Addiction Medicine:  
What Works for Whom?  
When and With What?  

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Pennsylvania Department of Drug and Alcohol Programs
Overview

• Research on effective outcomes across the country
• Overview of biological basis and medications
• Review of assessment and psychosocial treatment issues
• Components of effective treatment
• Other treatment matching issues
• Recommendations/Discussion
What works?

For Whom...?
• Every dollar spent in AOD treatment saves 7$
• If medical expenses are included that rises to 11$
• Effective treatment works.
• Clinically appropriate levels of care work.

... But what is that?

• Why care about drug and alcohol treatment?
  – 1 in 4 people has substance abuse in their families
  – 1 in 4 people with addiction will die as a result
  – Most addicted individuals never commit crimes
Treatment Saves Money

• Every dollar spent in treatment saves $7

• If medical costs are included this savings rises
  – With untreated additions, medical costs are 8-12 times that of the general public
  – Often uninsured treatment costs would go to hospitals
  – With treatment, medical costs drop to at or below that of the general public

• Savings include: less days incarcerated, judicial costs, days as employees rather than on disability

• Most savings comes from treating the most severe addictions

• Benefits include:
  – Reduced crime
  – More productive citizens
    • With treatment, individuals are more likely not only to become employed, but also to secure higher paying employment
Cost Savings from Substance Abuse Services

Figure 2. Criminal Recidivism One Year After Treatment Initiated but Not Completed or Treatment Completed

Criminal Justice System Impact

Health System Savings
In 2007, the cost of illicit drug use alone (Does not include alcohol abuse) totaled more than $193 billion. Direct and indirect costs attributable to illicit drug use are estimated in three principal areas: crime, health, and productivity.

- **Crime**: includes three components: criminal justice system costs ($56,373,254), crime victim costs ($1,455,555), and other crime costs ($3,547,885). These subtotal $61,376,694.
- **Health**: includes five components: specialty treatment costs ($3,723,338), hospital and emergency department costs for non-homicide cases ($5,684,248), hospital and emergency department costs for homicide cases ($12,938), insurance administration costs ($544), and other health costs ($1,995,164). These subtotal $11,416,232.
- **Productivity**: includes seven components: labor participation costs ($49,237,777), specialty treatment costs for services provided at the state level ($2,828,207), specialty treatment costs for services provided at the federal level ($44,830), hospitalization costs ($287,260), incarceration costs ($48,121,949), premature mortality costs (non-homicide: $16,005,008), and premature mortality costs (homicide: $3,778,973). These subtotal $120,304,004.

Taken together, these costs total $193,096,930, with the majority share attributable to lost productivity. The findings are consistent with prior work that has been done in this area using a generally comparable methodology (Harwood et al., 1984, 1998; ONDCP, 2001, 2004).

This report by ONDCP does not include alcohol related costs, which would add to these numbers.

For Pennsylvania this cost for illicit drug use would be $8,289,740,227
Substance Use Disorders: Snapshot

Treatment Gap
Numbers in Thousands Needing Treatment for Illicit Drugs or Alcohol, 2011

- According to the NSDUH report, nationally we offer enough drug and alcohol treatment to address the needs of 10.8% of individuals who need it.
  - In Pennsylvania we do a little better; about 13 percent of those needing services get them.

- According to data from the Survey of Inmates in Local Jails, in 2002 more than two-thirds of jail inmates were found to be dependent on or to abuse alcohol or drugs.

- Substance abuse expenditures represented 1.3 percent of all healthcare expenditures in 2003 ($21 billion for substance abuse vs. $1.6 trillion for all health expenditures).

- The 2010 U.S. Drug Control Strategy cites that untreated addiction costs society over $400 billion annually with $120 billion of that in wasted or inappropriate health care procedures.

Treatment Goals

Sick/Symptoms → Absence of Symptoms/Health → Wellness

Addiction → Abstinence → Recovery
## Treatment Goals

<table>
<thead>
<tr>
<th>Addiction</th>
<th>Abstinence</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical addiction</td>
<td>Withdrawal</td>
<td>“Addiction” to recovery behaviors</td>
</tr>
<tr>
<td>Dysfunctional relationships</td>
<td>Tension/ distrust/ judgment in relationships</td>
<td>Trust, partnership, respect in relationships</td>
</tr>
<tr>
<td>Negative self image</td>
<td>Lack of confidence/ doubts</td>
<td>Self respect</td>
</tr>
<tr>
<td>Lack of values/spiritual connection</td>
<td>Questioning of values</td>
<td>Knowing personal values and following them</td>
</tr>
<tr>
<td>Motivation to use/drink</td>
<td>Motivation to stop drinking/avoid pain</td>
<td>Motivation to seek pleasure/ health</td>
</tr>
</tbody>
</table>
# Treatment Goals

