The Realities (and Limitations) of Assessing Suicide Risk:

A Research Report on the Validity and Utility of a Jail Suicide Risk Assessment Instrument

Lyn J. Mangiameli, Ph.D.

Richard Hayward, Ph.D.

San Mateo County Correctional Health Services

Purpose and Goals for this Presentation (2)

- To present the psychometric foundations and pragmatic limitations of the suicide risk assessment measures and procedures developed by and used at the San Mateo County adult correctional facilities.
- To provide a research model and encourage a joint project to expand and refine our capacity for inmate suicide risk assessment.
- To suggest methods of managing suicide risk both during & post incarceration.

Purpose and Goals for this Presentation (1)

- To present the rationale for formalized suicide risk assessment of jail inmates.
- To review some of the challenges to achieving valid suicide risk assessment of jail inmates.
- To offer a structure and set of measures that may help to refine our early judgments of the individual risk of self-harm and suicide related behaviors within the Jail setting.

A Look at a Jail Suicide (1)

- Kent Larson was a middle aged man arrested on charges of killing his son.
- He attempted to kill himself after the alleged murder of his son, and he was treated at the ER prior to being booked into the jail.
- He was assessed to be at severe risk for suicide during his incarceration.
- He was housed alone in a safety gown in a high observation area for months. Mental Health staff became concerned that the isolation was increasing his depression, so…

A Look at a Jail Suicide (2)

- The decision was made to house him with a cellmate with similar cultural background and to have him participate in the day treatment program.
- The clinical signs of depression improved but everyone knew he remained at high risk for suicide.
- He covertly obtained plastic bags and fashioned a noose with a knot that was wedged over the hinge of his cell door.
- He hung himself while his cellmate watched.

An Overview (1b):
Why?- Because Suicide Happens in Jails

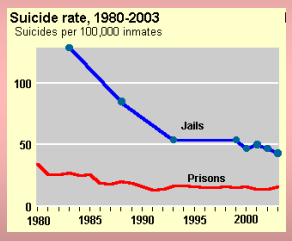
Suicides per 100,000

- **In County Jails:**
  - 1983 = 129 (illness & natural cause deaths = 88)
  - 1988 = 85 (illness & natural cause deaths = 82)
  - 1993 = 54 (illness & natural cause deaths = 67)
  - 1999 = 54 (illness & natural cause deaths = 64)
  - 2002 = 47 (illness & natural cause deaths = 69)
  - 2003 = 43
- **In the Community:**
  - 2002 = 11 Overall
  - 2002 = 18 Males Only
- **In Prisons**:
  - 1999 = 19
  - 2002 = 14
  - 2003 = 16

An Overview (1a):
Why?- Because Suicide Happens in Jails

- Suicide accounts for nearly half of all inmate deaths.
- Per capita the suicide rate is approx 3 X higher for jail inmates than for overall resident population, and for prisoners.

An Overview (1c):
Why?- Because Suicide Happens in Jails



Jail Suicide Rates in Comparison with Prior Years, Prison Rates & Individual Factors

- Jail Suicide Rate by Sex (2000-2003)
  - Male: 50/100,000
  - Female: 32/100,000
- Jail Suicide by Ethnicity (2000-2003)
  - Whites 6X Blacks
  - Whites 3X Hispanics
- Jail Suicide by Offense Type (2000-2003)
  - Violent Offender: 92/100,000
  - NonViolent Offender: 31/100,000

Chart and statistics provided by U.S. Department of Justice, 2005

An Overview (2):
Why? – The Costs

- Suicide by incarcerated inmates is both a professional and public concern
  - Personal costs to inmate and inmate's family
  - Financial liability and associated expenditures
  - Potential professional consequences
  - Traumatization of Custody and Health Care Staff

An Overview (3b):
Why? – It's the Standard of Care

Suicide Prevention Plan

Title 15, Section 1219

- "The facility administrator and the health authority shall develop a written plan for a suicide prevention program designed to **identify**, monitor, and provide treatment to those inmates who present a suicide risk."

An Overview (3a):
Why? – It's the Standard of Care

- Suicide risk assessment, regardless of setting and professional discipline, has become the standard of care.

