

START: Research Evidence, Implementation Successes & Future Directions

Tonia L. Nicholls, Ph.D.

CIHR New Investigator and MSFHR Career Scholar

*Senior Research Fellow, Forensic Psychiatric Services Commission
BC Mental Health & Addiction Services*

*Assistant Professor, Department of Psychiatry, UBC
Adjunct Professor, Department of Psychology, SFU*



Michael Smith Foundation for
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BC Mental Health &
Addiction Services

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Acknowledgments

- Dr. Christopher Webster
- Mary-Lou Martin
- Dr. Johann Brink
 - Connie Middleton
 - Dr. Sarah Desmarais



Overview

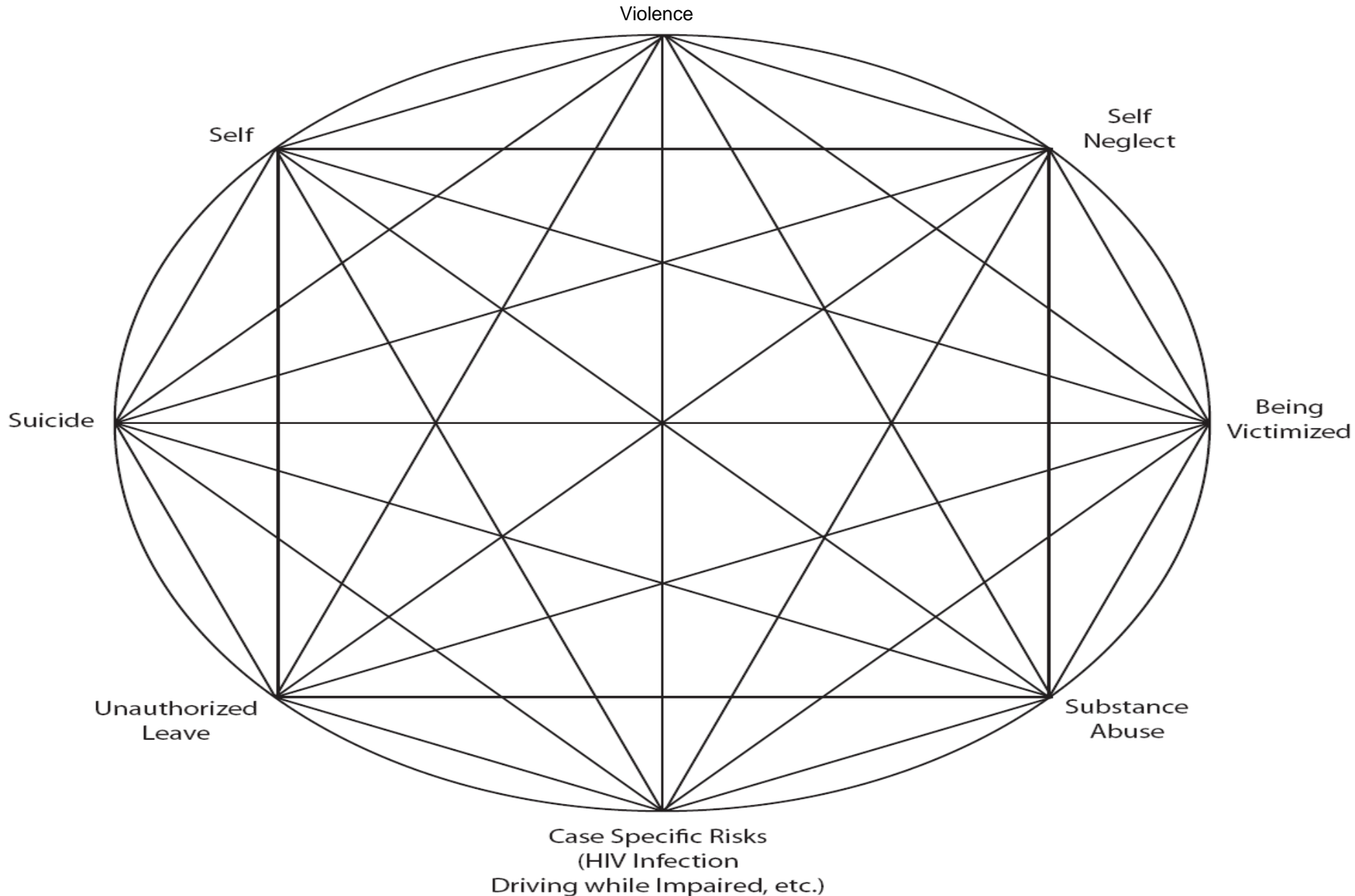
- Rationale for development of Short-Term Assessment of Risk and Treatability (START)
- Brief introduction to the measure
- Validation and user satisfaction studies
- Current projects and Future directions



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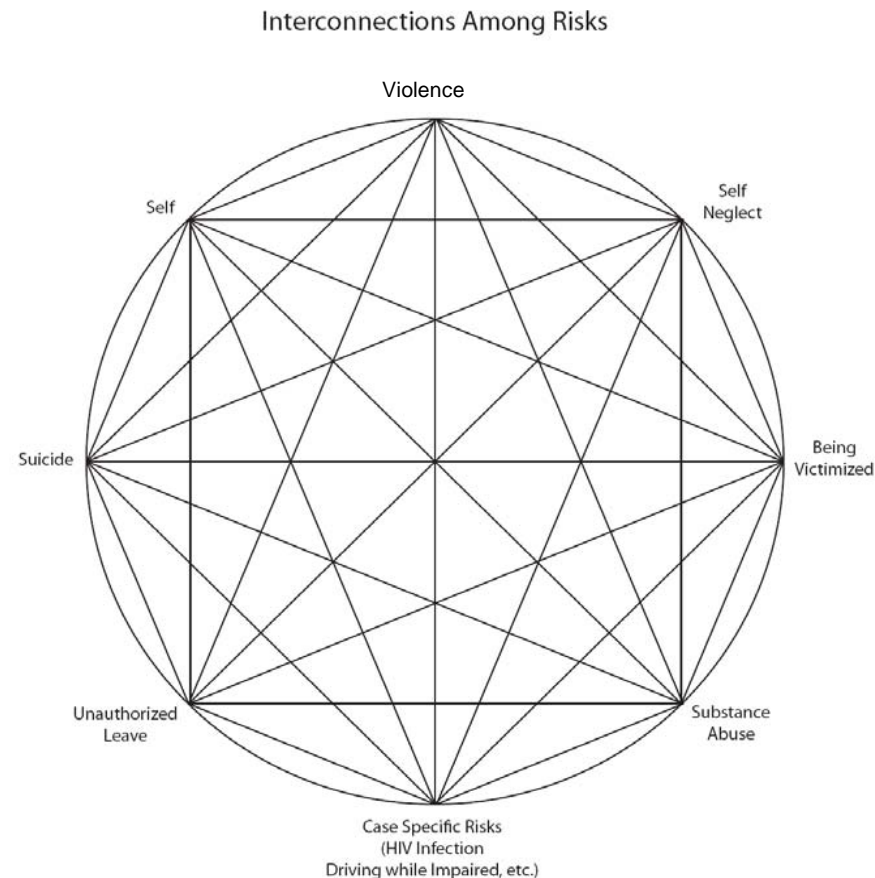
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What do you worry might happen with your clients?



Co-occurring Risks

- Clients present with multiple challenges (Seto et al., 2004)
 - High rates of violence, self-harm, homelessness (Ash et al., 2003) and suicide attempts (Hill et al., 1996; Vaughan, Pullen, & Kelly, 2000).
 - Individuals w MD are 14 times more likely to be **violently victimized** than to commit violence offences (Brekke et al., 2001)
- Patient safety incidents are linked
 - UAs are more likely to refuse meds, take illicit drugs, self-harm, suicide, commit violence/homicide
NPSA, 2004; Bowers et al., 2003





START



Strengths

Vulnerabilities

Strengths

SELF-HARM
SELF-NEGLECT
SUBSTANCE ABUSE
SUICIDE

AGGRESSION & VIOLENCE

UNAUTHORIZED LEAVE
BEING VICTIMIZED
CASE SPECIFIC

- **Dangerous driving**
- **Prostitution**

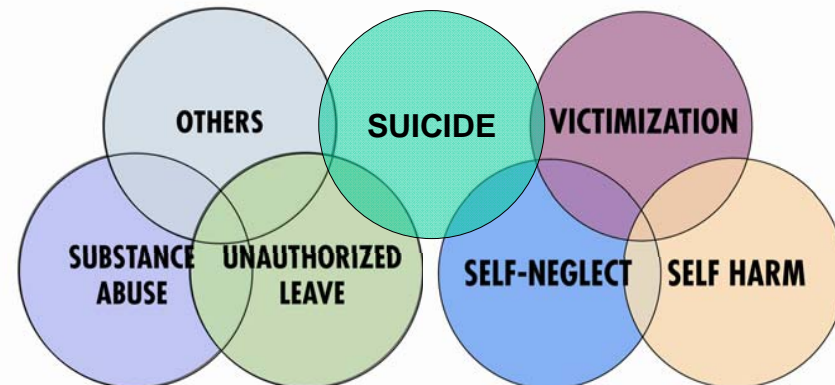
TIME →

Predictors of patient safety risks often overlap

- *Depression* (Hillbrand et al., 1988)
- *Anger* (Novaco & Renwick, 1998)
- *Panic disorders* (Korn et al., 1997),
- *Impulsivity* (Polvi, 1997; Stälenheim, 2001),
- *Substance abuse, child abuse* (Warm et al., 2003)
- *Personality disorders* (Links et al., 2003)

Figure 6.