<table>
<thead>
<tr>
<th>Mental health issues</th>
<th>Awareness of mental health as triggers</th>
<th>Management/ remission of mental health issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Boredom, blunted emotion</td>
<td>Happiness, range of emotion</td>
</tr>
<tr>
<td>Avoidance /numbing of feelings</td>
<td>Aware of uncomfortable feelings</td>
<td>Able to tolerate unpleasant feelings as they arise</td>
</tr>
<tr>
<td>Lack of range of coping skills</td>
<td>Novice at identifying coping strategies</td>
<td>Competent at a range of coping strategies</td>
</tr>
<tr>
<td>Unresolved trauma/grief</td>
<td>Aware of losses</td>
<td>Able to “let go” of past</td>
</tr>
<tr>
<td>Personality disorder(s)</td>
<td>Aware of personal issues</td>
<td>Able to reduce negative impact of personality style</td>
</tr>
<tr>
<td>Unmedicated (bipolar, ADHD etc)</td>
<td>Finding proper medication combination</td>
<td>Stable on effective medication</td>
</tr>
</tbody>
</table>
Past-Year Initiates for Specific Illicit Drugs Among Persons Age 12 or Older, 2008

- **Overview of medications**
  - Types of medications
- **Medications for treatment of addictions**
- **Other key issues**

*Source: Substance Abuse and Mental Health Services Administration. (2009). Results From the 2008 National Survey on Drug Use and Health: National Findings Rockville, Maryland.*
Overdose Deaths in Pennsylvania

Based on Pennsylvania Department of Health data, overdose deaths have been on the rise over the last two decades with an increase in the rate of death from 2.7 to 16.3 per thousand Pennsylvanians.
Overdose Deaths in Pennsylvania

- In 1990, note for the 64 grey counties, the death rate is too low to be accurately counted, at less than 3 deaths per 1,000 citizens. The state average is 2.7 deaths per 1,000 citizens, so any colored counties are above average, while grey is below average.
In 2000, note for the 52 grey counties, the death rate is too low to be accurately counted, at less than 3 deaths per 1,000 citizens. The state average is 7.4 per 1,000 citizens, so the light blue, yellow and orange counties are above average, while grey and dark blue are below average.
In 2011 (on right), note for only 35 grey counties, the death rate is too low to be accurately counted, at less than 3 deaths per 1,000 citizens. The state average is 15.4 per 1,000 citizens, so the yellow and orange counties are above average, while grey and dark blue are below average.
Based on Pennsylvania Corners Association (PCA) reports in 43 counties, heroin and heroin related deaths have been on the rise for the past 5 years (PCA, 2013). Between 2009 and 2013 there were 2,929 heroin related overdose deaths identified by county coroners. Of these, 490 (17%) were heroin only, while 2,439 (83%) involved multiple drugs.

Other drugs commonly found along with heroin overdose include:
- Other opiates: Methadone, Oxycodone, Fentanyl, Morphine, Codeine, Tramadol
- Other illegal drugs: Marijuana, cocaine
- Other sedating drugs: Alcohol, benzodiazepines
- Antidepressant medications: Prozac, Celexa, Remeron, Trazadone, Zoloft
Source of Nonmedical Use of Prescription Drugs

Source Where User Obtained

- More than One Doctor (1.8%)
- Free from Friend/Relative (54.0%)
- One Doctor (19.7%)
- Other¹ (5.1%)
- Bought on Internet (0.2%)
- Drug Dealer/Stranger (4.3%)
- Bought/Took from Friend/Relative (14.9%)

Source Where Friend/Relative Obtained

- One Doctor (82.2%)
- More than One Doctor (3.6%)
- Free from Friend/Relative (5.4%)
- Bought/Took from Friend/Relative (5.4%)
- Other¹ (1.8%)
- Drug Dealer/Stranger (1.4%)
- Bought on Internet (0.2%)
Pain as the Fifth Vital Sign

Pain Scale (English)
Escala de Dolor (Spanish)

0 2 4 6 8 10
No Pain Annoying mild pain Uncomfortable moderate pain Dreadful severe pain Horrible very severe pain Unbearable worst possible pain

Ningun dolor dolor molesto y moderado Dolor incómodo y moderado Dolor intenso y severo Dolor horrible y muy severo Dolor insoportable y el peor posible
• Created culture that all pain must be addressed
  – Created culture that everyone with pain needs prescription pain medicines.
  – Ignores that some aches and pains are “normal”
  – Ignores that there are other effective interventions for pain.
• Lack of physician education on non-prescription interventions.
In September 2013 the FDA updated the warning labels on long acting opioid products.

- The new labeling adds: "Because of the risks of addiction, abuse and misuse with opioids, even at recommended doses, and because of the greater risks of overdose and death with extended-release opioid formulations, reserve [Trade name] for use in patients for whom alternative treatment options (e.g., non-opioid analgesics or immediate-release opioids) are ineffective, not tolerated, or would be otherwise inadequate to provide sufficient management of pain."
# Overview of Medications for Opiate Assisted Treatment