An Overview (3c):
Why? – It's the Standard of Care

- Neither Title 15 nor formal professional directives indicate how extensive a suicide risk assessment should be.
- Therefore, it is often left to the individual clinician or facility to determine which information is necessary to form a defensible probability judgment.

An Overview (4):

Why? – Because they don't always tell

- Assessment of suicide risk through clinical interview alone is problematic.
  - Successful suicides often give no advance warning, even when expert clinical questioning has occurred.

An Overview (5):

Why? – Inmates are not always truthful

- Inmates often withhold or falsify information
  - To avoid suicide resistant clothing
  - To avoid suicide watch housing
  - To avoid alerting others of their serious intent

An Overview (6):

Why? – Inmates may have other goals

- Inmates often exaggerate or falsify information in the belief it may serve
  - To obtain special treatment or housing
  - To improve their status before the court
  - To increase staff workload or generate excitement (i.e, as a means to "get back" at staff or cause uproar)

An Overview (7):

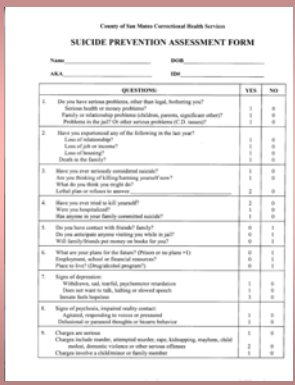
Why?- Invalidity of the Identifiable

- Therefore, an inmate's self report of historical and clinical information that is identifiably related to a suicide assessment may be of little validity.
- Suicide risk assessments must rely on more than inmate self report.

An Overview (8):
Why? – Lack of Inmate Scales

- Few objective suicide assessment scales exist which are directed to, and normed on jail inmates.
- Construction is made difficult due to:
  - Frequency of deception (“noise”)
  - Low base-rate of completed suicides (“signal”)
  - High prevalence of manipulative threats and associated behavior (“noise”)

The Suicide Prevention Assessment Form



County of San Mateo Correctional Health Services

SUICIDE PREVENTION ASSESSMENT FORM

Name_____ DOB_____

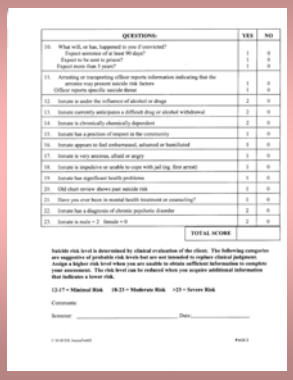
AKA_____ ID#_____

QUESTIONS:	YES	NO
1. Do you have serious problems, other than legal, bothering you? Serious health or money problems? Family or relationship problems (children, parents, significant other)? Problems in the jail? Or other serious problems (C.D. issues)?	1 1 1	0 0 0
2. Have you experienced any of the following in the last year? Loss of relationship? Loss of job or income? Loss of housing? Death in the family?	1 1 1 1	0 0 0 0
3. Have you ever seriously considered suicide? Are you thinking of killing/harming yourself now? What do you think you might do? Lethal plan or refuses to answer	1 1 2	0 0 0
4. Have you ever tried to kill yourself? Were you hospitalized? Has anyone in your family committed suicide?	2 1 1	0 0 0
5. Do you have contact with friends? family? Do you anticipate anyone visiting you while in jail? Will family/friends put money on books for you?	0 0 0	1 1 1
6. What are your plans for the future? (Prison or no plans +1) Employment, school or financial resources? Place to live? (Drug/alcohol program?)	0 0 0	1 1 1
7. Signs of depression Withdrawn, sad, tearful, psychomotor retardation Does not want to talk, halting or slowed speech Inmate feels hopeless	1 1 3	0 0 0
8. Signs of psychosis, impaired reality contact: Agitated, responding to voices or presumed Delusional or paranoid thoughts or bizarre behavior	1 1	0 0
9. Charges are serious Charges include murder, attempted murder, rape, kidnapping, mayhem, child molest, domestic violence or other serious offenses Charges involve a child/minor or family member	1 2 1	0 0 0

The San Mateo Approach to Improving Suicide Assessment (1):

- A three pronged approach:
  - (1) Review of the professional literature (focusing on inmates and prisoners) to identify the phenomenological, behavioral and demographic risk factors associated with suicide risk related behaviors, leading to –
  - A 44 item, clinician administered rating scale: the Suicide Assessment Prevention Form