OVERLAPPING FACTORS ASSOCIATED WITH DIFFERENT RISKS



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Externalizing and Internalizing Risks

Diagnosis	Odds ratio	
	Risk of Violence	Risk of Suicide
No diagnosis	1	1
Alcohol disorders	13	6
Schizophrenia	6	8
Mood disorders	Unknown	20
Personality disorders	3	77
Anxiety disorders	1	1

•In all diagnostic categories, the odds of violence against self and against others are dramatically higher in psychiatric patients than in the general population (Hillbrand, 2001)



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Note. The odds ratios for risk of suicide are adapted from Harris and Barraclough (1997). The odds ratios for risk of violence to others are adapted from Swanson et al. (1990).

Shortcomings in Risk Assessment: Rationale for START



Dr. Christopher Webster

- Capacity to inform daily practice
 1. Dynamic vs. Static Variables
 2. Short-term vs. Long-term Assessments
 3. Focus on Violence vs. Comprehensive Care
 4. Strengths vs. Risks

➤ As a result, unstructured clinical judgment remains predominant mode of practice.



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What is the Short-Term Assessment of Risk and Treatability (START)?

- A concise clinical guide for the dynamic assessment of short-term risk (i.e., weeks to months)
- Guides clinicians toward an integrated, balanced opinion to evaluate risk in seven domains
 - violence
 - suicide
 - self-harm
 - self-neglect
 - unauthorized absence
 - substance use
 - victimization
- Intended to inform clinical interventions and assist in treatment and risk management plans



**SHORT-TERM
ASSESSMENT OF RISK
AND TREATABILITY
(START)**

The image shows the front cover of the START manual. It features a yellow-to-black gradient background with the title in white, bold, sans-serif font. The cover is framed by a black and white striped border on the left side.

Christopher D. Webster

Mary-Lou Martin

Johann Brink

Tonia L. Nicholls

Sarah L. Desmarais

Version 1.1

Objective of START

- Promotes **comprehensive**, thorough evaluations
- Provides a **common language**
 - Used by individuals or teams
 - Diverse professionals
 - Inpt and community
 - Between systems (civil, forensic, corrections)
- Structured Professional Judgment
 - Provides a **framework** to ensure consistent and comprehensive evaluations and interventions
 - Transparency
 - Accountability
 - Reliability
 - Validity
- A **planning guide**
- A **communication tool**
 - Points of transition



Lions Gate Bridge, Vancouver




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START Summary Sheet

4 main sections:

1. Identifying Info
 2. Evidence & Observations
 - *Items, signature risk signs*
 3. Estimates of Future Risk
 4. Take Forward Message(s)
 - *Management/health needs; risk formulation*
- Available: pdf/email



St. Joseph's Healthcare
Hamilton
Centre for Mountain Health Services



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Affix patient label here

START Summary Sheet[®]

Diagnoses: DSM-IV^{TR} ICD-10 1 _____ 2 _____
 3 _____ 4 _____ 5 _____

STATUS: HOSPITAL COMMUNITY CORRECTIONS
Status: _____

PURPOSE: REFERRAL ADMISSION REVIEW OTHER
Specify: _____

Unit: _____ **START Time Frame:** _____

Key Item	Strengths			START Items	Vulnerabilities			Critic Item	SIGNATURE RISK SIGNS					
	2	1	0		0	1	2							
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. Social Skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Relationships (TA:Y/N)*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Occupational	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Recreational	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Self-Care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Mental State	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. Emotional State	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Substance Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9. Impulse Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10. External Triggers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. Social Support (PPS:Y/N) [‡]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. Material Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. Attitudes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14. Med. Adherence (N/A <input type="checkbox"/>) [†]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15. Rule Adherence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. Conduct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17. Insight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18. Plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19. Coping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20. Treatability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21. Case Specific:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22. Case Specific:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

SIGNATURE RISK SIGNS

SPECIFIC RISK ESTIMATES						
Hx*	Risks	T.H.R.E.A.T.		Low	Mod	High
<input type="checkbox"/>	Violence	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Self-Harm	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Suicide	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Unauthorized Leave	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Substance Abuse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Self-Neglect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Being Victimized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Case Specific:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CURRENT MANAGEMENT MEASURES

Current Privilege Level:	0	1	2	3	4	5	6
Recommended Privilege Level:	0	1	2	3	4	5	6

Health Concerns/Medical Tests:

Risk Formulation: *what factors/predict-explain/which person/will carry out/what act/when?*

Completed by (Pls print): Psychiatrist: _____ CMC: _____ Primary Nurse: _____
 Nurse(s): _____ SW: _____ Other (pls specify position): _____

Date: _____ Time to Complete (mm): _____

Identifying Information

- First and foremost a **communication tool**
 - Diagnoses
 - *Note. not* the 5 Axes of DSM
 - *Status*
 - Legal status and type of setting
 - *Purpose*
 - Referral? Admission? Review? Other (e.g., Initial START)?
 - *START Time Frame*
 - For how long is this assessment valid (days/weeks/months)?

START Summary Sheet [©]				
Diagnoses:	DSM-IV ^{TR} <input type="checkbox"/>	ICD-10 <input type="checkbox"/>	1 _____	2 _____
	3 _____	4 _____	5 _____	
STATUS:	<input type="checkbox"/> HOSPITAL Status: _____	<input type="checkbox"/> COMMUNITY Status: _____	<input type="checkbox"/> CORRECTIONS Status: _____	
PURPOSE:	<input type="checkbox"/> REFERRAL	<input type="checkbox"/> ADMISSION	<input type="checkbox"/> REVIEW Specify: _____	<input type="checkbox"/> OTHER Specify: _____
Clinic:	<input type="checkbox"/> Kamloops	<input type="checkbox"/> Nanaimo	<input type="checkbox"/> Prince George	START Time Frame: _____ days / weeks / months
	<input type="checkbox"/> Surrey	<input type="checkbox"/> Vancouver	<input type="checkbox"/> Victoria	

START Items

Current Evidence & Observations

- 20 items
 - Clinicians identified as relevant
 - Empirically demonstrated association with risk estimates (aggression, suicide)
- 2 case specific items
- No order
- Items are not summed; SPJ
- **Current** information
 - Past 2-3 months/since last START
- *Strengths & Vulnerabilities*
 - Coded independently
 - 0 (absent/minimal/no)
 - 1 (moderate/somewhat/maybe)
 - 2 (maximal/definite/yes)

Key Item	Strengths			START Items	Vulnerabilities			Critical Item
	2	1	0		0	1	2	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. Social Skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Relationships (TA:Y/N)*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Occupational	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Recreational	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Self-Care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Mental State	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Substance Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9. Impulse Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10. External Triggers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. Social Support (PPS:Y/N)‡	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. Material Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. Attitudes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14. Med. Adherence (N/A □)†	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19. Coping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20. Treatability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Key Items & Critical Items

Any Evidence & Observations

- **Critical Items**
 - Highly relevant vulnerability
 - Red flag issues
 - **Current AND historical** information.
- **Key Items**
 - Important strengths
 - Tx cornerstones
 - **Current AND historical** information.
- **Coding**
 - Frugal use of critical and key items
 - Does not have to be scored a 2

Key Item	Strengths			START Items	Vulnerabilities			Critical Item
	2	1	0		0	1	2	
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. Social Skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Relationships (TA:Y/N)*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
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<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Self-Care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Mental State	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. Emotional State	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Substance Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9. Impulse Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10. External Triggers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11. Social Support (PPS:Y/N)†	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. Material Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. Attitudes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14. Med. Adherence (N/A <input type="checkbox"/>)†	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15. Rule Adherence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. Conduct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>
<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17. Insight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>

