Assessing for Cognitive Impairment in Correctional Settings
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Agenda

- Demographics of Correctional Population
- Cognition/Cognitive Impairment
- Cognitive Assessment
- Challenges
Demographics of Corrections Populations

U.S. Prison Population

U.S. Prisons held more than 1,500,000 prisoners in state and federal correctional facilities at the end of 2014.

Imprisonment rate = 612 per 100,000

Females = 112,961
Males = 1,448,564

In 2014, 6% of all black males ages 30-39 were in prison; 2% of Hispanic; 1% of white males in same age group.

More than 1% of all US adult males in 2014 were in prison.

2014 new admissions: 626,600
2014 releases: 636,300
### Aging Population

**Percent Change in Population of Aging Inmates from FY 2009 to FY 2013**

<table>
<thead>
<tr>
<th>Age Cohorts</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-54</td>
<td>10%</td>
</tr>
<tr>
<td>55-59</td>
<td>20%</td>
</tr>
<tr>
<td>60-64</td>
<td>30%</td>
</tr>
<tr>
<td>65-69</td>
<td>40%</td>
</tr>
<tr>
<td>70-74</td>
<td>50%</td>
</tr>
<tr>
<td>75-79</td>
<td>60%</td>
</tr>
<tr>
<td>80+</td>
<td>70%</td>
</tr>
</tbody>
</table>

Source: BOP population snapshots.

### Disabilities in Correctional Population

**Prevalence of disabilities among state and federal prisoners and the general population, standardized, 2011-12**

<table>
<thead>
<tr>
<th>Disability</th>
<th>State and federal prisoners</th>
<th>General population**</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any disability</td>
<td>31.6%**</td>
<td>10.9%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Vision</td>
<td>7.1**</td>
<td>2.1</td>
<td>0.02</td>
</tr>
<tr>
<td>Hearing</td>
<td>6.2**</td>
<td>2.6</td>
<td>0.02</td>
</tr>
<tr>
<td>Ambulatory</td>
<td>10.1**</td>
<td>5.1</td>
<td>0.03</td>
</tr>
<tr>
<td>Cognitive</td>
<td>19.9**</td>
<td>4.8</td>
<td>0.04</td>
</tr>
<tr>
<td>Self-care</td>
<td>2.3</td>
<td>2.1</td>
<td>0.02</td>
</tr>
<tr>
<td>Independent living</td>
<td>7.5**</td>
<td>4.0</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Note: See Methodology for definitions of disabilities.

*Comparison group.

**Difference with the comparison group is significant at the 95% confidence level.

*Data were standardized to prisoners in the National Inmate Survey, 2011-12 based on sex, age, race, and Hispanic origin.


- Thirty-three percent of prisoners and 47% of jail inmates with a cognitive disability reported past 30-day serious psychological distress, compared to 11% of prisoners and 24% of jail inmates with a disability other than cognitive.
Cognitive Impairment in Correctional Facilities

California Department of Corrections and Rehabilitation:

- 19% of 55+ general population identified by correctional officers as having cognitive impairment
- Of those having evidence of dementia in their charts, only 43% were identified by correctional officers as having memory problems.
- Often no evidence in charts of cognitive screening, though evidence in description of behaviors.

Mental Illness in Correctional Settings

- Most literature on mental illness in correctional facilities includes mental or cognitive impairment in this definition, although not all.
- Rates of inmates with MI more than quadrupled from 1998 to 2006.
- 2005 BOJ data: Jail inmates 60%; State 49%; Federal 40%.
- APA study: only 7.5% of crimes committed found to be directly related to mental illness.
Intellectual Impairment In Correctional Settings

- Persons with below average IQ are at a disproportionately high risk of coming into contact with the criminal justice system.
- Large body of research focused on attempting to determine relationship between lower intellectual functioning and risk of committing criminal offenses.
- Low IQ is a cognitive disability.