<table>
<thead>
<tr>
<th>Pro</th>
<th>Methadone</th>
<th>Buprenorphine</th>
<th>Naltrexone</th>
<th>Vivitrol</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Prevents withdrawal symptoms</td>
<td>• Less tightly controlled than methadone</td>
<td>• No opiate effect “benefits” (i.e. high)</td>
<td>• Used to treat alcoholism and heroin addiction</td>
<td></td>
</tr>
<tr>
<td>• Decreases risky behavior</td>
<td>• Lower potential for abuse and are less dangerous in an overdose</td>
<td>• More limited side effects</td>
<td>• Monthly injections block the brain’s ability to get intoxicated or high</td>
<td></td>
</tr>
<tr>
<td>• Decreases criminality</td>
<td>• Progress in therapy may allow for a take-home supply of the medication</td>
<td>• Helps manage cravings/relapse risk</td>
<td>• Prospective clients must be sober for at least 7 days prior to beginning treatment</td>
<td></td>
</tr>
<tr>
<td>• Allows counseling</td>
<td>• Prevents Withdrawal</td>
<td>• Benefits found for multiple addictive behaviors including opiates, alcohol and gambling disorders</td>
<td>• Has other side effects like other medications</td>
<td></td>
</tr>
<tr>
<td>• Promotes access to medical/psychiatric care</td>
<td>• Prevents “Craving”</td>
<td>• Benefits found for multiple addictive behaviors including opiates, alcohol and gambling disorders</td>
<td>• Improved compliance</td>
<td></td>
</tr>
<tr>
<td>• Promotes rehabilitation</td>
<td>• Does not produce a “High”</td>
<td>• Blocks or reduces the effect of heroin</td>
<td>• Expenses for those without insurance coverage ($800-1200/month avg.)</td>
<td></td>
</tr>
<tr>
<td>• Treatment retention</td>
<td>• Reduced diversion issues</td>
<td>• Reduced diversion issues</td>
<td>• High Cost</td>
<td></td>
</tr>
<tr>
<td>• Cost as low as $5 per week</td>
<td>• Fewer transportation issues</td>
<td>• Fewer transportation issues</td>
<td>• Exclusionary criteria such as liver disease</td>
<td></td>
</tr>
<tr>
<td>• Dose: Most patients receive 80-125mg/day but some receive as much as 325mg/day</td>
<td>• Better compliance than methadone</td>
<td>• helps manage cravings/relapse risk</td>
<td>• Client choice/desire to choose medications that would not prevent “high”</td>
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<th>Buprenorphine</th>
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<th>Vivitrol</th>
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<tr>
<td>• Diversion potential</td>
<td>• Higher cost</td>
<td>• Possible dysphonic effects</td>
<td>• Expensive for those without insurance coverage ($800-1200/month avg.)</td>
<td></td>
</tr>
<tr>
<td>• Abuse Potential</td>
<td>• Does not address the effects/use of other substances (e.g. alcohol or benzos)</td>
<td>• High non-compliance rates (self administered, so it is easy to stop)</td>
<td>• High Cost</td>
<td></td>
</tr>
<tr>
<td>• Does not address the effects/use of other substances (e.g. alcohol or benzos)</td>
<td>• Early gastrointestinal discomfort</td>
<td>• Early gastrointestinal discomfort</td>
<td>• Exclusionary criteria such as liver disease</td>
<td></td>
</tr>
<tr>
<td>• Daily dosing requirements</td>
<td>• Note: Suboxone consists of a combination of Buprenorphine and Naloxone</td>
<td>• Early gastrointestinal discomfort</td>
<td>• Client choice/desire to choose medications that would not prevent “high”</td>
<td></td>
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<tr>
<td>• Transportation issues for daily dose</td>
<td>• Intense withdrawal from medication</td>
<td>• Early gastrointestinal discomfort</td>
<td>• Client choice/desire to choose medications that would not prevent “high”</td>
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<td>• Intense withdrawal from medication</td>
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## Overview of Medications for Opiate Assisted Treatment

<table>
<thead>
<tr>
<th>Contraindications and cautions</th>
<th>Methadone</th>
<th>Buprenorphine</th>
<th>Naltrexone/Vivitrol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypersensitivity to methadone</td>
<td>• Hypersensitivity to buprenorphine or naloxone</td>
<td>• Acute hepatitis or liver failure</td>
<td></td>
</tr>
<tr>
<td>Respiratory depression</td>
<td>• Respiratory depression</td>
<td>• Opioid analgesics needed for pain control</td>
<td></td>
</tr>
<tr>
<td>Acute bronchial asthma</td>
<td>• Physiologically dependent on opioids and not in withdrawal prior to first dose</td>
<td>• Physiologically dependent on opioids prior to first dose</td>
<td></td>
</tr>
<tr>
<td>Known or suspected paralytic ileus (intestinal blockage)</td>
<td>• Hypersensitivity to naltrexone or other components of the injection</td>
<td>• Hypersensitivity to naltrexone or other components of the injection</td>
<td></td>
</tr>
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</table>
Buprenorphine & Higher Dose Methadone Reduce Heroin Use

Percent Positive vs. Weeks

LAAM
- Buprenorphine
- High Dose Methadone
- Low Dose Methadone

From: Johnson et al., 2000
Medication compliance

Johnson et al, 2000
## Why does one become addicted?

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<tr>
<th>Causes</th>
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<tr>
<td><strong>Biology</strong></td>
</tr>
<tr>
<td>Genes, Biochemistry, Brains, Autopilot Learning</td>
</tr>
<tr>
<td><strong>Relationships with Others</strong></td>
</tr>
<tr>
<td>Peer Pressure, Family, “Enabling”, Isolation, Lies</td>
</tr>
<tr>
<td><strong>Relationship with Self</strong></td>
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<td>Shame, Guilt, Negative Beliefs, “Hate Self”</td>
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## Why does one become addicted?