The Suicide Prevention Assessment Form



QUESTIONS:	YES	NO
10. What will, or has, happened to you if convicted? Expect sentence of at least 90 days? Expect to be sent to prison? Expect more than 3 years?	1 1 1	0 0 0
11. Arresting or transporting officer reports information indicating that the arrestee may present suicide risk factors Officer reports specific suicide threat	1 1	0 0
12. Inmate is under the influence of alcohol or drugs	2	0
13. Inmate currently anticipates a difficult drug or alcohol withdrawal	2	0
14. Inmate is chronically chemically dependent	2	0
15. Inmate has a position of respect in the community	1	0
16. Inmate appears to feel embarrassed, ashamed or humiliated	1	0
17. Inmate is very anxious, afraid or angry	1	0
18. Inmate is impulsive or unable to cope with jail (eg. first arrest)	1	0
19. Inmate has significant health problems	1	0
20. Old chart review shows past suicide risk	1	0
21. Have you ever been in mental health treatment or counseling?	1	0
22. Inmate has a diagnosis of chronic psychotic disorder	2	0
23. Inmate is male = 2 female = 0	2	0
TOTAL SCORE		

Suicide risk level is determined by clinical evaluation of the client. The following categories are suggestive of probable risk levels but are not intended to replace clinical judgment. Assign a higher risk level when you are unable to obtain sufficient information to complete your assessment. The risk level can be reduced when you acquire additional information that indicates a lower risk.

12-17 = Minimal Risk 18-23 = Moderate Risk >23 = Severe Risk

Comments:

Screener: _____ Date:_____

The San Mateo Approach to Improving Suicide Assessment (2):

- A three pronged approach:
  - (2) A psychometric examination of the scale to discern its reliability and validity for the inmate population.
    - Inter-rater reliability
    - Temporal stability
    - Association with Safety Cell usage
    - Association with serious/successful attempts

A Statistical Examination FMH Sample Demographics (1):

- All inmates on the mental health roster were drawn from two week periods at the end of 2006 and 2007 (250 males-79.4%, 65 females-20.6%).

Age and Education for Total Sample

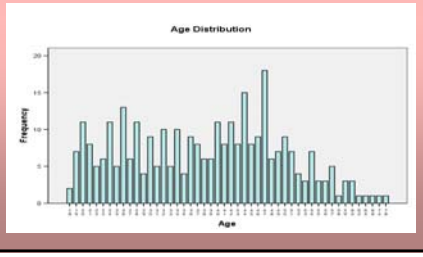
		Age	Years of Education
N	Valid	315	269
	Missing	0	46
Mean		38.12	11.83
Median		39.00	12.00
Mode		47	12
Std. Deviation		11.697	2.287
Skewness		.217	-1.554
Std. Error of Skewness		.137	.149
Kurtosis		-.453	5.168
Std. Error of Kurtosis		.274	.296
Minimum		18	0
Maximum		78	18
Percentiles	25	28.00	11.00
	50	39.00	12.00
	75	47.00	14.00

The San Mateo Approach to Improving Suicide Assessment (3):

- A three pronged approach:
  - (3) Comparing the Suicide Assessment Prevention Form to other psychological measures with little face association with self-harm.
    - The Interpersonal Reactivity Index, a multifactor measure of empathy, provides a moderate and consistent correlation with the Suicide Assessment Prevention Form.

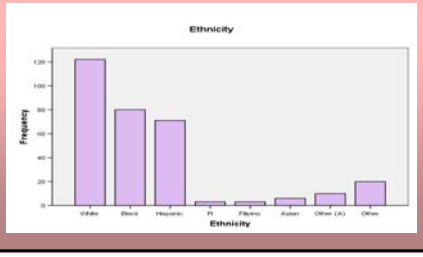
A Statistical Examination FMH Sample Demographics (2):

- Distribution of Age is flatter than the general population at Maguire (38.12 compared to 33.11 skewed strongly to the right)



