What Does Accreditation Do?
A Randomized Trial of Health Care Accreditation across US Jails

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ASSA - Interim Results
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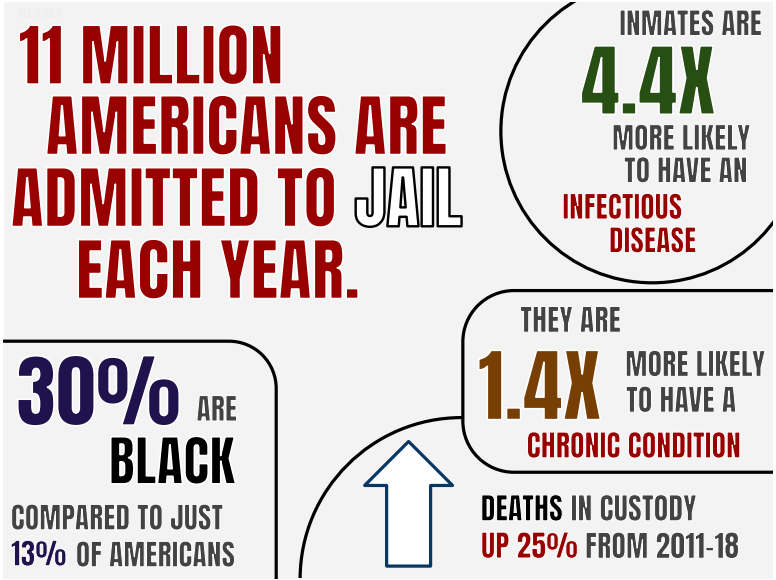
Outline



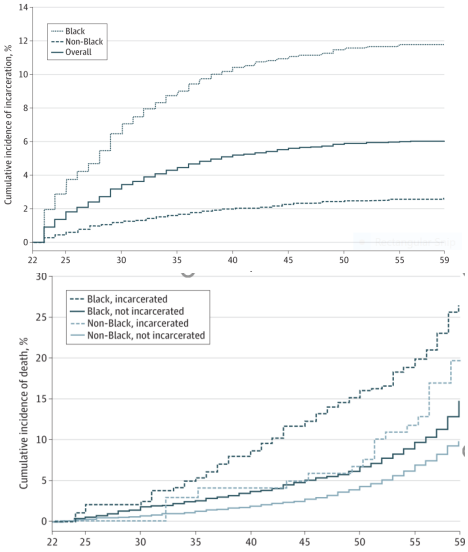
Only 27% of jurisdictions in the US in 2018 offered methadone or buprenorphine maintenance to people with opioid use disorders in any of their jails or prisons. Despite the hepatitis C epidemic being concentrated in prisons, 97% of people with hepatitis C who were incarcerated in state prisons in 2018 (an estimated 144000 people) did not receive treatment for it (Berwick, 2021).

Correctional health care and Covid-19

- COVID-19 pandemic has exposed special challenges for correctional health care.
  - Medicaid inmate exclusion policy – Federal rules prohibit states from billing Medicaid for any inmate care unless the covered individual requires a hospital stay of at least 24 hours.
- Incarcerated individuals face 5.5 times higher risk of contracting COVID-19 than those in the general US population and 3 times the COVID-19 mortality rate (Saloner et al. 2020).
- Weekly flow of $\approx$ 200,000 inmates through US jails and the daily commutes of $\approx$ 220,000 full-time jail staff implies close link between infection rates within jails and community
  - Jails have become "infectious disease incubators" (Reinhart and Chen 2021)
  - Some reports of differential release by race (injusticewatch.org/news/2020/covid-release-disparity/)

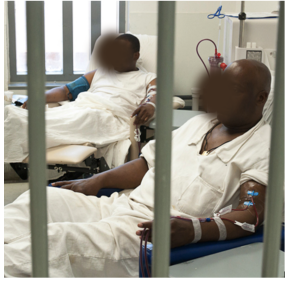
Correctional health care and racial health disparities