Scoring Strengths & Vulnerabilities

- “a risk scale by itself can help in the ‘construction’ of ‘dangerousness’”
(Webster et al., 2004, p. 28)

Strengths			Vulnerabilities		
2	1	0	0	1	2

- The coding of one should not influence the other
 - Strengths and vulnerabilities can occur simultaneously
 - Obverse of a vulnerability/strength is not necessarily a strength/vulnerability

Signature Risk Signs

Any Evidence & Observations

- Serial sexual homicide literature
- Behaviours seemingly unrelated
 - signal impending relapse
 - increased risk
 - Expected to be rare



SIGNATURE RISK SIGNS										
SPECIFIC RISK ESTIMATES										
Hx*	Risks	T.H.R.E.A.T.		Low	Mod	High				
<input type="radio"/>	Violence	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Self-Harm	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Suicide	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Unauthorized Leave			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Substance Abuse			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Self-Neglect			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Being Victimized			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Case Specific: _____			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
CURRENT MANAGEMENT MEASURES										
Current Privilege Level:				0	1	2	3	4	5	6
Recommended Privilege Level:				0	1	2	3	4	5	6

Specific Risk Estimates

Projections - All Evidence & Observations

- *Future Oriented*
 - What are we worried about? What should we plan for?
 - What might happen in next 3 months?

- *Specific Risk Estimates*
 - *Hx: History*
 - Demonstrated prior behaviour?
 - Prior ideation or intent (violence, suicide)

 - Code all risks “low”, “moderate”, or “high”
 - keep specified time frame in mind
 - e.g., *In the next 3 months, likelihood that patient will engage in violence towards others?*
 - Case specific risks

SIGNATURE RISK SIGNS										
SPECIFIC RISK ESTIMATES										
Hx*	Risks	T.H.R.E.A.T.		Low	Mod	High				
<input type="radio"/>	Violence	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Self-Harm	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<input type="radio"/>	Suicide	No <input type="checkbox"/>	Yes <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
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CURRENT MANAGEMENT MEASURES										
Current Privilege Level:				0	1	2	3	4	5	6
Recommended Privilege Level:				0	1	2	3	4	5	6

International Implementations of START



START Implementations

- **Implemented**

- Canada
- United States
- England
- Scotland
- Norway
- The Netherlands
- Denmark
- Australia
- Finland (training in 2010)
 - Interest in China and Japan

- **Translations**

- Danish: Trine Arngim
- Swedish: Tom Palmstierna
- Norwegian: Kare Nonstad
- Japanese: Kazuo Yoshikawa
- Dutch: Marike Lancel
- German: Ute Franz / Norbert Nedopil
- French: Anne Crocker
- Finnish: Ghitta Weizmann-Henelius

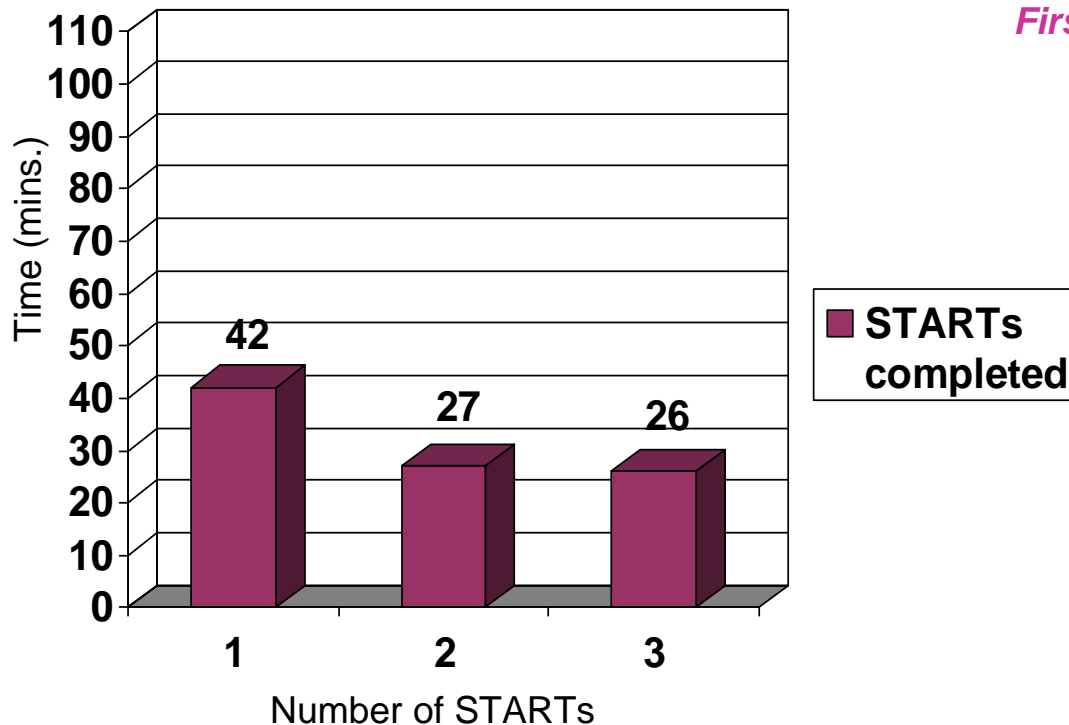


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Administration

Average Time to Complete START



First 291 FPH STARTs

$M = 33.63$ minutes ($SD = 13.99$);
Mode = 30 minutes ($N = 63$).
Range = 10 mins – 100 mins

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Administration

Average Time to Complete START

- On average, the START took 25 min to complete,
 - this gradually reduced to 22 min when participants had a chance to complete two and then three assessments.
 - 82.1% assessments were completed in 30 min or less.

How Often should we Complete START

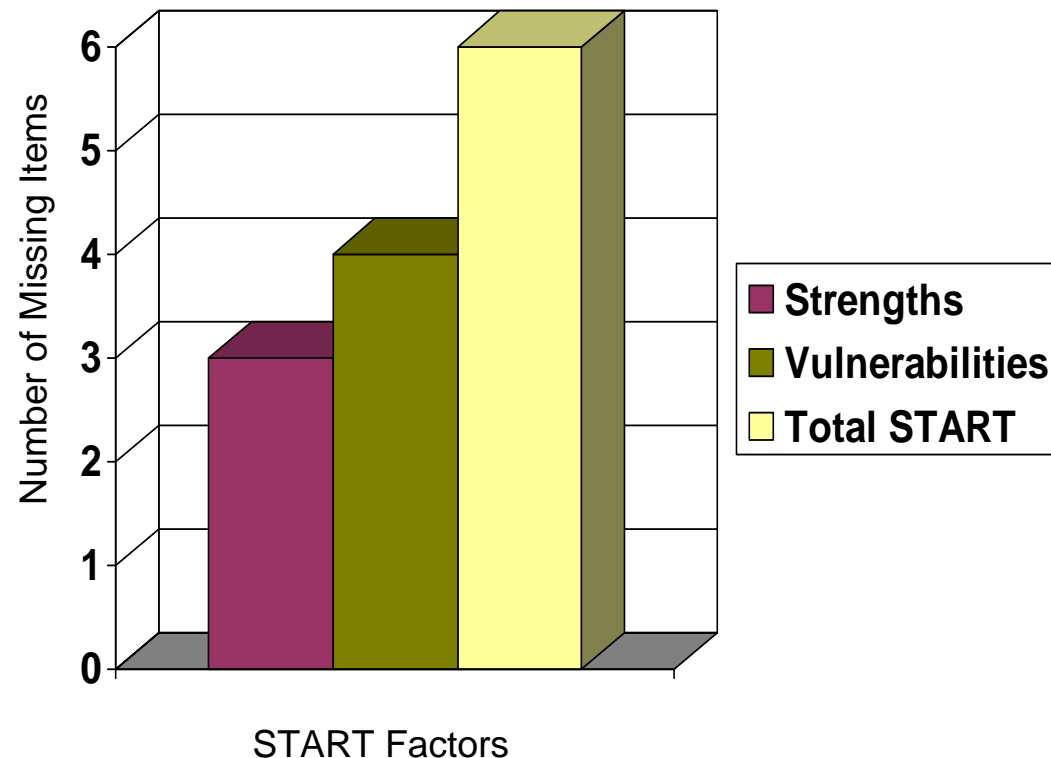
- When asked how often they thought the START should be completed in clinical practice,
 - majority ($n=29$, 79.4%) felt the START would be best used between monthly and three times monthly.