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<th>Causes</th>
<th>Solutions</th>
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<tr>
<td><strong>Biology</strong></td>
<td>Medication, Meditation</td>
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<tr>
<td>Genes, Biochemistry, Brains,</td>
<td>Exercise, Diet, Sleep,</td>
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<tr>
<td>Autopilot Learning</td>
<td>Stress Management Decisional Actions</td>
</tr>
<tr>
<td><strong>Relationships with Others</strong></td>
<td>Limit Setting, Relationship Building,</td>
</tr>
<tr>
<td>Peer Pressure, Family, “Enabling”,</td>
<td>Honesty, Clear Communication</td>
</tr>
<tr>
<td>Isolation, Lies</td>
<td>Family/Couples Therapy</td>
</tr>
<tr>
<td><strong>Relationship with Self</strong></td>
<td>Forgive Self, Gratitude Practice</td>
</tr>
<tr>
<td>Shame, Guilt, Negative Beliefs,</td>
<td>Engage in Healthy Behaviors Today</td>
</tr>
<tr>
<td>“Hate Self”</td>
<td>Healthy Coping Skills Training</td>
</tr>
<tr>
<td><strong>Relationship with Higher Power</strong></td>
<td>Define Values, Live by Personal Values</td>
</tr>
<tr>
<td>Lack of Connection with Personal Values,</td>
<td>Pray, Meditate, Other Spiritual Practice</td>
</tr>
<tr>
<td>Anger/Shame with God</td>
<td></td>
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## Why does one become addicted?

<table>
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<td>Peer Support</td>
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<tr>
<td><strong>Relationship with Self</strong></td>
<td>Psychosocial Therapy</td>
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<td>Shame, Guilt, Negative Beliefs,</td>
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<tr>
<td>Lack of Connection with Personal</td>
<td></td>
</tr>
<tr>
<td>Values, Anger/Shame with God</td>
<td>12-Step Meetings</td>
</tr>
<tr>
<td></td>
<td>Religious/Spiritual Services</td>
</tr>
</tbody>
</table>

Other Ancillary Tools: Employment, Housing, Other Medical Treatment
Biology

Example of 2 Brain pathways

- Urge to Use
  - Decision to Use
    - Get Money (may be illegally)
      - Go to dealer
        - Use, Use, Use
          - Drug wears off, crash
  - Decision not to Drink
    - Engage in Abstinence Behavior, eg call sponsor
      - Recovery Behavior, eg go to work, be honest, manage family etc
        - Late Stage Recovery Behavior
What Doesn’t Work?

- Brief Therapy
- Bibliotherapy
- Drug/Alcohol Education
- Detox Only
- Psychoanalytic Therapy
- Any Single “Magic Bullet” Approach
What Works?

For Whom?

- **Client choice**
- **Demographic issues**
  - Gender, Age, Race, Culture
- **Special Populations**
  - Criminal Justice
  - Gambling
  - Dual Diagnosis
  - Complex medical
  - Pregnancy/Women with Children
- **Situation issues**
  - Distance to clinic
  - SES, cost of medication issues
For What Purpose?

- Harm Reduction/Safe Continued Use
- Prevent Death
- Prevent HIV/Hepatitis
- Resolve Criminal Justice Involvement
- Treatment Engagement
- Abstinence
- Recovery
What Works?

When?

Motivation levels
Severity of Illness
Consider initiation of medications at each stage.

Antidepressants?  Opioid Pain Medications?
• **Consciousness-Raising** — increasing awareness via information, education, and personal feedback about the healthy behavior.
• **Dramatic Relief** — feeling fear, anxiety, or worry because of the unhealthy behavior, or feeling inspiration and hope when they hear about how people are able to change to healthy behaviors.
• **Self-Reevaluation** — realizing that the healthy behavior is an important part of who they are and want to be.
• **Environmental Reevaluation** — realizing how their unhealthy behavior affects others and how they could have more positive effects by changing.
• **Social Liberation** — realizing that society is more supportive of the healthy behavior.
• **Self-Liberation** — believing in one’s ability to change and making commitments and recommitments to act on that belief.
• **Helping Relationships** — finding people who are supportive of their change.
• **Counter-Conditioning** — substituting unhealthy ways of acting and thinking for healthy ways.
• **Reinforcement Management** — increasing the rewards that come from positive behavior and reducing those that come from negative behavior.
• **Stimulus Control** — using reminders and cues that encourage healthy behavior as substitutes for those that encourage the unhealthy behavior.
Progression of a Disease and Recovery

Prevention

No addiction

No drinking
Social drinking
Drinking feels good
Drink to relax
Drink to escape
Withdrawal from friends
First DUI
Conflict in relationships
Missed time from work
Regular drinking
Amount of drinking increases
Drink to stop feeling bad
Disciplinary action at work
Association with negative peer group
Antisocial beliefs justify behaviors
Increasing health complications
Relationship isolation/ alienation