U.S. Department of Justice, 2015

Intelligence and Misconduct in Prison

- Intelligence is strong predictor of criminal behavior, with higher IQ associated with less criminal involvement (Kandel et al., 1988).
- Both group and individual IQ inversely associated with incidence of violent misconduct in corrections facilities.
- A prison inmate’s IQ, as well as the average IQ of a prison unit, can play a role in predicting violent prison misconduct.
- A one SD increase in IQ score associated with 10% reduced odds of violent misconduct.
Extreme Outcome of Adult ADHD: Over-representation of ADHD in Prison. Early identification and treatment are critical.

Meta-analysis: Prevalence of ADHD in incarcerated populations across countries using 42 studies compared those in prison with ADHD vs. general population (Young et al., 2015):

“there is a fivefold increase in prevalence of ADHD in youth prison populations (30.1%) and a 10-fold increase in adult prison populations (26.2%).”

Significant country differences were found.

Indicates substantial societal cost ADHD in the world.

ADHD Adults & Prison: One way to reduce its likelihood: Rx.

(Lichtenstein, et al., 2012)

(n=25,656) Population Study in Sweden.

“…among patients with ADHD who were taking medication there was a significant 32% reduction in the criminality rate for men and a 41% reduction in women.”

Crime reduction notable even when:
- Different drugs used &
- Different crimes tracked (violent vs. non-violent).

Reduction ranged from 17%-46%.
Inmate Health/TBI

• CDC considers TBI-related problems in prisons to be an important public health problem.

• 25-87% of inmates report having experienced a head injury or TBI as compared to 9.5% in general population reports.

• Female inmates convicted of violent crime more likely to have sustained a pre-crime TBI and/or some other form of physical abuse.

• Among male prisoners, a history of TBI is strongly associated with perpetration of domestic and other kinds of violence.
Cognition & Cognitive Impairment

- **Cognition** - Processes of knowing, including attending, remembering, and reasoning; also the content of the processes, such as concepts and memories (APA)

- **Cognitive Impairment** means there is a change in how a person thinks, reacts to emotions, or behaves. Can range from mild memory problems to an inability to think independently.

- **Cognitive Disorders** – any disorder that significantly impairs the cognitive function of an individual to the point where normal functioning in society is impossible without treatment.

Causes of Cognitive Impairment

- Can be present at birth
- Can be caused by abuse of prescription medications, alcohol, street drugs or other chemicals
- Can be caused by a disease
- Can be a side effect of some medications
- Can be caused by a trauma
Cognitive Impairment

- Often unrecognized and undiagnosed.
- Can cause difficult functioning due to poor decision-making and behaviors that inhibit the ability to follow instructions.
- Behaviors can be misinterpreted as problematic or unruly; can result in disciplinary action.
- Cognitively impaired inmates have higher victim potential.

Functional Consequences of Cognitive Impairment

- Forgetting
  - Things already learned, Appointments, Self-care (including medication)
- Getting Lost
- Following Commands/Instructions
- Mood
  - Depression, Anxiety
- Unpleasant Interpersonal Behavior
  - Anger, Paranoia, Inappropriate Sexual Remarks/Actions
- Capacity Limitations
  - Decision-Making: Financial, Medical
- Communication Deficits
  - Receptive, Expressive
Recognition of Cognitive Impairments - Importance

Recognition allows:
A framework for understanding symptoms
Opportunity to build the right medical team
Access to existing medications
Access to programs and services
Enhanced safety and security for all
Consideration of patient’s ability to adhere to treatment recommendations

Dementia and other Cognitive Disorders

Symptoms
– Memory problems
– Confabulations
– Impaired thinking
– Impaired Judgement

Symptoms in Jail
– Poor memory and may not follow directions
– Treat individual as you would any with a disability
Mental Retardation

Symptoms
- Poor adaptive functioning from birth
- Related to intelligence, not thoughts, feelings and behaviors

Symptoms in Jail
- Not to be confused with mental illness
- Requires patience

TBI in Prisons and Jails
- Attention deficits may make it difficult for prisoner with TBI to focus on a required task or respond to directions given by a correctional officer.
- Memory deficits can make it difficult to understand or remember rules or directions, which can lead to disciplinary actions by jail or prison staff.
- Irritability or anger might be difficult to control and can lead to an incident with another prisoner or correctional officer and to further injury for the person and others.

