health				3 X 2.47	9.88	8.01	1	2 X 1.38	4 X 1.83	**32**
Cirrhosis of the Liver				4 X 2.47	9.88	5.34	1	0 X 1.38	2 X 1.83	**23.9**
NonInf.Colitis/Enteritis				3 X 2.47	12.35	10.68	0	0 X 1.38	2 X 1.83	**29.7**
Ulcer/Gastritis				3 X 2.47	9.88	10.68	0	0 X 1.38	2 X 1.83	**27.2**
Other Intestinal Dis				3 X 2.47	9.88	8.01	0	0 X 1.38	2 X 1.83	**24.6**
Gallbladder				2 X 2.47	4.94	2.67	0	0 X 1.38	2 X 1.83	**13.3**
Endocrine/Metabolic	**3.9**		**1.2**							
Diabetes				4 X 2.47	9.88	8.01	1	2 X 1.38	5 X 1.83	**34.8**
Neurological	**3.4**									
Alzheimers				5 X 2.47	9.88	5.34	0	0 X 1.38	4 X 1.83	**27.5**
Mental Health	**3.3**	**2.8**	**6.6**							
Anxiety				4 X 2.47	9.88	10.68	1	0 X 1.38	2 X 1.83	**29.2**
Mood				5 X 2.47	9.88	8.01	1	0 X 1.38	2 X 1.83	**27.6**

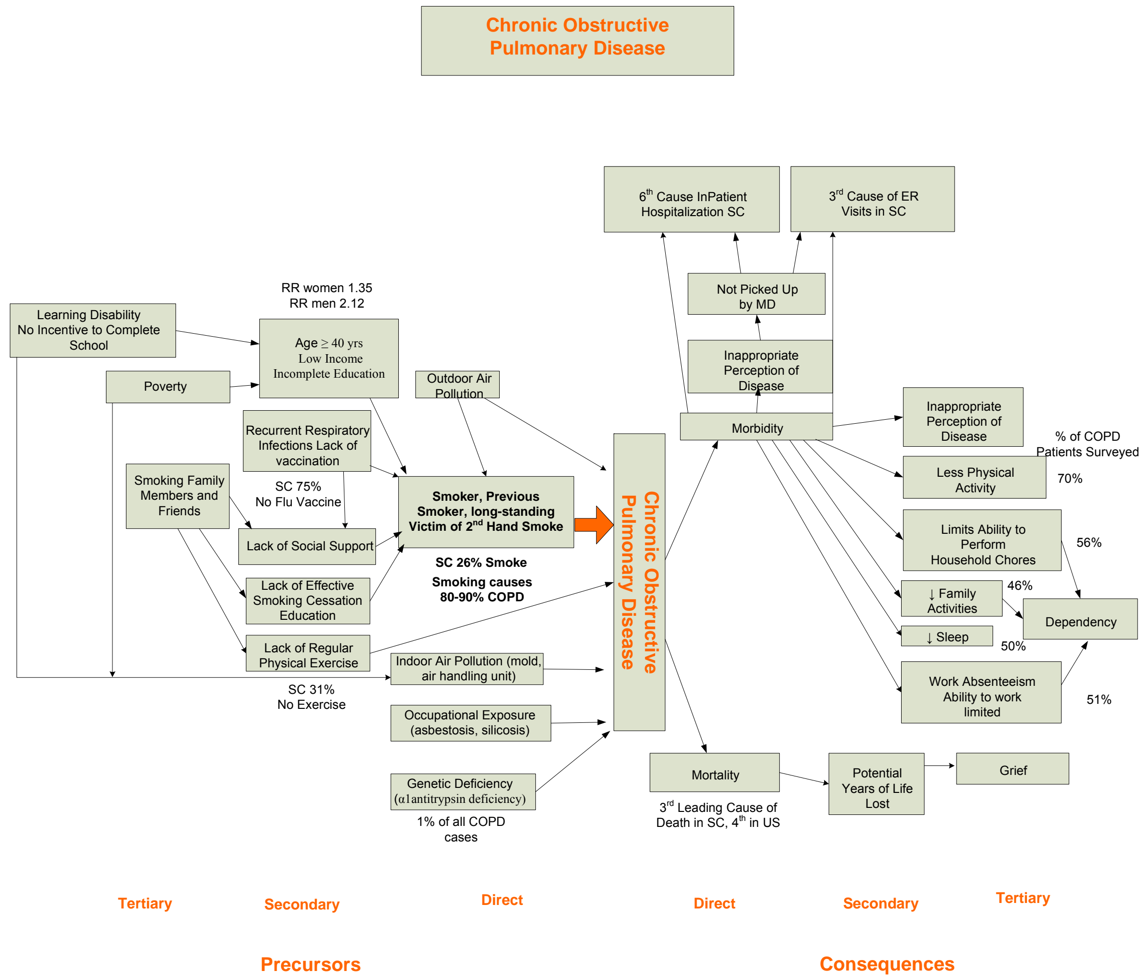
Drug + Alcohol				5 X 2.47	9.88	8.01	1	1 x 1.38	5 X 1.83	**34.4**
Genitourinary	**1.0**	**4.0**	**2.1**							
Nephritis				4 X 2.47	9.88	13.35	0	0 X 1.38	1 X 1.83	**29.1**
Other Urinary Diseases				3 X 2.47	4.94	5.34	0	0 X 1.38	1 X 1.83	**15.1**
Other Diseases Different Data										
Infant Mortality				5 X 12.35	4 X 9.88	4 X 10.68	1	2 X 2.76	5 X 9.15	**45.8**
Environmental										
Lead Poisoning				Later	Later	Later	Later	Later	Later	**Later**
Infectious Diseases										
Sex Transmitted Disease				Later	Later	Later	Later	Later	Later	**Later**
Drug Resistnt Infectious Dis				Later	Later	Later	Later	Later	Later	**Later**
Alternative Assistd Livng	no data									
Hearing and Sight	no data									