(Relapse) Prevention

Late Addiction

“Rock Bottom”, Arrests
Divorce, Loss of Job
Depression,
Hopelessness,
Suicide, Death

Outpatient Treatment

Early Addiction

Give to others
Optimism
Regain job
Face problems
Honesty
More relaxed
Relationships improve
Begin to develop trust
Resolve legal issues
Self respect returning
Connect with sponsor/
positive peer group
Self examination
Medical stabilization
Thinking begins to clear
Desire for help

Intensive Treatment

Middle Addiction

Early Recovery

Late Recovery
Prevention Lessons

• Address Risk/Protective Factors
  – Individual, Peer, Family, Social, Community
  – Eg: perception of risk, favorable attitudes toward use, impulsivity, sensation seeking, substance use by peers

• Avoid Fear Based Approaches

• Skill Based (e.g. refusal skills, coping skills)

• Use strong clear “No” messages
Prevention Lessons

• Evidence Based Practices
  – National Registry of Evidence Based Programs and Practices
    • http://www.nrepp.samhsa.gov/
  – Blueprints Programs
    • http://www.blueprintsprograms.com/allPrograms.php
  – Washington State Institute for Public Policy
    • http://www.wsipp.wa.gov/BenefitCost?programSearch=
Prevention Lessons

• Intervention
  – Screening Brief Intervention, Referral to Treatment
    • Good for early intervention to prevent risky use from becoming SUD
Consider initiation of medications at each stage.

- Antidepressants?
- Opioid Pain Medications?
What Works? Key Issues:

- **Therapeutic dose issues**
  - Level of care
  - Length of stay
  - Continuum

- **Quality issues**
  - Evidence based practices
  - Behavioral practice
  - Cognitive restructuring
  - Emotion/coping
  - Trauma
  - Monitoring/ case management/Advocacy

- **Comprehensive care elements**
  - Recovery supports/12-step
  - Employment
  - Housing
PCPC

• PCPC is a highly acclaimed system based on the criteria from the American Society of Addiction Medicine (ASAM)
• Using a detailed assessment, the criteria suggest what level of care is needed for an individual (eg. Detox, Long term residential, Intensive outpatient, or outpatient)
• PCPC is a research based, standardized tool for placement.
• Importance of Level of Care
  – Under treating can lead to treatment resistance or increased progression of the disease
    • What happens if you take a half dose of antibiotic?
    • What happens if you take a half dose of insulin?
    • What happens if you take a half dose of treatment?
  – Answer:
    • It doesn’t work
    • Individuals get sicker
    • Individuals and providers “give up” believing that there is no hope
• What about overtreating?
  – For years TC’s did not have a length of stay requirement
  – Treatment lengths have shortened due to financial constraints
  – Increased lengths of care are associated directly related to better outcomes (i.e. abstinence, recidivism, continued employment)
  – When a client receives a higher level of care (eg. TC) when they are recommended a lower level of care, they have better outcomes (DeLeon, 2001)
    • For appropriate treatment there is no risk of overtreatment
    • Overtreatment is an issue with medication (causing illness) or with maintenance without treatment (e.g. hospitalization or incarceration becoming “institutionalized”)

PCPC
Table 1: Summary of Costs and Benefits Associated with Substance Abuse Treatment (Based on the Social Planner Perspective)

<table>
<thead>
<tr>
<th></th>
<th>All Treatment Modalities (N = 2,567)</th>
<th>Methadone Maintenance (N = 115)</th>
<th>Outpatient Treatment (N = 1,585)</th>
<th>Residential Treatment (N = 867)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average cost per substance abuse treatment episode (based on weighted per diem prices)</td>
<td>$1,583 ($1,506, $1,660)</td>
<td>$2,737 ($2,460, $3,004)</td>
<td>$838 ($806, $871)</td>
<td>$2,791 ($2,600, $2,984)</td>
</tr>
<tr>
<td>Average cost per substance abuse treatment episode (based on unweighted per diem prices)</td>
<td>$3,336 ($3,150, $3,524)</td>
<td>$2,867 ($2,440, $3,290)</td>
<td>$1,505 ($1,445, $1,567)</td>
<td>$6,745 ($6,282, $7,213)</td>
</tr>
<tr>
<td>Average benefits</td>
<td>$11,487 ($9,784, $13,180)</td>
<td>$5,313 ($2,418, $8,265)</td>
<td>$9,049 ($6,864, $11,225)</td>
<td>$16,257 ($15,482, $19,078)</td>
</tr>
<tr>
<td>Net benefits (benefits minus cost of treatment, based on weighted per diem prices)</td>
<td>$9,903 ($8,205, $11,592)</td>
<td>$2,575 ($321, $5,529)</td>
<td>$8,211 ($6,028, $10,385)</td>
<td>$13,467 ($10,706, $16,269)</td>
</tr>
<tr>
<td>Cost-benefit ratio (based on weighted per diem cost estimates)</td>
<td>7:1</td>
<td>No statistically significant benefits</td>
<td>11:1</td>
<td>6:1</td>
</tr>
</tbody>
</table>

Note: The follow-up period is 9 months. Ninety-five percent confidence intervals (shown in parentheses) were bootstrapped using normal-based methods and 10,000 replicate samples.