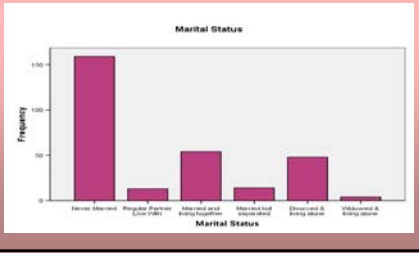
A Statistical Examination FMH Sample Demographics (3):

- Ethnic distribution (W=38.7%; B=25.4%; H=22.5%) is comparable to the general population at Maguire



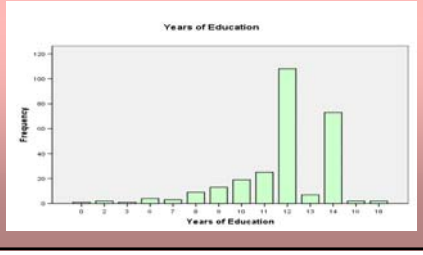
A Statistical Examination FMH Sample Demographics (5):

- Most had never married (54.5%) but the majority considered themselves a parent (57.7%)



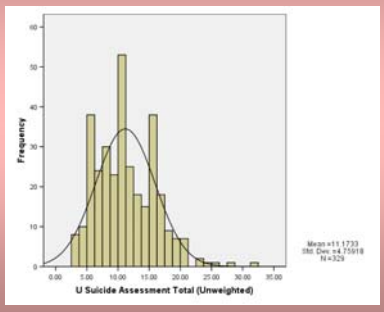
A Statistical Examination FMH Sample Demographics (4):

- Years of education is distributed very similarly to the general population at Maguire



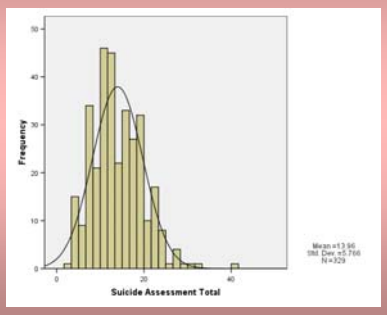
A Statistical Examination FMH Sample Scores (1):

Suicide Prevention Assessment Form Total Score (unweighted) Distribution for the FMH sample



A Statistical Examination FMH Sample Scores (2):

Suicide Prevention Assessment Form Total Score (weighted) Distribution for the FMH sample

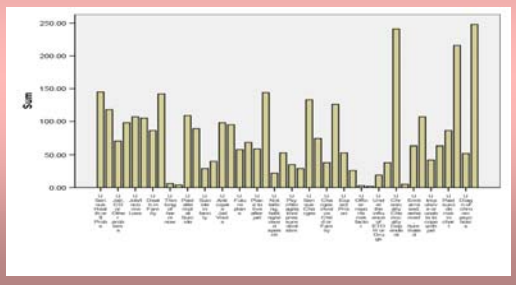


A Statistical Examination FMH Sample Scores (4):

- The highest bars in the preceding table represent (starting at highest):
  - Inmate is Male
  - Inmate is Chronically Chemically Dependent
  - Inmate has Past Mental Health Treatment
- The lowest bars represent (starting at lowest):
  - Arresting Officer Reports Suicide Threat
  - Arresting Officer Reports Other Risk Factors
  - Inmate Reports Lethal Plan or Refused to Answer
- A complete frequency table is in your handouts.

A Statistical Examination FMH Sample Scores (3):

Distribution of Individual Question Responses for FMH sample (unweighted)



A Statistical Examination FMH Sample Scores (5):

- Although some bars represent low frequency of endorsement, the questions they represent often are discriminating when Safety Cell and Suicide Attempt groups are compared to the FMH Group (see Frequency of Item Endorsement handout).
- The variation in frequency of item endorsement also affects internal consistency as a means of establishing reliability, which is discussed in the next slide.