CDC (2007)
TBI in Prisons and Jails cont.

- Slowed verbal and physical responses may be interpreted by correctional officers as uncooperative behaviors.

- Uninhibited or impulsive behavior, including problems controlling anger and unacceptable sexual behavior, may provoke other prisoners or result in disciplinary action by jail or prison staff.

CDC (2007)

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DSM-5 Neurocognitive Disorders

Dementia and amnestic disorder are now included under neurocognitive disorder (NCD).

Dementia has been associated with the older population whereas NCD expands the category to also include etiologies occurring in younger adults.

The term dementia is not excluded from use in etiological subtypes.
Cognitive Assessment in Correctional Settings

- Required mental health screening often includes intelligence assessment.
- Assess intelligence in order to maximize use of additional program resources.
- NCCHC standards state that post-admission mental health assessment should include intelligence tests to screen for intellectual disability among inmates.
- ABA recommends initial screening to identify potential security risks including vulnerability to abuse.
- ABA also recommends screening upon admission to identify issues requiring immediate assessment or attention…[to include] special education eligibility.
First…

Clarify the referral question

Understand who the testing is for (who is the client or customer)

Understand available history
  • Medical
  • Educational
  • Occupational
  • Family
  • Legal

Cognitive Areas to Assess

Attention
Executive Functioning
Learning and Memory
Language
Perceptual-Motor
Social Cognition
(Ideal) Evaluation Process

Interview
History
Medical Record Review
Observation
Assessment
Evaluation should be multidisciplinary

Formal Assessment

Testing is performed in a structured, controlled environment

Patient is seen alone

Test results are compared with scores from other patients the same age and education levels
Factors that Influence Performance

- Poor vision or hearing
- Impaired gross- or fine-motor skills
- Medication
- Intellectual disability
- Severely impaired language functioning
- Severely impaired attention
- Significant Impulsivity
- Poor effort
- Lack of cooperation
- Fatigue
- Severely slowed psychomotor speed
- Psychological impairments
- Literacy, including to technology

Accommodations and Modifications

- Sensory declines
  - Visual decline
  - Hearing loss
  - Motor impairments
- Cognitive difficulties
- Technology
- Environmental Demands
Attention

Determines which information is perceived, processed, and remembered.

- Selective attention – ability to choose task on which to attend.
- Focused attention – ability to maintain focus on task in presence of distraction
- Divided attention – ability to allocate mental resources between tasks performed together or at the same time.
- Sustained attention – ability to sustain mental resources on task over longer periods of time.

Affects all ADLs

Executive Impairments

- May be the most serious & complex impairment of all
- Includes such impairments in social inhibition, decision making, maintaining task, performance of complex behaviors, initiation of purposive behavior, awareness of self, abilities, and environment
- Ability to plan and carry out behavior consistent with cues and task requirements and to flexibly adjust behavior in response to changing task requirements.
- Development of task strategies, problem solving, conceptual inference, awareness of the quality of intellectual function and recognition and display of socially inappropriate behavior.
Memory

- Most common referral concern

- Nature of complaint important:
  - Recent vs. Remote
  - Immediate vs. Delayed
  - Verbal vs. Visual
  - Recall, Recognition

- Testing evaluates ability to acquire, store, and retrieve information in memory
  
  Related to ability to care for self, manage schedule, remember appointments, follow directions.
  
  Impacts all other areas

Language/Verbal Ability

Speech Comprehension (Receptive Speech)

- Ability to respond to questions
- Ability to react appropriately to comments
- Ability to respond to instructions for simple tests

Expressive speech

- Fluency
- Articulation
- Prosody
- Naming
- Repetition
Visuospatial and Visuoconstructive Function

Involved in processing and manipulation of visual information from the environment.
- Maneuvering through environment
- Locating other people or items in busy environment

Includes both written words and nonverbal stimuli such as picture, faces, and other images
Impacts navigating, using tools or equipment

Instruments

Intelligence
- Shipley Institute of Living Scale-2 (SILS-2)
- General Ability Measure for Adults (GAMA)
- BETA-4
- Wechsler Adult Intelligence Scale – Fourth Edition
Functional Assessment