- Mortality rate of Black male prisoners was lower than Black male non-prisoners, opposite pattern for white prisoners (Patterson 2010, Rosen et al. 2011)
- Recent study using NLSY79 cohort estimated effect of incarceration on life expectancy (Bowell-Amon et al. 2021)
  - exposure = incarceration; outcome = time to death
  - Black respondents much higher exposure to incarceration
  - Incarceration increased risk of death for Black respondents (aHR 1.65; 95% CI 1.18-2.31) but not for non-Black respondents



Medicolegal issues

- Inmates only group with a constitutional right to healthcare (*Estelle v. Gamble*, 1976).
- Yet unlike healthcare for non-incarcerated, few correctional systems are accredited to ensure their care meets accepted standards.
- Payment models vary, some have FFS but many have capitated payments.
  - ''Little information is available about whether common safeguards used for payment models in other health care settings are in place, such as quality standards (to counterbalance incentives to limit care) or payment adjustments according to case mix'' (Berwick, 2021).



What is the National Commission on Correctional Health Care (NCCHC)?

- Founded by American Medical Association in partnership with the American Bar Association
- Considered the leading independent accreditation organization in corrections
- NCCHC-accredited correctional facilities serve nearly half a million inmates daily ($\sim$ 23% of US inmates) in 47 states

- Recognition from various entities:
  - Dr. Berwick (Administrator of the CMS under Obama) in JAMA: *Mandatory and rigorous accreditation process for health care quality for [correctional] institutions providing health care services is needed* — specifically referred to NCCHC as candidate
  - National Sheriffs' Association includes successful NCCHC accreditation as a key pillar of its "Triple Crown Award" given to extraordinary sheriffs
  - NCCHC standards are regularly used in legal consent decrees
- We evaluate whether NCCHC accreditation improves correctional health care

What **might** accreditation do?

Pro

- Align incentives between health and custody staff
- Better management (Bloom et al. 2013)
- Reduce discretion and disparities (United States Sentencing Commission 2012)

Con

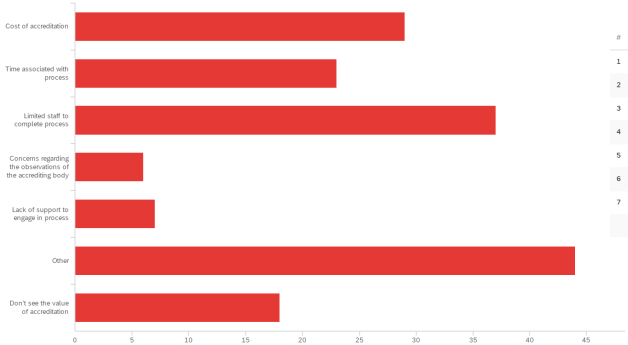
- Divert resources from meaningful to measured margin
- Function solely as signal (Spence 1973)
- Uniform guidelines could widen inequality (Chan et al. 2021)

NCCHC Accreditation Process

- **Self-Assessment Survey**: Facilities fill out a survey which familiarizes them with the NCCHC standards
- **Guidance and Consultation:** Based on results, a personalized guide to improvement is generated. NCCHC staff advise facilities to meet standards
- **Audit** 6-12 months after initiation, facilities are visited by NCCHC staff who review in-person the facilites
- **Re-accreditation**: Facilities must update accreditation on a yearly basis, with a onsite visit every 3 years.

Barriers to accreditation – not yet accredited

barriers_no - Why is your facility not accredited? [Check all that apply:]

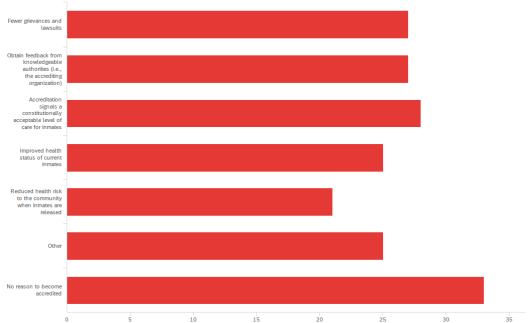


#	Field	Choice Count
1	Cost of accreditation	17.68% 29
2	Time associated with process	14.02% 23
3	Limited staff to complete process	22.56% 37
4	Concerns regarding the observations of the accrediting body	3.66% 6
5	Lack of support to engage in process	4.27% 7
6	Other	26.83% 44
7	Don't see the value of accreditation	10.98% 18
		164

note: Survey of ≈ 300 jails in June 2020, these replies are among the not yet accredited