A Statistical Examination
Suicide Prevention Assessment Form Reliability (1):

- There are three primary forms of reliability pertinent to a measure such as this:
  - Internal Consistency (Chronbach's alpha)
  - Test-Retest Reliability
  - Inter-rater Reliability

A Statistical Examination
Suicide Prevention Assessment Form Reliability (3):

- The internal consistency reliability of:
  - The full FMH sample = .691
  - The Safety Cell subset = .735
  - The Serious Suicide Attempters = .815
- These compare favorably to the range of alphas typically found for the MMPI-2 scales (~.4 to ~.9 with a median of ~.6)

A Statistical Examination
Suicide Prevention Assessment Form Reliability (2):

- The internal consistency reliability of the SPAF was measured for three groups:
  - The full FMH sample
  - A subset of the FMH sample which included only those who had spent time in the Safety Cell (N=40)
  - A group of persons who had made serious suicide attempts during or immediately after release from custody (N=14; 3 person overlap with FMH sample)

A Statistical Examination
Suicide Prevention Assessment Form Reliability (4):

- Test-Retest and Inter-Rater reliability are more troublesome to assess with the naturalistic, retrospective method employed, as one does not have control over the times when persons will return to custody, the intervening events which occur out of incarceration, and which staff will be completing the SPAF.
- One way around this is to compare the scores of a single administration to the average of multiple prior administrations.

A Statistical Examination
Suicide Prevention Assessment Form
Reliability (5):

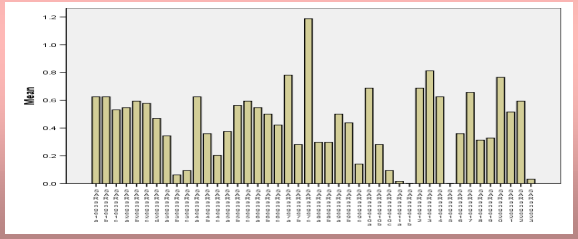
- Multiple administration reliability is (cautiously) demonstrated below for a group (N=64) who had 4 or more administrations.
- Mean score of most recent administration (15.17) compared to the average of three prior administrations (14.49) results in a paired sample correlation of .781 and no significant difference (.158) between the two means using a paired sample t-test.

A Statistical Examination
Suicide Prevention Assessment Form
Validity (1):

- The means for establishing predictive validity is reduced when one is working as hard as possible to prevent the behavior being predicted.
- Two methods are examined in this presentation:
  - The association of SPAF scores to the need for utilizing the Safety Cell for inmate management.
  - The association of SPAF scores to a group of inmates identified as having made the most serious suicide attempts in the last 8 years.

A Statistical Examination
Suicide Prevention Assessment Form
Reliability (6):

- Another more visual way to grasp the stability of score is to examine the range of score differences over three administrations. Many of the peaks are due to score weighting.



A Statistical Examination
Suicide Prevention Assessment Form
Validity (2):

- Use of the Safety Cell was measured by:
  - Total number of SC placements (SC count)
  - Total number of hours spent in the Safety Cell over multiple placements (SC Total)
  - Mean number of hours spent in the Safety Cell over multiple placements (SC Mean)
  - Total number of Safety Cell hours for the most recent incarceration only

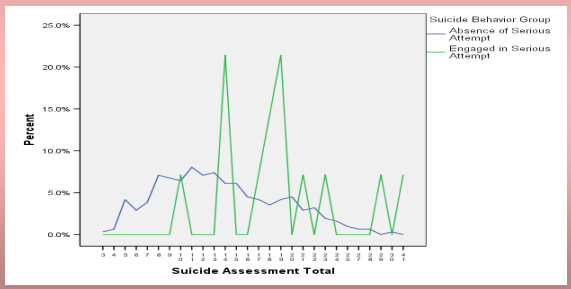
A Statistical Examination
Suicide Prevention Assessment Form Validity (3):

Correlations

			Suicide Assessment Total
Spearman's rho	Suicide Assessment Total	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	315
	SCCount	Correlation Coefficient	-.024
		Sig. (2-tailed)	.883
		N	39
	SCTotal	Correlation Coefficient	-.161
		Sig. (2-tailed)	.327
		N	39
	SCMean	Correlation Coefficient	-.132
		Sig. (2-tailed)	.422
		N	39
	SafetyCellHoursTotal, current incarceration	Correlation Coefficient	-.247
		Sig. (2-tailed)	.339
		N	17

A Statistical Examination
S P A F Validity (5):

- Comparison of total score distributions (% of each group x score) for the FMH and Suicide Attempt groups



A Statistical Examination
Suicide Prevention Assessment Form Validity (4):

- Comparison of mean total scores between the FMH and Suicide Attempt groups

Descriptives

Suicide Assessment Total

	N	Mean	Std. Deviation	Minimum	Maximum
Absence of Serious Attempt	311	13.57	5.408	3	30
Engaged in Serious Attempt	14	19.71	7.640	10	41
Total	325	13.83	5.647	3	41

Dealing with Face Validity

- There is an advantage to being able to supplement the usual risk assessment tools with measures that are not identifiable as determinants of suicide risk.
- The Interpersonal Reactivity Index, a multifactor measure of empathy, provides a moderate and consistent correlation with the Suicide Prevention Assessment Form total score.