Necessary information is available

Initial Implementation: Total Number of Missing Items on first 291 FPH STARTs

- Very few STARTs returned with items left blank:

- no missing items
 - 97.9% ($n = 285$)
- one missing item
 - 1.37% ($n = 4$)
- >1 missing item
 - 0.69% ($n = 2$)



2009 FPSC– FPH inpatients

- Very few STARTs returned with items left blank:

- no missing items
 - 94.9% ($n = 244$)

- 13 forms had missing items:

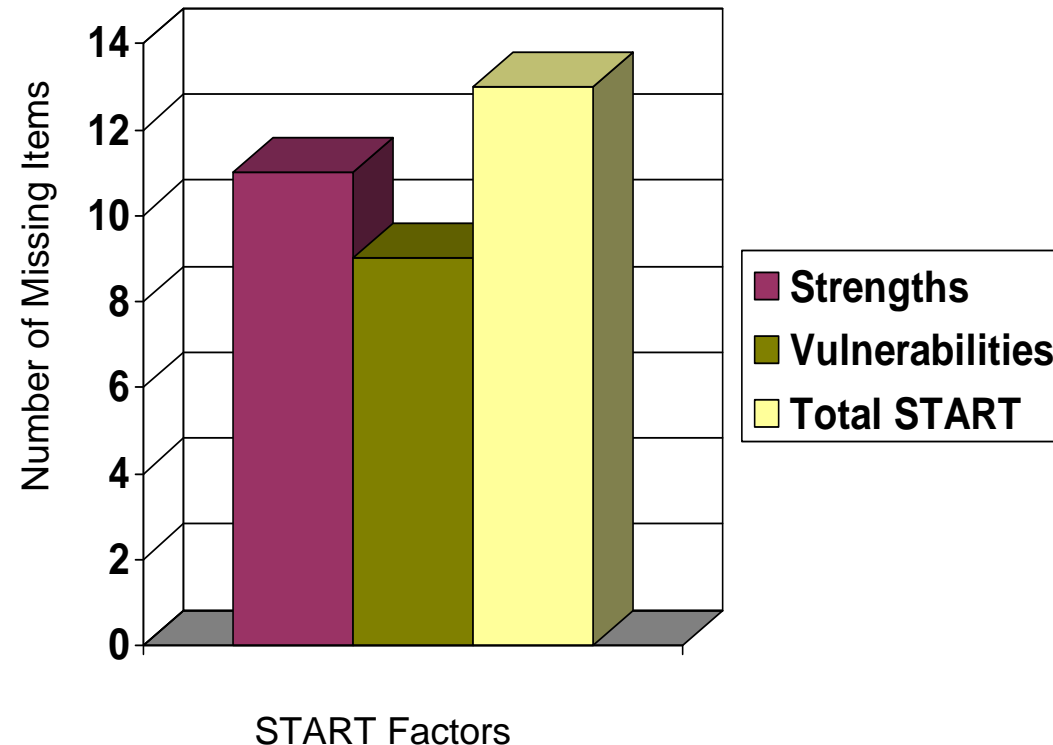
Strengths:

- 1 $n = 8$
- 2 $n = 1$

Vulnerabilities:

- 1 $n = 10$
- 2 $n = 1$

Total Number of Missing Items on 257 STARTs



2009 FPSC– FPSC clinics

•STARTs returned w/ blank items:

- no missing items
 - 71.5% ($n = 241$)

•96 (28.5%) forms had missing item scoring(s):

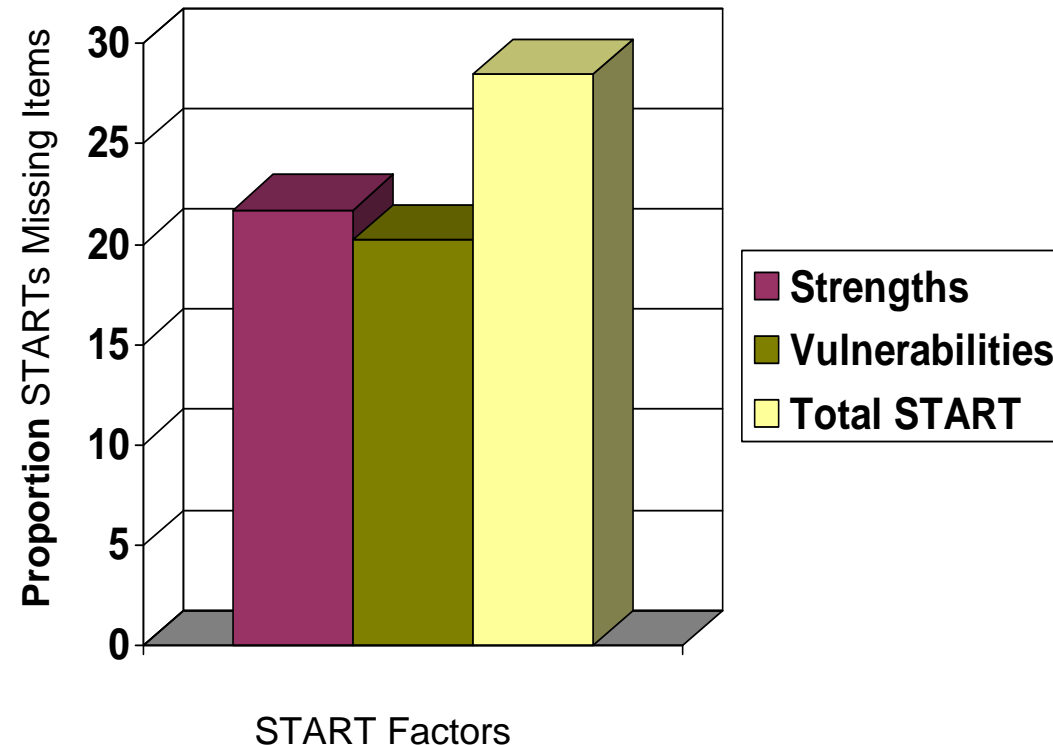
Strengths:

- 0 $n = 264$ (78.3%)
- 1 $n = 35$ (10.4%)
- 2 $n = 9$ (2.7%)
- ≥ 3 $n = 29$ (8.6%)

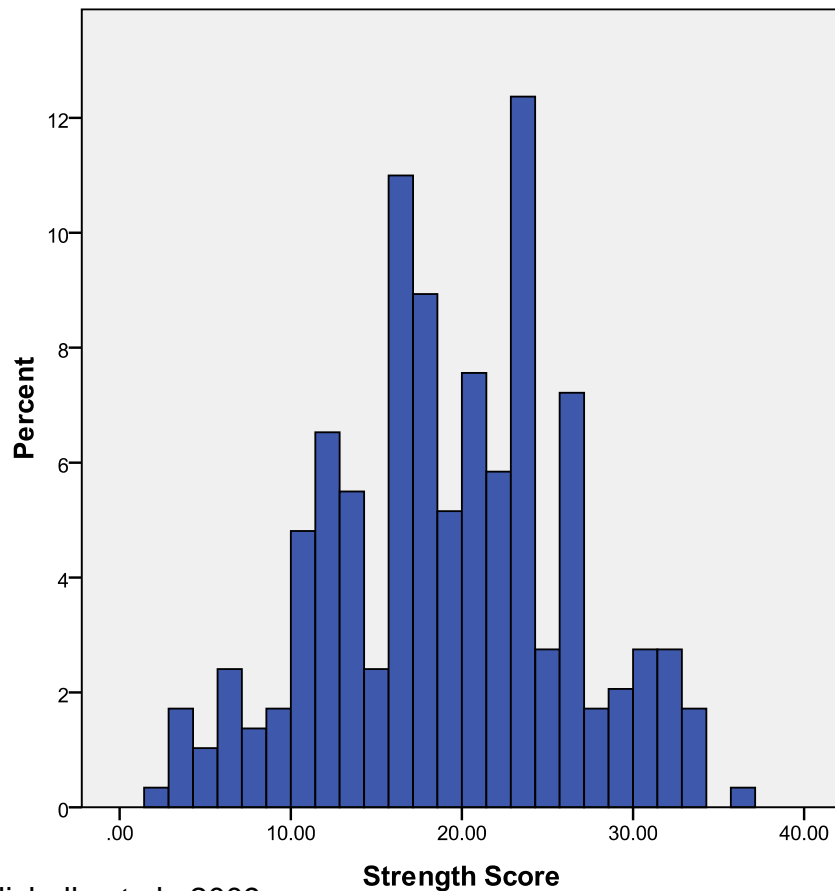
Vulnerabilities:

- 0 $n = 269$ (79.8%)
- 1 $n = 26$ (7.7%)
- 2 $n = 13$ (3.9%)
- ≥ 3 = 29 (8.6%)

Total Number of Missing Items on 337 STARTs



A good means of distinguishing between clients - Strengths



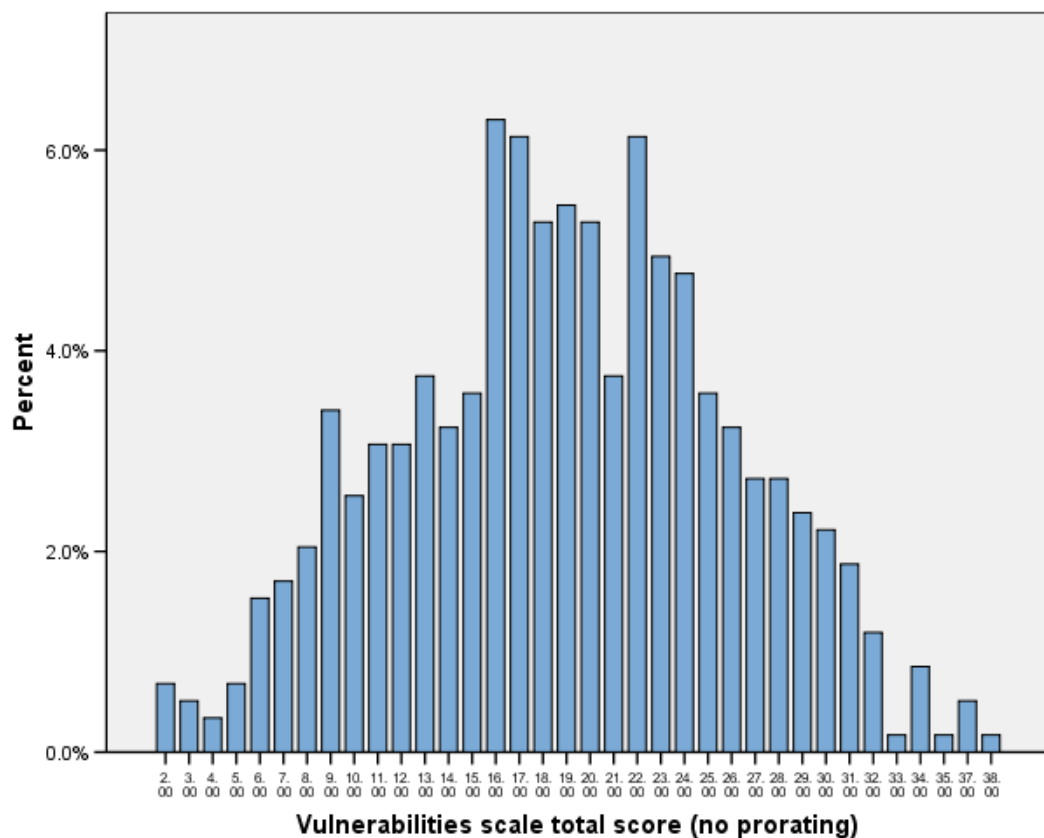
Distribution of Scores

- Good dispersion across *both* strengths and vulnerabilities

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A good means of distinguishing between clients - Vulnerabilities



Distribution of Men's Scores

- Good dispersion across *both* strengths and vulnerabilities

- $N = 587$

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Item Scores

START in Forensic Psychiatric Inpatients

	Mean	Standard Deviation	Range
All (291 STARTs) Strengths Vulnerabilities	18.47 18.36	6.64 7.17	2 – 34 2 – 38
Males (274 STARTs) Strengths Vulnerabilities	19.39 18.20	6.86 7.05	2 – 36 2 – 38
Females (17 STARTs) Strengths Vulnerabilities	15.76 21.00	7.33 8.75	3 – 24 8 – 36

Gender Differences and Similarities

START in Forensic Psychiatric Inpatients – using ALL STARTS

	Men (N = 587-591)	Women (N = 54)	Statistic
Strengths total	18.54 (SD =7.06) Range = 2-36	18.63 (SD = 5.92) Range = 3-27	$t(643) = -.09, p = .93$
Vulnerabilities total	18.92 (SD =7.06) Range = 2-38	19.60 (SD = 6.16) Range = 8-36	$t(638) = -.68, p = .50$

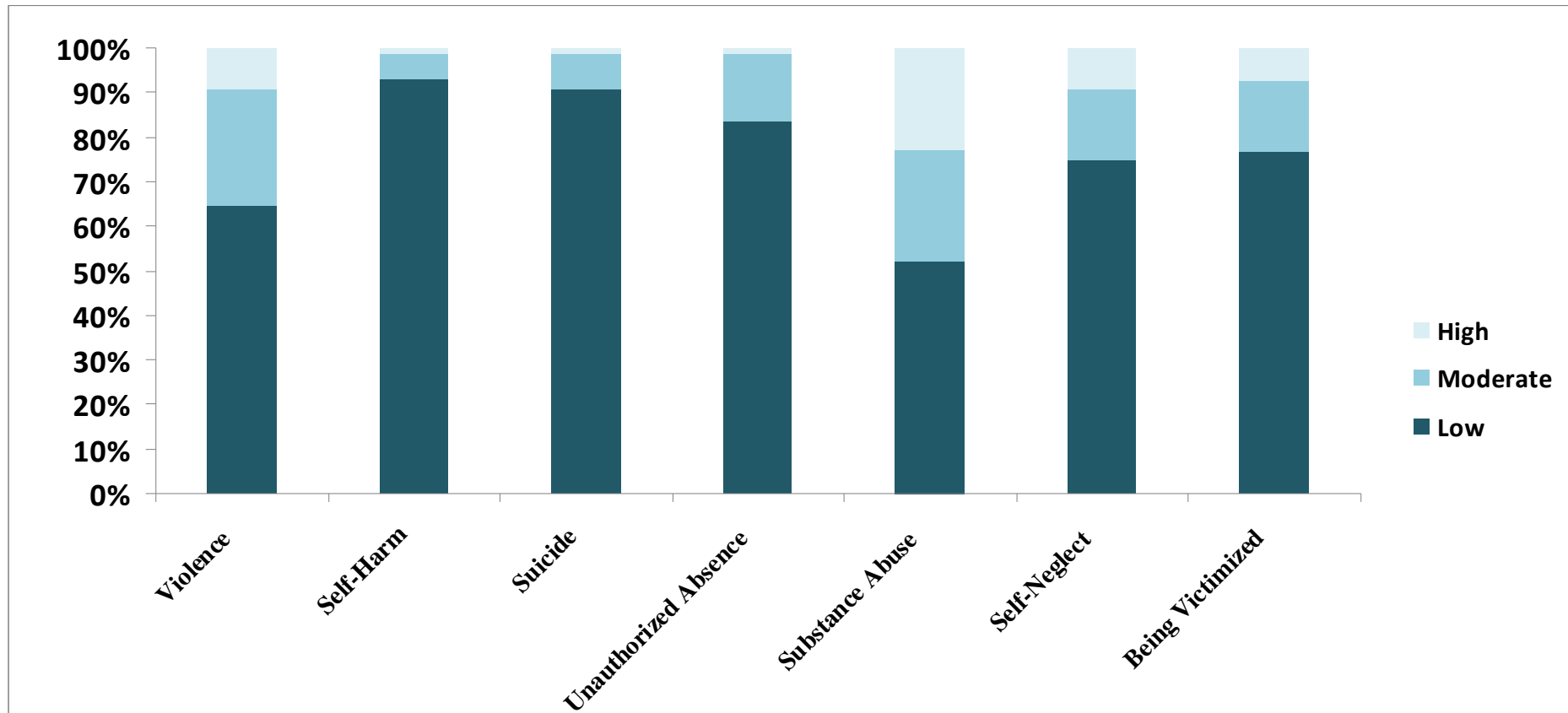


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Assessment Characteristics BC Implementation

- START Risk Estimates



Inter-rater Reliability

- Good agreement
 - Across professions
 - Nurses, social work, psychiatry (Brink & Livingston, 2004)
 - Between independent researchers (Nicholls et al., 2006; Wilson et al. 2009)
 - Between clinical STARTs (vivo assessments) and researcher STARTs
 - (file-based assessments)
 - (Desmarais, Nicholls, Brink & Read, in press)



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Inter-rater Reliability

- ***Do raters agree in their START assessments?***
- *Nicholls et al (2006)*
 - All assessors: ICC = .87
 - Psychiatrists: ICC = .80
 - Nurses: ICC = .88
 - Social Workers: ICC = .92

Inter-rater Reliability

- ***Do raters agree in their START assessments?***
- *Nonstad (2008)*
 - Examined reliability of 47 START assessments in a Norwegian high security psychiatric hospital population;
 - START vulnerability scores: Alpha = .85
 - START strength scores: Alpha = .85
 - Overall: Alpha = .91

Reliability

START	Properties			
	<i>N</i>	<i>MIC</i>	<i>MCITC</i>	<i>Alpha</i>
<i>Vulnerability Scale</i>	282	.26	.47	.87
<i>Strength Scale</i>	283	.27	.49	.88

- MIC > .20
- MCITC > .40
- Alpha > .80

PCL:SV	Properties			
	<i>N</i>	<i>MIC</i>	<i>MCITC</i>	<i>Alpha</i>
<i>PCL:SV total score</i>	586	.32	.53	.84
<i>Part I</i>	586	.42	.59	.81
<i>Part II</i>	586	.35	.52	.75

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Note. PCL:SV refers to data from 11 samples in manual (Hart et al., 1995).