Ettner, et al., 2006
Evaluated the implementation of Act 152

This study found:
- Average LOS for 3C was 90 days (1995)
- The study found that those completing treatment had:
  - Lower rates of recidivism
  - Lower utilization of medical services
  - More likely to obtain employment
  - More likely to have higher paying employment
    - This proper care is the way to move high cost utilizers off of Medicaid and into private insurance
    - Establishing ongoing recovery is the best cost saver
- Better outcomes were found with:
  - Longer lengths of stay
  - More complete continuum of care
- Compare with current Average LOS for 3C is 47 days (2011)
Length of Stay

Studies consistently find length of stay as the primary predictor of outcomes, along with intensity of treatment and continuum of care.


Figure 4. Percentage of abstinent post-discharge by LOS and study. Note: **Difference from RWC is statistically significant at p<.01.

Source: Zhang (2002). Does retention matter?
Treatment duration and improvement in drug use.
(4,005 clients)

Length Of Stay

Studies consistently find length of stay as the primary predictor of outcomes, along with intensity of treatment and continuum of care.

- Improvements in criminal recidivism and relapse rates are correlated to length of treatment, with highest rates of improvement among those with 9 months of treatment, and reduced effectiveness for treatment of less than 90 days (NIDA, 2002)
- Highest improvements were found in long term treatment with least improvement found in methadone maintenance (Friedmann et al, 2004)
- Lengths of stay are the number one predictor of outcomes for treatment (President’s Commission on Model State Drug Laws, 1993)
- Average length of stay for Medicaid clients was 90 days (Villanova Study, 1995). Best outcomes were found for longer lengths of stay and more complete continuum of care, measured as lack of criminal recidivism, abstinence, employment and higher paying jobs. No benefit was found for treatment less than 90 days. Currently, average length of stay in treatment for long term residential is 47 days (DPW, 2011)
- Length of stay has a direct linear relationship with improved outcomes (Toumbourou, 1998)
What the Treatment Research Indicates
Reincarceration Rates at 12-Month Community Follow-Up

Amity TC at Donovan Prison

Wexler, DeLeon, Thomas, Kressel, & Peters (in press)

- Control Group: 63%
- Prison TC/Standard Aftercare: 42.8%
- Prison TC/TC Aftercare: 26.2%
- Dropouts: 50%
Delaware Correctional System participants in prison TC (Key) and work release TC (Crest) 
Drug-free and arrest-free 1 year after work release

<table>
<thead>
<tr>
<th></th>
<th>Drug-free</th>
<th>Arrest-free</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Tmt</td>
<td>16%</td>
<td>22%</td>
</tr>
<tr>
<td>Key</td>
<td>46%</td>
<td>43%</td>
</tr>
<tr>
<td>Crest</td>
<td>31% *</td>
<td>57% *</td>
</tr>
<tr>
<td>Key-Crest</td>
<td>47%</td>
<td>77% *</td>
</tr>
</tbody>
</table>

*p<.05 from no treatment. 

Percentages show any use of drugs (either self-reported or detected by urinalysis) and any arrests in the year after work release. Note that prisoners were allowed to access treatment on their own, and some of those in the no treatment condition did receive services that were not part of the Key or Crest programs. Total number of patients was 448.

Pennsylvania Success Story

• Restrictive Intermediate Punishment Program (RIP, 2014)

• Current Alternative Sentencing Option for Level 3 & 4 Offenders Places Offenders in Treatment Based on Need
  • 79% Overall Successful Program Completion Rate
    • 93% Successful Outcomes for DUI Offenders
    • 66% Successful Outcomes for Drug Offenders

• 13.7% Recidivism Rate for Successful Completions at 1 year
  • DOC 1 Year Recidivism = 25.9%
  • At 18 months Program Recidivism has flattened; DOC continues to trend up
Treatment Works: But what is treatment?

• Treat addresses a wide range of clinical issues that cause and exacerbate risks of substance abuse.
  • These include the needs for habilitation and rehabilitation, including vocational supports, addressing trauma, learning coping skills, learning relapse prevention skills, improving relationships etc.
• This is not to be confused with supporting services such as detoxification, medications, peer supports, 12-step programs, housing and other similar approaches which complement the core treatment program.
Elements of Effective CJ AOD Treatment

1. Program Leadership and Development
   - Eg: Experienced program director, valued by the criminal justice community, adequately funded

2. Staff Characteristics
   - Eg: Education specific to CJ population, clinical supervision

3. Offender Assessment
   - Eg: Risk/Needs assessed, target high risk issues

4. Treatment Characteristics
   - Eg: Program length minimum of 6 months, appropriate rewards/punishers

5. Quality Assurance
   - Eg: Quality improvement process, evaluations
     - Latessa, Correctional Program Checklist
Who is treating?

- On the national and county levels, as we have deinstitutionalized our intensive treatment, we have cost shifted to corrections.

- By increasing treatment we can reverse the trend.

Current: Trend continues
- 2009 About 50,000 psychiatric beds
- 2010 Over 2 million prison beds
What is a Therapeutic Community? What were they doing that worked?
What is a Therapeutic Community?