The IRI

- A moderate positive correlation was found between the SPAF Total Score and the IRI Total Score as well as all of the individual IRI factor scores:
  - .497 IRI Total Score
  - .484 Perspective Taking
  - .389 Empathic Concern
  - .362 Fantasy Scale
  - .299 Personal Distress Scale (not sig.)

Summit County Program

- 578 beds, >10,000 bookings
- 0 suicides since 1989
- Intensive screening/assessment
- Excellent collaboration
- Large (11) mental health staff
- Exceeds training and observation (20 min checks) standards
- 24 bed MH unit in facility
- Prevention is a daily priority

How Should We Screen?

- How thoroughly can one reasonably inquire when screening incoming inmates for suicide risk?
- What percentage of the total inmate population is best to screen?

An Intensive Suicide Prevention Program

- Cook County Jails booked >80,000 annually 1988 to 1998 (3rd in US)
- Suicides < 2 per 100,000 since '90
- Intensive risk screening at intake identifies inmates with serious distress
- Everyone is screened by a MH professional
- Distressed inmates who may be suicidal are transferred to inpatient treatment with 58 male beds and 24 female beds
- Sub-acute treatment provided in 286 male bed and 60 female bed units
- GP includes 24 hour MH Crisis Team

The Most Successful Prevention Programs:

- Screen extensively and re-assess frequently.
- Provide adequate mental health treatment services.
- Train correctional staff to observe and refer frequently.
- Make suicide prevention a daily priority.

Another Suicide: Jimmy Smith (1)

- Jimmy Smith was arrested for P.C. 187 after he shot his girlfriend's lover.
- He was rated a high suicide risk throughout his incarceration. He made a serious attempt by overdose of pills after many months of incarceration.
- He was housed in a stripped cell, clothed in a safety gown, and placed on house alone and rec. alone status for safety.
- Although a cellmate probably would have reduced his depression, he remained alone to reduce his opportunity to obtain pills, razors or noose materials from other inmates.

Cost of Screening

- Medium size facilities in California may book 18,000 inmates annually.
- Additional staff that would be needed to screen all new bookings: 2.5
- Additional cost: > $200,000 annually
- Additional interventions are needed for all inmates placed on suicide precautions.

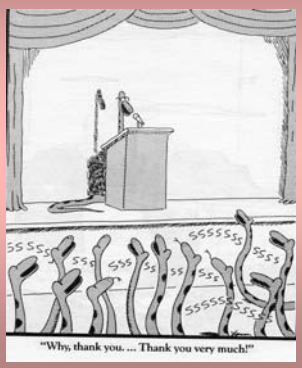
Another Suicide: Jimmy Smith (2)

- After two years of being housed alone in a safety gown with close observation, Jimmy was convicted and sentenced to life without parole.
- Staff recognized he remained at high risk for suicide and were relieved to see him safely get on the bus for CDCR.
- Jimmy hung himself in prison less than a year after his conviction.

The Pragmatics of Suicide Risk Management

- Where do we put our limited resources?
  - Is it realistic to administer a screening instrument to every inmate?
  - How often should inmates be re-assessed, and how?
- How "good" is the present screening instrument?
  - Should it be replaced or supplemented?
  - Can its reliability and validity be established?
  - Can the individual questions and question weights be refined through research efforts?
- What if some inmates will eventually suicide regardless of our interventions?

The End



Questions?

The Realities (and Limitations) of Assessing Suicide Risk:
A Research Report on the Validity and Utility of a Jail Suicide Risk Assessment Instrument

For More Information

Lyn J. Mangiameli, Ph.D.
LMangiameli@co.sanmateo.ca.us
LJM@CogniMetrix.com

Richard Hayward, Ph.D.
RHayward@co.sanmateo.ca.us