Adverse Events are Common and Overlap Vulnerable Populations

	Self-harming		Physically aggressive	
	<i>N</i>	(%)	<i>N</i>	(%)
Verbal	20	95.2	96	90.6
Property	18	85.7	57	53.8
Physical	9	42.9	-	-
Sexually Inappropriate	6	28.6	15	14.2
Self-Harm	-	-	9	8.5

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Nicholls, Lussier, Brink, & Verdun-Jones, 2007

START is a Dynamic Measure

- As Patients move through continuum of care strength scores increase and vulnerability scores decrease
 - Items
 - Scale Scores
 - Risk Estimates
 - Nicholls, Desmarais, Brink, & Petersen, 2009; Wilson Desmarais, Nicholls, & Brink, 2009



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Static items offer little discriminating ability

Nicholls, Desmarais, Brink, & Petersen, 2009

Characteristics	Security Level <i>N</i> (%) / <i>M</i> (<i>SD</i>)				Contrast
	Maximum	Medium	Minimum	All	X ² (<i>p</i>)
Age	38.38 (10.73)	42.04 (13.58)	38.08 (11.73)	39.72 (12.10)	4.43 (.109)
Male	135 (93.8%)	97 (94.2%)	40 (95.2%)	272 (94.1%)	0.13 (.937)
Diagnoses					
Schizophrenia Spectrum	118 (84.3%)	89 (87.3%)	38 (90.5%)	245 (86.3%)	1.18 (0.560)
Personality Disorder	26 (18.4%)	14 (13.7%)	8 (19.0%)	48 (16.8%)	2.08 (0.72)
Legal status					26.33 (.003)
Hx violence	139 (96.5%)	97 (97.0%)	39 (95.1%)	275 (96.5%)	0.30 (.859)
Hx self-harm	43 (30.1%)	27 (27.0%)	8 (19.5%)	78 (27.5%)	1.80 (.407)
Hx suicide	58 (40.6%)	36 (36.0%)	17 (41.5%)	111 (39.1%)	.628 (.731)
Hx UAL	74 (52.1%)	43 (43.0%)	19 (47.5%)	136 (48.2%)	1.96 (.375)
Hx Substance Abuse	114 (80.3%)	68 (68.0%)	31 (75.6%)	213 (75.3%)	4.76 (.093)
Hx Self-Neglect	60 (42.0%)	55 (55.0%)	18 (43.9%)	133 (46.8%)	4.19 (.123)
Hx Victimization	46 (32.4%)	37 (35.6%)	9 (22.0%)	92 (32.1%)	2.33 (.312)

Dynamic Vulnerability Scores as a Function of Security Level

- Kruskall Wallis *H*-test

- All START item scores differed significantly ($p = .020-.000$) with exception of:

1. Occupational $p = .079$
2. Self-care $p = .056$
3. Social support $p = .052$

	START Total Vulnerability Scores	
Security Level	<i>M</i>	<i>SD</i>
Maximum ($n = 141-144$)	21.18	7.02
Medium ($n = 103-107$)	16.56	6.33
Minimum ($n = 41-42$)	13.00	5.11
		($p=0.000$)

Dynamic Strength Scores as a Function of Security Level

• Significant differences ($p < .009$) for all but two START items on the strengths side:

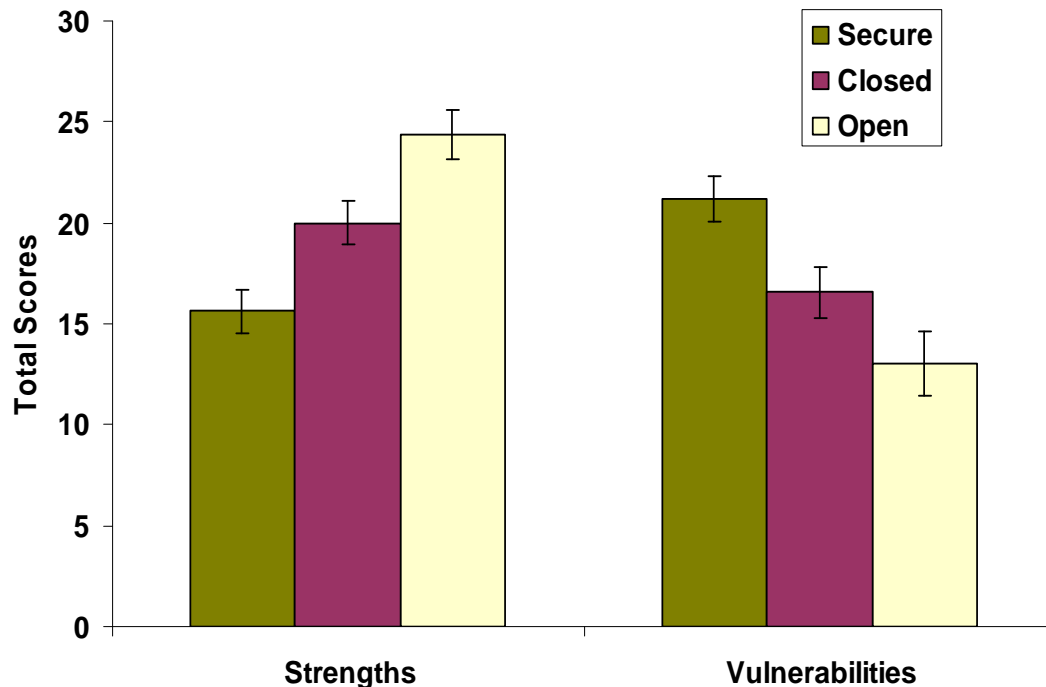
1. Self-care $p = .077$
2. Social support $p = .634$

	START Total Strength Scores	
Security Level	<i>M</i>	<i>SD</i>
Maximum ($n = 141-144$)	15.56	6.54
Medium ($n = 103-107$)	20.00	5.57
Minimum ($n = 41-42$)	24.36	3.93

$(p=0.000)$

Validity

START **Total** Scores as a Function of Security Level



- Scores change
- Item, total, and risk estimate scores are related to:
 - Internal aggression
 - External aggression
 - Review board hearing outcomes
 - Security levels

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Note. $N = 291$ STARTS on 142 Forensic Psychiatric Inpatients.