• What it is not:
  – “Hug a thug”
  – “He had such a difficult life. We should let him off easy”
  – “Tell me about your mother”
  – “If I get you a job you will be cured”
  – “If I teach you that drugs are bad, you will stop”
What is a Therapeutic Community?

• What it is:
  – High accountability
  – Behavioral practice and feedback
  – Correction of criminogenic beliefs and thinking patterns
  – Tools in practicing effective management of negative emotions

• Although the TC has many elements, a defining principle is the use of **Community as Method**
The Goal of the TC

- The Goal of the TC is not only to stop addiction.
- The Goal of the TC is Right Living
  – This is a higher standard that requires both:
    • Abstinence from substances
      AND
    • Develop a crime free lifestyle
      AND
    • Contributing members of society
### TC as cultural change

<table>
<thead>
<tr>
<th></th>
<th>Prison/Addiction Culture</th>
<th>TC Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rules</td>
<td>“No snitching”</td>
<td>Open communication</td>
</tr>
<tr>
<td>Expectations</td>
<td>Trust no one</td>
<td>Trust</td>
</tr>
<tr>
<td>Goal Focus</td>
<td>Short term gains</td>
<td>Long term gains</td>
</tr>
<tr>
<td>Gratification</td>
<td>Instant gratification</td>
<td>Delay of gratification</td>
</tr>
<tr>
<td>Peer group</td>
<td>Negative peer group</td>
<td>Positive peer group</td>
</tr>
<tr>
<td>Ethics</td>
<td>My best interest</td>
<td>The interest of the community</td>
</tr>
<tr>
<td>Goals</td>
<td>Money, power, pleasure</td>
<td>Right living</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Blame/victim</td>
<td>Personal Responsibility</td>
</tr>
</tbody>
</table>
Cognitive Therapy

• In CBT, Behaviors are motivated by beliefs
• Behavioral change is made by changing the belief patterns
  – Police car example.
• Examples of Addiction Generating Beliefs
  – I can’t do anything else.
  – I need it.
  – I can’t survive without the (drug).
  – I tried, but I’m not able to do it (terminally unique).
  – It is easier to avoid than to face life's difficulties and self-responsibilities.
  – I must have certain and perfect control over things.
A COMPREHENSIVE CONTINUUM OF CARE
Transition Timeline

Incarceration/Reentry 2 year Treatment Timeline

- Incarceration
  - Complete Assessment
  - Refer to appropriate program
- Assessment/Planning
  - Schedule program near release date
- Treatment Behind Walls
  - 4-6 month TC
  - Release as close to program completion as possible
- Treatment upon Release
  - Program transitions to finding housing and employment in last 2 months
  - 4-6 month TC
  - Find Sponsor
- Outpatient Aftercare
  - 9-12 months outpatient support
  - Transition to once monthly check-in for last 3-6 months
  - Transition to ongoing 12 step support
- Drug Free Crime Free life as Contributing Citizen
Peer Supports

• Increasing attendance at 12-step meetings following treatment are associated with increased rates of abstinence (Timko & DeBenedetti, 2007).
  – This includes a range of activities such as attendance, getting a sponsor, being a sponsor, reading at meetings, calling a 12-step member for help etc.

Fig. 2. Percent abstinent from alcohol and drugs at both the first and second six-month follow-ups according to 12-step involvement.
Meditation

- Meditation has been found to achieve abstinence in 65% to 85% of heroin users with similar findings replicated over decades (Benson & Wallace, 1972 Pruett, et al. 2007, Zgierska et al. 2009, Witkiewitz & Bowen, 2010).
- Meditation is found to help with reduce cravings, anxiety and associated features.
- Meditation has no known negative side effects.
Recovery Lessons Learned

• Faces and Voices of Recovery Survey of 3,200 individuals with an average of 10 years in recovery.

• Personal Descriptions:
  – The majority (75%) selected “in recovery”;
  – 14% chose “recovered,”
  – 8% “used to have a problem with substances and no longer do,”
  – 3% chose “medication-assisted recovery.”

• Paths to Recovery:
  – 71% professional addiction treatment
  – 18% had taken prescribed medications (e.g., buprenorphine or methadone).
  – 95% had attended 12-step fellowship meetings (e.g., Alcoholics Anonymous),
  – 22% had participated in non-12-step recovery support groups (e.g., LifeRing, Secular Organizations for Sobriety (S.O.S.).
The Solution

• Prevention
  – Healthy Pennsylvania Permanent Drop Boxes for medication disposal

• Treatment
  – Through Medicaid expansion, Pennsylvania will offer coverage to a wider range of Pennsylvanians so that those with substance abuse can access care

• Innovative Thinking
  – Governor Wolf has proposed an additional $5 million to address the opioid epidemic in the state budget
The Solution (cont.)