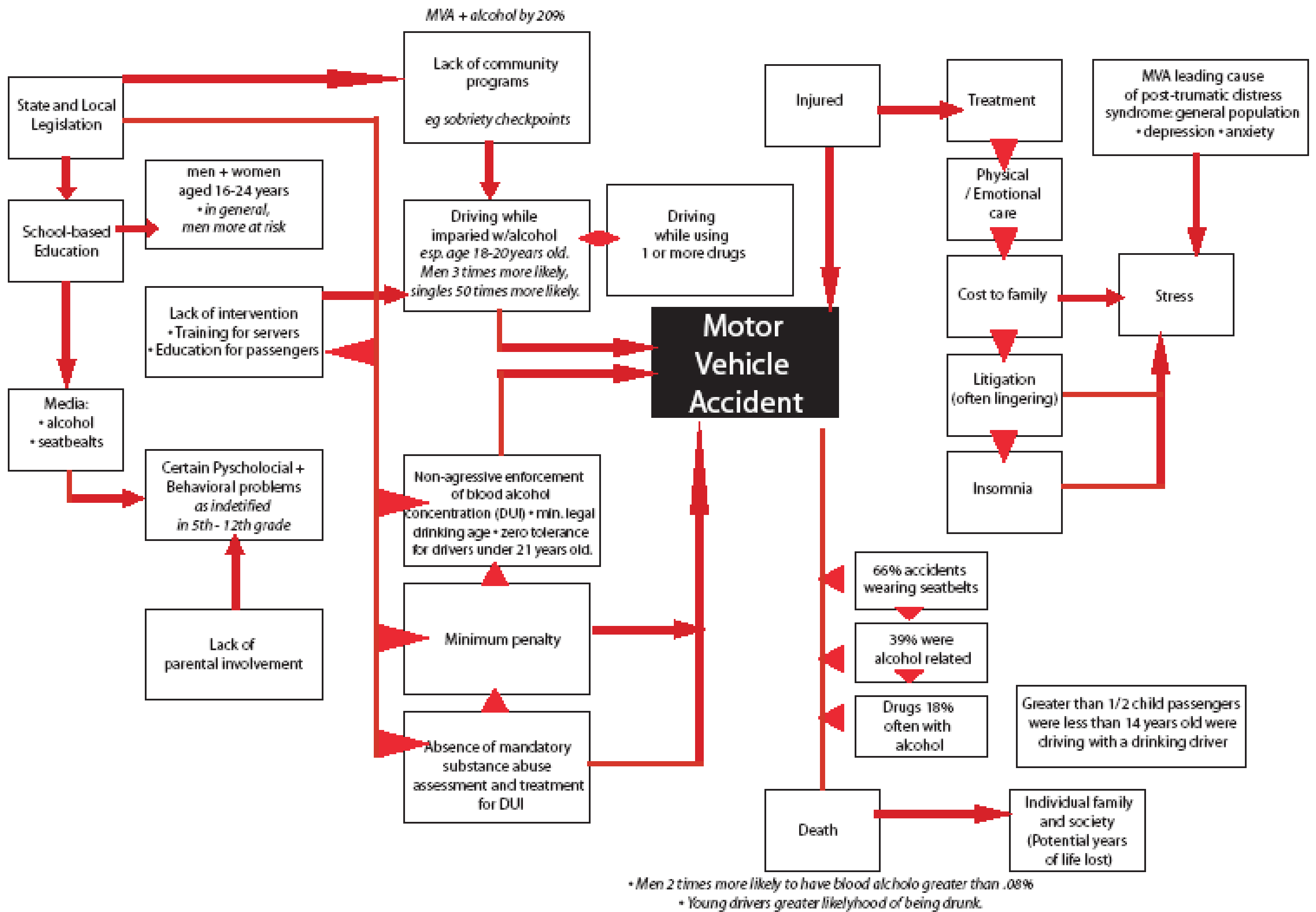
Appendices II. Preliminary Raw SC Matrix Summary (as of 12/07)