Future benefits of accreditation – not yet accredited

benefits_no - What are some of the reasons you may want to get accredited in the future? [Check all that apply:]



#	Field	Choice Count	
1	Fewer grievances and lawsuits	14.52%	27
2	Obtain feedback from knowledgeable authorities (i.e., the accrediting organization)	14.52%	27
3	Accreditation signals a constitutionally acceptable level of care for inmates	15.05%	28
4	Improved health status of current inmates	13.44%	25
5	Reduced health risk to the community when inmates are released	11.29%	21
6	Other	13.44%	25
7	No reason to become accredited	17.74%	33
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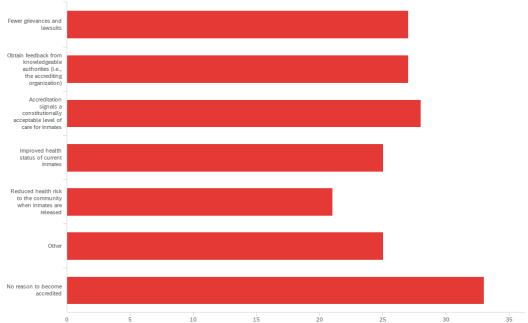
Benefits of accreditation – already accredited

benefits_no - What are some of the reasons you may want to get accredited in the future? [Check all that apply:]



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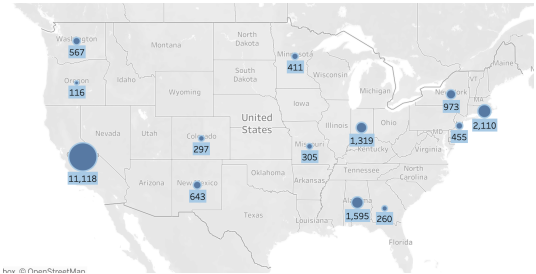
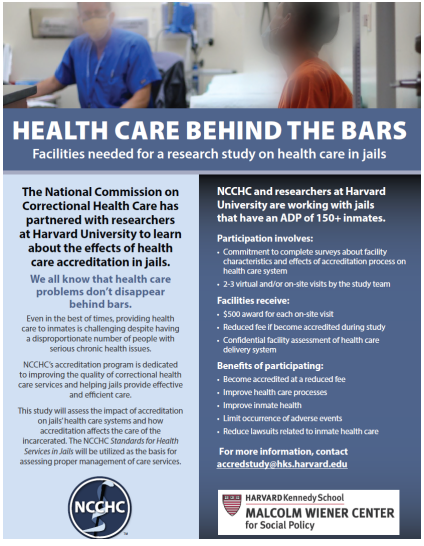
Outline

Study overview

- Recruited 36 jails from across the country to participate in a RCT (target N = 40).
  - Half the sample will go through accreditation process immediately (treatment group)
  - Remaining jails will start accreditation process after 18 months (control group)
  - Incentivized to participate via highly subsidized accreditation fee, survey incentives, and Harvard Facility Report
- Hiring surveyors to audit NCCHC process, including (for endline) MDs.

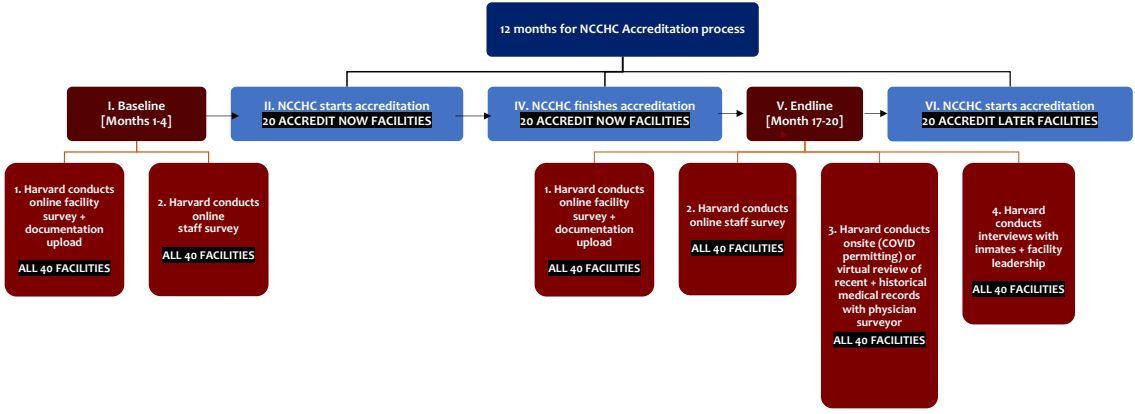


Recruitment process



(Some) steps in the process: Certificate of confidentiality, individual DUAs, consents from Custody and Health...