Activities of Daily Living (ADLs) – basic self care
Instrumental Activities of Daily Living (IADLs) – care required to live independently
Sensory deficits (hearing, vision, mobility)
Compensatory strategies

Other areas:

Social Cognition:
- Recognition of emotions
- Theory of Mind

Affect
- Assessment also includes evaluation of depression and anxiety
- Information gathered during the interview
- Use of questionnaires to assess presence of depressive or anxious symptoms
- Findings from testing

Psychological Functioning
- Motivation,
- Secondary gain
- Other diagnoses
Interpretive Guidelines for Detecting and Characterizing Cognitive Impairment

1. Is there evidence for some type of acquired impairment?
2. What is the nature of the deficits? If deficits are detected, two additional questions become relevant:
   • 3. What is the likely associated disease process?
   • 4. What interventions are appropriate?

Recommendations for Attentional Impairments

Evaluate for delirium
Minimize presented information
Keep instructions simple (one-step or two-steps at a time)
Speak slowly, giving the person time to process each unit of information; speak in brief phrases or short sentences.
Frequently orient the person (if appropriate for patient)
Patient may need multiple chances to learn new information.
Patient may have difficulty responding to rapidly changing task demands.
Recommendations for Executive Impairments

Persons with executive impairment may need help with anything from dressing themselves to medical decision-making and planning, including discharge planning if relevant.
The worse the impairment, the more structured and controlled environment is needed (but provide least restrictive support)
Don’t take inappropriate behavior personally!
Avoid assuming an impaired person can really do something when he or she can’t!

Recommendations for Memory Impairments

(visual) include use of calendars, notes, pictures, other cues
(verbal) include repeating directions over and over, use of strategies to remember names or other information, such as saying information out loud, repeating it, making associations, restating, use of audio recorder to cue.
Emphasize remote memories, and de-emphasize recent memories
Simplify the environmental demands
Establish routines and structured environments
Recommendations for Language Impairments

Consider referral for speech evaluation
Use one- or two-step commands if comprehension is a problem
Avoid long sentences
Ask “Yes-No” questions
Use alternative communication devices
Pointing and gesturing may be helpful
Emphasize visual communication

Recommendations for Visual-Spatial Impairments

Rule out vision problems
For neglect, place objects to one side
Emphasize verbal communication
Establish strong, simple environmental cues
Provide safety measures if person wanders or gets lost
Patient may have difficulty locating objects in L or R visual field.
Patient may need assistance with tasks involving visuospatial skills.
Patient should not operate a motor vehicle or machinery.
Treatment Planning and Implications

Referrals
Day-to-day assistance
Environment
Communication
Supervision needs
Medication
Other changes and recommendations

Challenges of Cognitive Assessment in Correctional Settings
Challenges

• Setting itself
• Aging population
• Normal declines
• Instrument selection
• Motivation (effort)

Aging Population

[Chart showing percentage increase in total prison population and prison population age 55 or older]
Cognitive Changes with Age

**INTACT**

- Motor learning
- Priming
- Semantic memory (not word finding)
- Episodic Memory for well-learned life events
- Passive short-term storage of information
- Recognition memory
- Prospective memory in the real-world

**DECREASE**

- Working Memory—especially with interference
- Encoding new information in deep elaborative way (less strategic)
- Retrieval (particularly when effortful)
  - Uncued recall, prospective memory, recovery of specific details, source memory

Factors to Consider when Selecting Instruments

1. Tests need to be appropriate for population:
   a. Valid: does it measure what it claims to?
   b. Reliable: over time & between administrators
   c. Standardization sample/norms
   d. Developed specifically for population
2. Time to administer
3. Skill required & ease of administration
4. Appropriate for culture, language & education
5. Stimulus materials
Effort/Motivation

• Viability of assessment depends on ability to verify that scores are true and accurate. Must be able to detect noncredible performance.
• Incentive for feigning in this population is higher than in others.
• Recommendation is to administer multiple PVTs, interspersed throughout the assessment session, and covering multiple cognitive domains.

Thank you for attending!

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