Disparities Amongst Individuals With Mental Illness & Addiction: Impact of Smoking and Obesity

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Many Thanks

- UMass Addiction Center of Excellence
- National Association of State Mental Health Program Directors
- Massachusetts Department of Mental Health
Overview: THE PROBLEM

- Increased Morbidity and Mortality Associated with Serious Mental Illness
  - 25 Years Shorter Life than the General Population

- Cardiovascular disease associated with the largest number of deaths
  - 2.3 times more than the general population

- Due to Preventable Medical Conditions
  - High Prevalence of Modifiable Risk Factors
    - Obesity, Smoking . . Other Addictions
  - Epidemics within Epidemics (e.g., Obesity, Metabolic Disorders, Diabetes)

- www.cdc.gov/pcd/issues/2006/apr/05_0180.htm
Massachusetts Study: Deaths from Heart Disease by Age Group/DMH Enrollees with SMI Compared to Massachusetts 1998-2000

- Rates per 100,000

<table>
<thead>
<tr>
<th>Age Group</th>
<th>DMH</th>
<th>MA</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-34</td>
<td>3.5 RR</td>
<td></td>
</tr>
<tr>
<td>35-44</td>
<td>4.9 RR</td>
<td></td>
</tr>
<tr>
<td>45-54</td>
<td>2.2 RR</td>
<td></td>
</tr>
<tr>
<td>55-64</td>
<td>1.5 RR</td>
<td></td>
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</tbody>
</table>
Cardiovascular Disease Death Rate: Mental Health patients are 3-fold higher compared to Massachusetts General Population (2001-2006)

<table>
<thead>
<tr>
<th>Year</th>
<th>DMH Rate</th>
<th>MA Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001*</td>
<td>148</td>
<td>49</td>
</tr>
<tr>
<td>2002*</td>
<td>147</td>
<td>51</td>
</tr>
<tr>
<td>2003*</td>
<td>138</td>
<td>52</td>
</tr>
<tr>
<td>2004*</td>
<td>165</td>
<td>51</td>
</tr>
<tr>
<td>2005*</td>
<td>112</td>
<td>44</td>
</tr>
<tr>
<td>2006*</td>
<td>91</td>
<td>41</td>
</tr>
</tbody>
</table>

Rates per 100,000  * p ≤ .05  Age-Adjusted
## Cardiovascular Disease Risk Factors

<table>
<thead>
<tr>
<th>Modifiable Risk Factors</th>
<th>Estimated Prevalence and Relative Risk (RR)</th>
<th>Schizophrenia</th>
<th>Bipolar Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Obesity</strong></td>
<td></td>
<td>45–55%, 1.5-2X RR&lt;sup&gt;1&lt;/sup&gt;</td>
<td>26%&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Smoking</strong></td>
<td></td>
<td>60–80%, 2-3X RR&lt;sup&gt;2&lt;/sup&gt;</td>
<td>75%</td>
</tr>
<tr>
<td><strong>Diabetes</strong></td>
<td></td>
<td>10–14%, 2X RR&lt;sup&gt;3&lt;/sup&gt;</td>
<td>10%&lt;sup&gt;7&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Hypertension</strong></td>
<td></td>
<td>≥18%&lt;sup&gt;4&lt;/sup&gt;</td>
<td>15%&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Dyslipidemia</strong></td>
<td></td>
<td>Up to 5X RR&lt;sup&gt;8&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

Cardiovascular risk factors – overview


BMI = body mass index; TC = total cholesterol; DM = diabetes mellitus; HTN = hypertension.