Strengths: $F(2, 286) = 41.04, p < 0.001$

Vulnerabilities: $F(2, 286) = 31.38, p < 0.001$

Predictive Validity

Haque & Cree, 2009

- Sample: 46 English male consecutive admissions to medium security
- Measured in-patient aggression over a 3 month period.
- Results:
 - Total vulnerability score
 - **AUC = 0.85 for predicting any aggression**
 - **AUC = 0.82 for physical aggression to others**
 - Total strength scores
 - **AUC = 0.77 for predicting no aggression**
 - **AUC = 0.76 predicting no physical aggression to others.**

Predictive Validity

Desmarais, Wilson, Nicholls, & Brink, 2010

START Assessments (n = 120)	Verbal		Physical – Objects		Physical – Others	
	AUC (SE)	95% CI	AUC (SE)	95% CI	AUC (SE)	95% CI
Strength Total	.75 (.05) ^{***}	.66-.84	.77 (.06) ^{***}	.65-.89	.80 (.05) ^{***}	.70-.89
Vulnerability Total	.79 (.04) ^{***}	.70-.87	.80 (.05) ^{***}	.71-.89	.77 (.05) ^{***}	.66-.88
Risk Estimate	.78 (.04) ^{***}	.69-.86	.84 (.04) ^{***}	.76-.92	.85 (.04) ^{***}	.77-.93

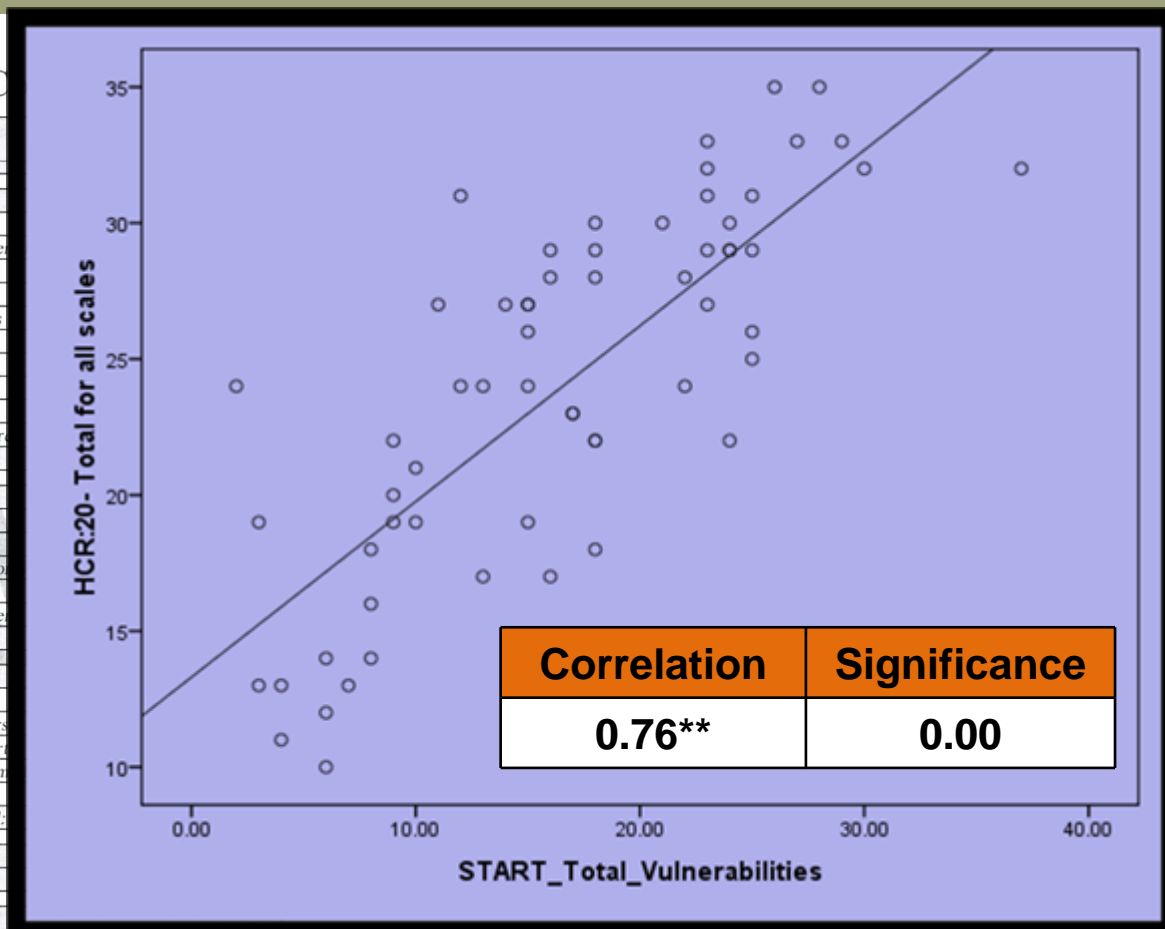
Convergent Validity

Petersen, Nicholls, Brink, & Webster, 2009

- Strong positive relationship between START Vulnerability Scores and HCR-20 Total Scores

HCR-20 C

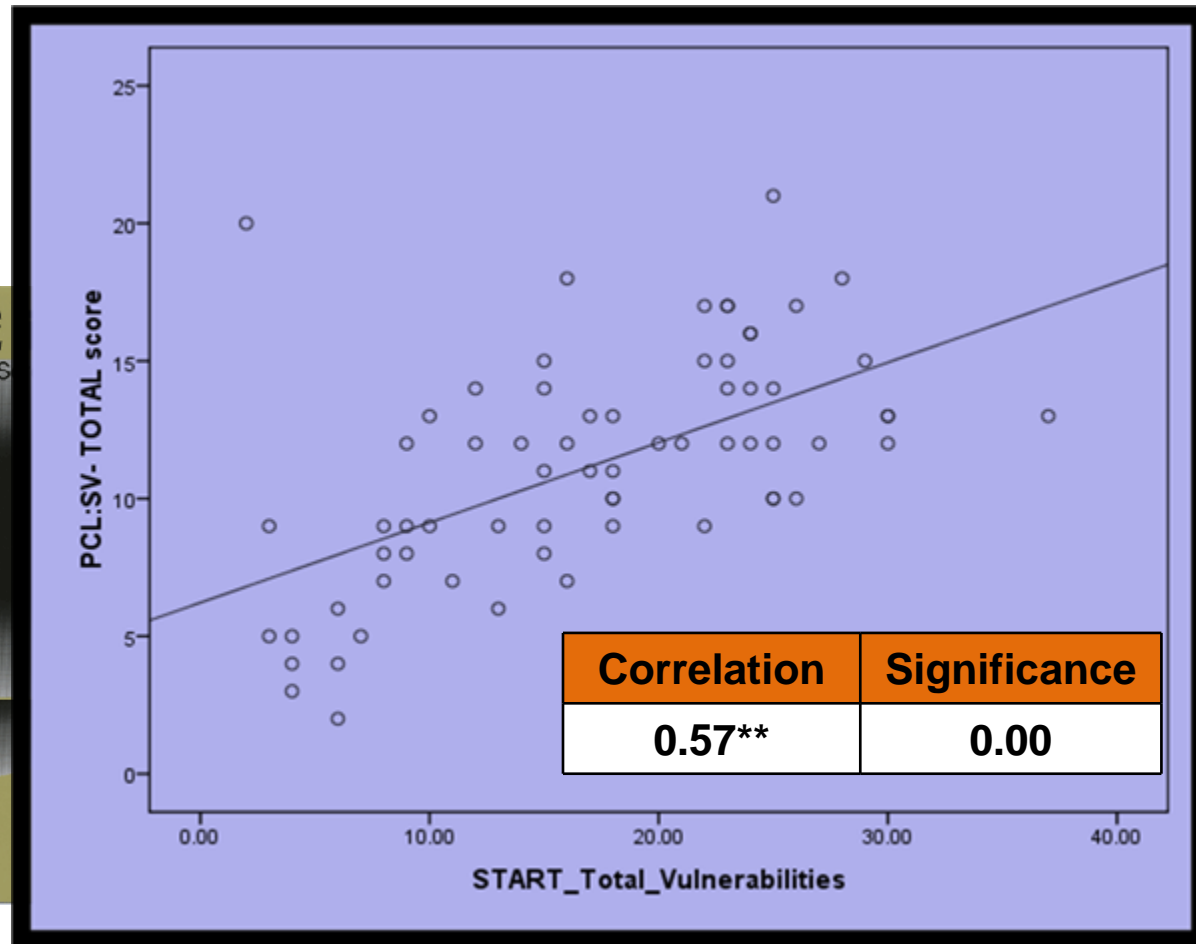
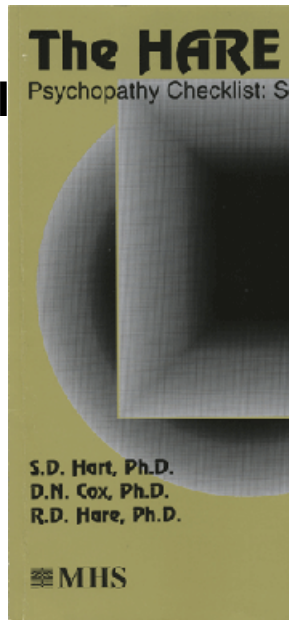
Participant Name _____ Date _____	
<i>Historical Items</i>	
H1	Previous Violence
H2	Young Age at First Violence
H3	Relationship Instability
H4	Employment Problems
H5	Substance Use Problems
H6	Major Mental Illness
H7	Psychopathy
H8	Early Maladjustment
H9	Personality Disorder
H10	Prior Supervision Failure
Historical Item Total: _____	
<i>Clinical Items</i>	
C1	Lack of Insight
C2	Negative Attitudes
C3	Active Symptoms of Major Mental Illness
C4	Impulsivity
C5	Unresponsive to Treatment
Clinical Item Total: _____	
<i>Risk Management Items</i> <input type="checkbox"/> Incomplete	
R1	Plans Lack Feasibility
R2	Exposure to Destabilizers
R3	Lack of Personal Support
R4	Noncompliance with Recommendations
R5	Stress
Risk Management Item Total: _____	
HCR-20 Total: _____	
Final Risk Judgment: _____	
Assessor Name _____ Signature _____ Date _____	