Health Problem	Score	Rank
Upper Resp Infection	47.5	1
Motor Vehicle Accidents	47.1	2
Heart Disease	46	3
Lung Cancer	45.8	4
Infant Mortality	45.8	5
Chronic Lower Resp Dis	44.4	6
Colon Cancer	42.8	7
Falls	41.6	8
Stroke	35.5	9
Diabetes	34.8	10
Primary HPN	34.7	11
Drug + Alcohol	34.4	12
Pneumonia	34.2	13
Sexually Transmitted Disease*	32.6	14
Drug Resistant Bacteria**	32.4	15
Suicide	32.1	16
Oral Health	32	17
Assault	29.6	18
NonInfect.Colitis/Enteritis	29.7	19
Chronic Rhinitis+Sinusitis	29.3	20
Anxiety	29.2	21
Nephritis	29.1	22
Alzheimer's	27.5	23
Mood	27.6	24
Ulcer/Gastritis	27.2	25
Other Intestinal Dis	24.6	26
Other Resp. Diseases	24.2	27
Cirrhosis of the Liver	23.9	28
Other Urinary Diseases	15.1	29
Gallbladder	13.3	30
Lead Poisoning	data to be analyzed	
Hearing and Sight	data not collected	
Alternative Assisted Living	data not collected	

* Chlamydia and Gonorrhea ** Vancomycin Resistant Enterococcus and Staphtococcus penemoniae Drug Resistant

Appendices III. Health Outcome Diagrams (Examples)




MVA + alcohol by 20%
State and Local Legislation
Lack of community programs
eg sobriety checkpoints
Injured
Treatment
MVA leading cause of post-trumatic distress syndrome: general population • depression • anxiety
men + women aged 16-24 years • in general, men more at risk
School-based Education
Driving while imparied w/alcohol esp. age 18-20years old. Men 3 times more likely, singles 50 times more likely.
Driving while using 1 or more drugs
Physical / Emotional care
Cost to family
Stress
Lack of intervention • Training for servers • Education for passengers
Motor Vehicle Accident
Litigation (often lingering)
Media: • alcohol • seatbealts
Certain Pyscholocial + Behavioral problems as indetified in 5th - 12th grade
Non-agressive enforcement of blood alcohol concentration (DUI) • min. legal drinking age • zero tolerance for drivers under 21 years old.
Insomnia
66% accidents wearing seatbelts
Lack of parental involvement
Minimum penalty
39% were alcohol related
Drugs 18% often with alcohol
Greater than 1/2 child passengers were less than 14 years old were driving with a drinking driver
Absence of mandatory substance abuse assessment and treatment for DUI
Death
Individual family and society (Potential years of life lost)
• Men 2 times more likely to have blood alcholo greater than .08%
• Young drivers greater likelyhood of being drunk.