BMI Range

Underweight

Acceptable

Overweight

Obese

< 18.5 18.5-20 20-22 22-24 24-26 26-28 28-30 30-32 32-34 > 34

Percent

No schizophrenia

Schizophrenia

Prevalence of Diagnosed Diabetes in General Population Versus Schizophrenic Population

- **Diagnosed Diabetes, General Population**
- **Diagnosed Diabetes, Schizophrenic Patients**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>General Population</th>
<th>Schizophrenic Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-59 y</td>
<td><img src="image" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>60-69 y</td>
<td><img src="image" alt="Graph" /></td>
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</tr>
<tr>
<td>70-74 y</td>
<td><img src="image" alt="Graph" /></td>
<td></td>
</tr>
<tr>
<td>75+ y</td>
<td><img src="image" alt="Graph" /></td>
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</tr>
</tbody>
</table>

Factors Associated with Premature Mortality

- Reduced Use / Inefficient Use of Medical Services
- Systemic Barriers to Ideal Health Care
  - Healthcare systems and financing
- Not receiving monitoring & treatment to lower risk
- Fewer routine preventive services
  - Druss 2002
- Worse diabetes care
  - Desai 2002, Frayne 2006
- Lower rates of cardiovascular procedures
  - Druss 2000
Other Factors

- Individual health habits & addictions
  - Inactivity
  - poor nutrition
  - smoking

- Some Psychiatric Medications Contribute to Risk

- Poverty
Tobacco Addiction & Mental Illness or Addiction

- 44% of all cigarettes consumed in the US are by smokers with a psychiatric disorder.
- Most clients smoke (50 to 95%).
- Most will die because of tobacco-caused medical diseases.
- Increased other costs - discretionary, housing, employment, insurance, etc.
- Smoking alters psychiatric medication blood levels – non-smokers need less medication.
Tobacco smoke effects

- Cardiovascular effects = largest killer
- Pulmonary damage
  - COPD, Asthma, Bronchitis
- Vascular damage
  - Vasoconstriction and endothelial damage
- Carcinogenesis - DNA damage
  - Lung Cancer
  - Nearly one-third of all cancer deaths: Cervix, Bladder, Kidney, Mouth, Larynx, Esophagus, Pancreas, etc
Cigarette Death Epidemic in Perspective

<table>
<thead>
<tr>
<th>Category</th>
<th>No. (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual smoking deaths</td>
<td>400</td>
</tr>
<tr>
<td>Environmental tobacco smoke deaths</td>
<td>200</td>
</tr>
<tr>
<td>All World War II</td>
<td>100</td>
</tr>
<tr>
<td>Annual auto accidents</td>
<td>50</td>
</tr>
<tr>
<td>Vietnam War</td>
<td>40</td>
</tr>
<tr>
<td>Annual Suicides</td>
<td>30</td>
</tr>
<tr>
<td>Annual murders</td>
<td>20</td>
</tr>
<tr>
<td>Annual heroin, morphine &amp; cocaine deaths</td>
<td>10</td>
</tr>
</tbody>
</table>
Other Medical Concerns

- Trigger for other Substance Use
- Respiratory infection susceptibility
- Osteoporosis
- Impotence and decreased fertility
- Macular degeneration/cataracts
- Ulcer/reflux disease
- Poor wound healing
- Anesthesia / post-operative complications
- Wrinkles and Bad Breath
Impact on Others Through Environmental Tobacco Smoke

Developmental
- Low birth weight (10-20,000 cases/year)
- Sudden Infant Death Syndrome (3000 deaths/year)

Respiratory
- Childhood infections (bronchitis, ear) (>1 mill / yr)
- Asthma (up to 1 million exacerbations/year)

Cardiovascular
- Coronary artery disease (35-62,000 deaths/year)

Cancer
- Lung cancer (3000 deaths/year)
- Sinus, ? Cervix

US DHHS www.surgeongeneral.gov/library/secondhandsmoke/
Overview - PROPOSED SOLUTIONS

- Prioritize the Public Health Problem
  - Target Providers, Families and Clients
  - Focus on Prevention and Wellness

- Track Morbidity and Mortality in Public Mental Health Populations

- Implement Established Standards of Care
  - Prevention, Screening and Treatment

- Improve Access to and Integration of Physical Health and Mental Health Care
What are the Clinical, Program, & System Issues?