Convergent Validity

Petersen, Nicholls, Brink, & Webster, 2009

- Significant positive relationship between START Vulnerability Scores and PCL:SV Total Scores



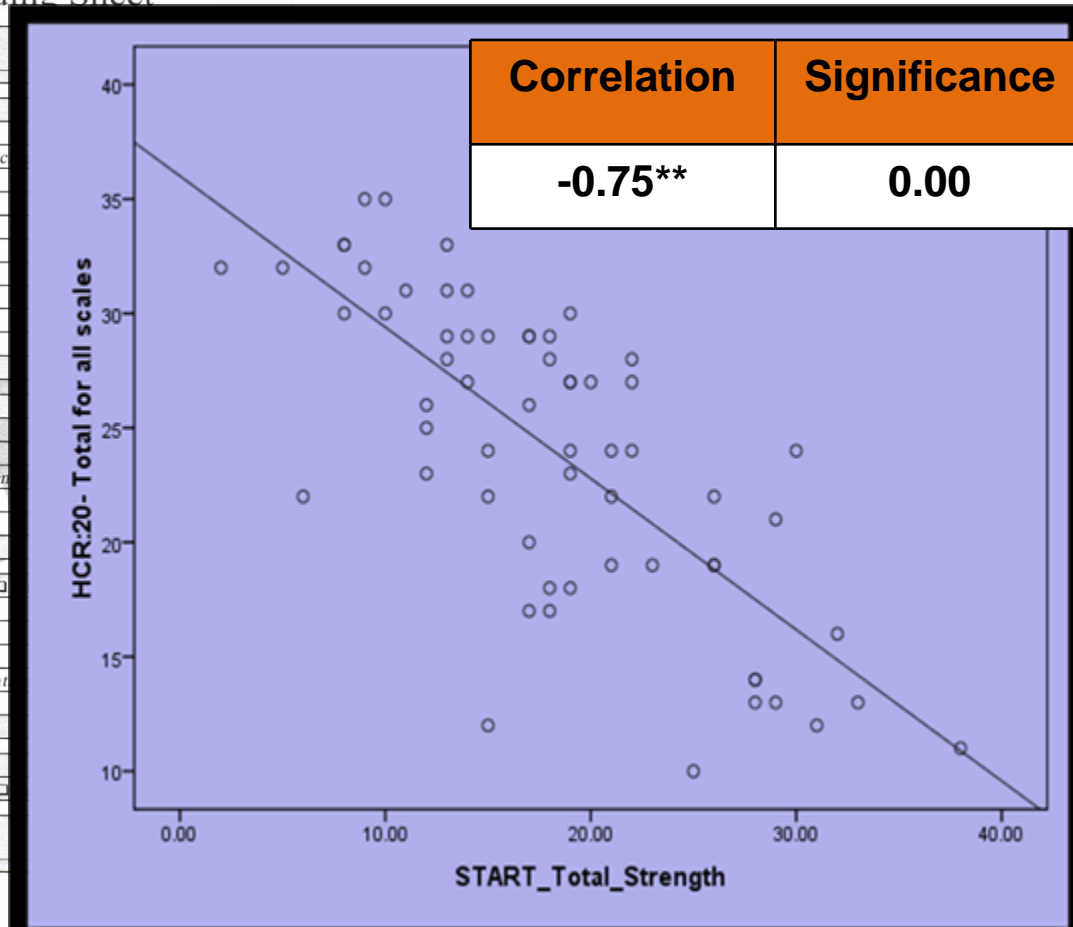
Divergent Validity

Petersen, Nicholls, Brink, & Webster, 2009

- Significant negative relationship between START Strength Scores and HCR-20 Total Scores

HCR-20 Coding Sheet

Participant Name _____ Date _____	
<i>Historical Items</i>	
H1	Previous Violence
H2	Young Age at First Violent Inc
H3	Relationship Instability
H4	Employment Problems
H5	Substance Use Problems
H6	Major Mental Illness
H7	Psychopathy
H8	Early Maladjustment
H9	Personality Disorder
H10	Prior Supervision Failure
Historical Item Total: _____	
<i>Clinical Items</i>	
C1	Lack of Insight
C2	Negative Attitudes
C3	Active Symptoms of Major Men
C4	Impulsivity
C5	Unresponsive to Treatment
Clinical Item Total: _____	
<i>Risk Management Items</i> <input type="checkbox"/> In <input type="checkbox"/>	
R1	Plans Lack Feasibility
R2	Exposure to Destabilizers
R3	Lack of Personal Support
R4	Noncompliance with Remediat
R5	Stress
Risk Management Item Total: _____	
HCR-20 Total: _____	
Final Risk Judgment: <input type="checkbox"/>	
Assessor Name _____ Signature _____	



Incremental Validity

- An Examination of Dynamic Items, Strengths & Risk Estimates

- Nonstad et al. (under review)
 - If sum of strengths \geq sum of vulnerabilities, no violence in next 90 days.
- Desmarais et al. (2010)
 - Dynamic factors improved upon prediction of inpatient aggression over historical items
 - Strengths specifically
 - Risk estimates improved upon prediction of inpatient aggression over historical and dynamic items
 - Consistent with superiority of risk estimates found by Troquete et al. (2009)

User Satisfaction

Desmarais, Collins, Nicholls, & Brink, under review

- ***User-Friendliness***

- Agreement rates of 80% and greater.
- One exception:
 - 56% agreed it was easy to make finer scoring distinctions.

- ***Clinical Utility***

- Agreement regarding usefulness of individual START components high:
 - Ranged from 71% (signature risk signs) to 88% (critical items).
- Utility endorsed, both in reference to
 - concentration on dynamic items (81%)
 - dual focus on strengths and vulnerabilities (93%)
- Overall, 93% agreed that START is a clinically useful measure.

User Satisfaction

Doyle, Lewis, & Brisbane, 2008

- ***Clinical Utility***

- the process of completing the START itself was considered helpful in terms of organizing information, including:
 - highlighting risks and strengths;
 - clarifying risk areas;
 - promoting a greater understanding of what factors might contribute to specific risks;
 - and what factors might serve to reduce risk and be necessary to incorporate in a management plan.
- It was noted that a systematic process of looking at specific risk-related areas **revealed any gaps in information**, alerting raters to the need to obtain further details in order to be able to make sound judgments and formulate risk.

START Uptake

- Implemented at several sites (see, for example, Logan & Rose, 2009; Doyle et al., 2009)
 - St. Andrew's, Northampton implementation underway
- Cited in the Department of Health's report, *Best Practice in Managing Risk*(2007), as a tool for supporting best practices in assessing multiple risks (Haque et al., 2008)
- Received highest perceived utility rating of structured risk assessment instruments used in English medium secure forensic units (Khiroya et al., 2009)



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START Developments

START-Adolescent Version (START-AV)

- Downward translation for use with adolescent populations
- In collaboration with Jodi Viljoen (Simon Fraser University) and Keith Cruise (Fordham University)

- Adapted original 20 items
 - 6 new items
- Pilot studies
 - Vancouver, Northampton, Connecticut, Neathe



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START Developments

START-Electronic Version (E-START)

- to facilitate integration with electronic clinical records, reporting, surveillance / monitoring of progress, etc.
- Introduced at the 2008 International Association of Forensic Mental Health Services conference (Brink et al., 2008)
- Pilot testing to begin on 1 unit within our hospital



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Conclusion



Photo by Fred Dawkins, BCMHAS

Forensic Psychiatric Hospital, BC, Canada

- START is a good means of structuring clinical team discussions / meetings
- The measure has strong psychometric properties
 - items and total scores appear to be a useful strategy of determining appropriate security classification, programming/privileges levels and developing treatment plans.

Contact Information

Tonia L. Nicholls, Ph.D.

70 Colony Farm Road
Forensic Psychiatric Hospital
Port Coquitlam, BC
Canada V3C 5X9
604-524-7790

tnicholls@forensic.bc.ca

To order START:

START@forensic.bc.ca; 604-524-7730