- Continue / Expand current initiatives
  - Restrictive Intermediate Punishment
  - Enforcement of DUI laws
  - Medicaid Pilot Project
    - Prevents unnecessary spending from lack of agency coordination
  - Prescriber Practices Workgroup
    - Emergency Department Pain Treatment Guidelines
    - Opioid to Treat Non-Cancer Pain
    - Prescribing Guidelines for Dentists
  - Prescription Drug Monitoring Program
  - Naloxone
  - Good Samaritan
The Solution: Compliance and Quality

- **Awareness of Insurance and other Protections**
  - **Act 106**
    - Protects group health insurance plans
  - **Act 152**
    - Protects services in Medicaid plans
  - **Mental Health and Parity and Addiction Equity Act**
    - Requires SUD to be treated with equivalent coverage as other medical conditions
  - **Patient Protection and Affordable Care Act**
    - Requires the coverage of SUD as an essential benefit

- **42CFR Confidentiality**
  - Protects confidentiality of SUD patients from adverse effects from the stigma associated with the disease
A note about Act 106 of 1989

- Requires all commercial group health plans, HMOs, and the Children’s Health Insurance Program to provide comprehensive treatment for substance use disorders.
- Minimum benefits
  - 30 days residential per year
  - 30 sessions outpatient/partial hospitalization per year
  - 30 additional outpatient/partial hospitalization sessions that may be exchanged on a 2:1 basis for up to 15 additional residential treatment days
  - Family counseling and intervention services
- Only lawful prerequisite is a certification and referral from a licensed physician or licensed psychologist
- Concurrent reviews are not required during this time
Parity?

**Addiction Treatment Coverage:**
- Detoxification – 100%
- Opioid Substitution Therapy – 50%
- Urine Drug Screen – 100%
  - 7 per year
- Wide variety in coverage across states

**Diabetes Coverage:**
- Physician Visits – 100%
- Clinic Visits – 100%
- Home Health Visits – 100%
- Glucose Tests, Monitors, Supplies – 100%
- Insulin and 4 other Meds – 100%
- HgA1C, eye, foot exams 4x/yr – 100%
- Smoking Cessation – 100%
- Personal Care Visits – 100%
- Language Interpreter – Negotiated

Source: (McLellan, 2013)
• **SUD treatment is now an “Essential Service”**
  1) Ambulatory patient services;
  2) Emergency services;
  3) Hospitalization;
  4) Maternity and newborn care;
  5) Mental health and substance use disorder services, including behavioral health treatment;
  6) Prescription drugs;
  7) Rehabilitative and habilitative services and devices;
  8) Laboratory services;
  9) Preventive and wellness services and chronic disease management;
  10) Pediatric services, including oral and vision care

• **Funds full continuum of care**
  • Prevention, Intervention, Treatment
  • Accesses federal funding

**ACA**
• Treatment Services
  – Screening, Brief Intervention, Assessment
  – Evaluation and medication
  – Family Counseling

• Alcohol and Drug Testing

• 4 Maintenance and Anti-Craving Meds

• Monitoring Tests (urine, saliva, other)

• Smoking Cessation

Source: (McLellan, 2013)
# Recommendations

<table>
<thead>
<tr>
<th>Why Treatment Fails</th>
<th>Why Treatment Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of Stay (Less than 90 days)</td>
<td>Length of Stay (More than 90 days)</td>
</tr>
<tr>
<td>Undertreating (Giving OP instead of TC)</td>
<td>Appropriate Level of Care</td>
</tr>
<tr>
<td>Fragmented care (Detox only, 12-step only)</td>
<td>Full Continuum of Care</td>
</tr>
<tr>
<td>Weak Enforcement of Insurance Law</td>
<td>Enforcement of State and Federal Laws</td>
</tr>
<tr>
<td>Medicating all Pain</td>
<td>Appropriate Prescribing</td>
</tr>
<tr>
<td>Stigma (Seeing individuals as “bad”)</td>
<td>Humanizing (Treating those with disease)</td>
</tr>
<tr>
<td>Locking up Drug Users</td>
<td>Treating those with Substance Use Disorder</td>
</tr>
<tr>
<td>Thinking There is a Silver Bullet</td>
<td>Clinical Integrity</td>
</tr>
</tbody>
</table>

## What Works: Clinical Integrity
What Can I Do? 10 Simple Steps

- Are my programs trained in cross-system needs (criminal justice, child welfare, medical etc)?
- Are my system partner programs trained in drug and alcohol treatment?
- Are we using adequate lengths of stay or terminating based on funding?
- Are we using a continuum of care?
- Are we educating on proper prescribing practices?
- Does our county have medication take back boxes?
- Are we expanding the use of Naloxone to save overdose victims?
- Are we facilitating access to funding for needed services such as implementing the jail Medicaid project?
- Are we supporting our community efforts for prevention, to reach long term improvement.
- Are we doing SOMETHING? Pick one and keep moving forward.
Recommendations

• Consider the “whole person” in a continuum of care
• Ensure psychosocial treatment is included at the appropriate intensity, duration and continuum.
• Choose interventions from the menu to match the needs of the individual.
  – Consider:
    • Motivation
    • Stage of addiction/recovery
    • Benefits/Risks of each approach
    • Individual characteristics (e.g. risk factors, special needs)
    • Ensure combination of approaches addresses the complex needs of the individual
    • Situational characteristics (e.g. availability, funding)
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Pennsylvania Department of Drug and Alcohol Programs

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