Study timeline



Outline

Randomization process

- Use hybrid list/stratified randomization
- 20 facilities randomized first, followed by 10, then last 10 $\rightarrow$ 3 randomization "cohorts"
  - Cohorts staggered in time to avoid attrition among jails enrolled earlier
- Stratifying variables: Average Daily Population (ADP) and Cohort
  - ADP: indicator for above/below median size of jail, which is correlated with many outcomes at baseline
  - Cohort: indicator for timing of staggered randomization

Balance table – first 30 jails

Variable	N	(1) Control Mean/SE	N	(2) Treated Mean/SE	T-test P-value (1)-(2)
Current ADP	15	634.867 (198.121)	15	348.823 (44.852)	0.176
2019 ADP	15	758.200 (209.227)	15	441.584 (62.629)	0.151
Total admissions last 12 months	15	1.1e+04 (3058.671)	13	4473.462 (886.206)	0.092*
Year facility built	15	1974.200 (7.426)	14	1986.429 (4.805)	0.135
adp_split	15	0.533 (0.133)	15	0.467 (0.133)	.
south	15	0.200 (0.107)	15	0.200 (0.107)	0.930
rep_state	15	0.200 (0.107)	15	0.333 (0.126)	0.351
rep_county	15	0.267 (0.118)	15	0.200 (0.107)	0.673
coast	15	0.800 (0.107)	15	0.733 (0.118)	0.630

Balance table – jails (cont'd)

rural	15	0.333 (0.126)	15	0.733 (0.118)	0.022**
all_fte	15	54.685 (20.832)	15	18.016 (2.853)	0.100*
naph_well	15	0.133 (0.091)	15	0.333 (0.126)	0.251
prev_accred	15	0.267 (0.118)	15	0.200 (0.107)	0.803
Radiology available in facility (1 = YES)	15	0.533 (0.133)	15	0.333 (0.126)	0.328
% receiveing screening by health staff	15	86.667 (9.085)	15	60.333 (10.053)	0.081*
Medications inventory maintained (1 = YES)	15	0.733 (0.118)	15	0.733 (0.118)	1.000
Special needs treatment plan in health record (1 = YES)	15	0.867 (0.091)	15	0.800 (0.107)	0.726

Notes: The value displayed for t-tests are p-values. Standard errors are robust. The covariate variable i.strat is included in all estimation regressions. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Appendix

Coding outcomes

Duplicated blind coding by research team:

- Two coders blindly review facility documents submitted through surveys and determine responses to questions and standards compliance
- Differing responses reviewed by a third coder

Outcomes analysis

Devil's in the dimensionality

Three approaches to creating outcome indices:

Outcomes analysis

Devil's in the dimensionality

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1. Group compliance outcomes based on 7 NCCHC standards:
   - (1) Governance and Administration (2) Health Promotion Safety and Disease Prevention (3) Personnel and Training (4) Ancillary Health Services (5) Patient Care and Treatment (6) Special Needs (7) Medical Legal

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2. Create outcomes indices using supervised machine learning algorithm
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3. Categorize measures using production function approach $y = f(x)$:
   - x Inputs: staff, equipment, training programs, etc
   - $f()$ Function: processes aimed at improving health care delivery and health outcomes (e.g. reviewing receiving screening within certain time-frame)
   - y Outputs: health outcomes of interest grouped into indices

Outline

Findings from staff survey (N ≈ 600)

In your opinion, what could be done to improve the healthcare provided in this facility?

Other common concerns include staff retention, better training for medical and custody staff, better management of medical staff, better pay, and better communication between health and custody staff

Findings from staff survey (cont'd)