- What are the ongoing barriers?
- What are the innovations?
- How do we change our work to better address tobacco use and dependence?
  - Clinical - screen, assessment, treatment
  - Program - training, QI, program integrity
  - System - collaboration, networks, financial
UMass Department of Psychiatry Wellness Initiative

5 Key areas:
- Physical Activity / Exercise
- Nutrition / Healthy Eating
- Smoking Cessation
- Stress Management / Mindfulness Meditation
- Primary Care & Health Promotion

Wellness & Mindfulness Research Day
Wellness Academic Interest Group
- Program Director
- Tool Kit

For patients, staff, faculty, and trainees
DMH Healthy Changes Initiative

- Choosing
- Healthy
- Activities
- Nutrition
- Getting
- Exercise
- Smoking Cessation
UMass Addiction
Center of Excellence

Many substances – usually poly-drug

Legal, illicit, prescription, OTC

– Nicotine / tobacco
– Alcohol / Sedatives
– Cocaine / Amphetamines
– Opiates / Opioids
– Marijuana
– Club Drugs – Ecstasy, PCP, GHB, etc
– Inhalants, anticholinergics, Steroids
– OTC medications - whatever around
Community-Based Participatory Research

- Academic Interest Groups
- Mental Health Agency Research Network
- Central Massachusetts Addiction Consortium
- Veterans Affairs Network – VISN 1
Compulsivity, loss of control, Consequences

AIDS, trauma, pain, Neurotoxicity, Cancer, liver, Mental illness, Suicide, Cardiac

Homelessness, Crime / Violence, Family crisis

Health care, Productivity, Unemployment, Accidents
ADDICTION IS A DEVELOPMENTAL DISEASE
Starts in adolescence and childhood

Age at cannabis use disorder as per DSM IV
NIAAA National Epidemiologic Survey on Alcohol and Related Conditions, 2003
Addressing Tobacco Through Organizational Change (ATTOC)

- Organizational Change & Training
  - Staff Training & Improving Clinical Services
  - Program Development
  - Supporting Staff Recovery
  - Implement Policies for Tobacco-Free grounds

- 3 Phase Model with 10 Steps: Planning, Implementation, & Sustaining Process

- Leadership: Resiliency During Change

- Project Management, Tobacco Addiction Expertise & MH / SA System Knowledge
Adverse Employment Outcomes Associated with Tobacco Use Amongst Staff

Higher Rates of . . .

- Involuntary turnover
- Accidents
- Injuries
- Discipline problems
- Absence Rates

17 workdays per year dedicated to time taking smoke-breaks
Economic Benefits to Employers to Help Staff Quit Tobacco

- Reduced Absenteeism
- Increased On-the-Job Productivity
- Reduced Life Insurance & Health Insurance Costs
- Reduced Medical Expenditures
  - workers, retirees, Medicare, other
- Benefit to Cost Ratio (to pay for treatment)
  - 1:1 3rd year & 5:1 10th year
Provide Treatment Assistance for Staff

- Staff who smoke are often ambivalent about providing tobacco dependence treatment and ATTOC
- Provide information
- Provide medication, psychosocial treatment, and social supports
- Sensitivity to staff’s nicotine dependence is important in training
Many Personal Health Benefits of Quitting Tobacco Use

- For all smokers
  - Men and women
  - Young and old (it’s never too late to quit)
  - With smoking-related health problems

- People who quit after having a heart attack
  - Reduce chance of another heart attack by 50%
  - Reduce their risk of dying prematurely by 50%

- The sooner you quit the better, but there are always benefits to quitting

Benefits to Quitting at Any Age

% Chance of Dying from Lung Cancer

Age (Years)

Current cigarette smoker
Stopped at age 60
Stopped at age 50
Stopped at age 40
Stopped at age 30
Lifelong nonsmoker

Benefits to quitting begin day one:

- At 24 hours - chance of a heart attack decreases
- At 48 hours - nerve endings start regrowing & ability to smell and taste is enhanced
- At 2 weeks to 3 months - circulation improves, walking becomes easier, lung function increases
- 1 to 9 months - coughing, sinus congestion, fatigue, shortness of breath decreases
- At 1 year - excess risk of coronary heart disease is decreased to half that of a smoker
NJ Addiction Program OC Intervention: % facilities reporting implementation
National Wellness Summit
Wellness Pledge

**We Envision:**
a future in which people with mental illnesses pursue optimal health, happiness, recovery, and a full and satisfying life in the community via access to a range of effective services, supports, and resources.

**We pledge:**
to promote wellness for people with mental illnesses by taking action to prevent and reduce early mortality by 10 years over the next 10 year time period.
Recommendations

**NATIONAL LEVEL**

1. Seek federal designation of people with SMI as a distinct at-risk health disparities population.

2. Establish coordinated mental health and general health care as a national healthcare priority.

3. Establish a committee at the federal level to recommend changes to national surveillance activities that will incorporate information about health status in the population with SMI.
   - Consider representation from SAMHSA, Medicaid, the Centers for Disease Control and Prevention, state MH authorities / NASMHPD, and experts
   - This may include the IOM project and other national surveys.
5 key areas of recommendations to help Smokers with Psychiatric Disorders

1. Raise Awareness
2. Train staff in many fields
3. Integrating smoking cessation into mental health & addiction settings
4. Develop Tobacco Control Strategies that considers and targets this population
5. Increase funding for research & innovative services on this topic
Recommendations

**STATE LEVEL**

1. Seek state designation of people with SMI as BOTH an at-risk and a health disparities population.

2. Establish coordinated mental health and general health care as a state healthcare priority.

3. Education and advocacy
   - policy makers
   - funders
   - providers
   - individuals, family, community
Recommendations

STATE LEVEL

4. Require, regulate and lead Behavioral Health provider systems to screen, assess and treat both mental health and general health care issues. Provide for staffing, time, record keeping, reimbursement, and linkage with physical healthcare providers.

5. Funding

State Level - Tobacco

- Encourage State Departments of Mental Health and Addictions to establish policies for addressing tobacco in all state-funded mental health and substance abuse treatment facilities
  - Support state clean-air legislation in all public facilities without exemptions for mental health or addiction facilities
  - Eliminate the sale of tobacco in state mental health or addictions treatment facilities
  - Monitor Facilities / Part of Licensure

- Require state tobacco control programs to increase surveillance and assess whether their interventions are impacting smokers with mental health disorders or addictions
Tobacco Control Techniques
Targeting Smokers with Psychiatric Disorders

- Prevention: None
- Treatment: State-level, minimal
- Advocating for and Allocating Resources: Limited: American Legacy, NIDA
- Surveillance and Research: Limited: NSDUH/NCS
- Counter Advertising: None
- Litigation against Tobacco Industry: None- None of MSA Funds
**Recommendations**

**LOCAL AGENCY / CLINICIAN**

1. BH providers shall provide quality medical care and mental health care
   - Screen for general health with priority for high risk conditions
   - Offer prevention and intervention especially for modifiable risk factors (obesity, abnormal glucose and lipid levels, high blood pressure, smoking, alcohol and drug use, etc.)
   - Prescribers will screen, monitor and intervene for medication risk factors related to treatment of SMI (e.g. risk of metabolic syndrome with use of second generation anti-psychotics)
   - Treatment per practice guidelines, e.g. heart disease, diabetes, smoking cessation, use of novel anti-psychotics.
LOCAL AGENCY / CLINICIAN
Recommendations

2. Care coordination Models

- Assure that there is a specific practitioner in the MH system who is identified as the responsible party for each person’s medical health care needs being addressed and who assures coordination all services.

- Routine sharing of clinical information with other providers (primary and specialty healthcare providers as well as mental health providers)

- Care integration where services are co-located
3. Support consumer wellness and empowerment to improve personal mental and physical well-being

- educate / share information to make healthy choices regarding nutrition, tobacco use, exercise, implications of psychotropic drugs
- teach / support wellness self-management skills
- teach / support decision making skills
- motivational interviewing techniques
- Implement a physical health Wellness approach that is consistent with Recovery principles, including supports for smoking cessation, good nutrition, physical activity and healthy weight.
- attend to cultural and language needs