

Is the Swedish universal access model for addiction
treatment an alternative to the US model?:
A longitudinal registry study

**Dr. Lena M. Lundgren Center for Addictions Research and Services,
Boston University School of Social Work**



Presentation Overview

- Current research interests:
 - Integration of SUD treatment into primary care
 - Swedish model of integrated care for SUD
 - Social workers as the “spiders” rather than current proposed (primary care doc, the spider) models of care
 - Promotion of social work capacity and leadership in behavioral health



Guest professorship In Sweden

2008-present

- Aim: to develop new expertise in quantitative, registry-based addiction treatment research in Social Work.
- Preliminary outcomes:
 - Funded interdisciplinary research network
 - 2 active Swedish studies
 - 4 doctoral students, 2 post-docs, 1 statistician in two countries
 - One special issue journal and six additional articles.
 - Two grants pending (one cross-national registry-based study; one registry study on refugee children without parent in the Swedish compulsory treatment system).
 - Two additional grants submitted.



Study 1: Assessment of SUD

National level assessment data on individuals with Substance Use Disorder (SUD), conducted by social workers.

Use of Addiction Severity Index as base-line instrument.

- Sample of findings on the next slides



Logistic Regression Model: Immigration Status Associated with Self-reported History of Compulsory Drug Treatment (n = 13,622)

	Compulsory drug treatment	
	Odds ratio	(95% CI: lower, upper)
Age**	.97	.97, .98
Gender		
Male	1.12	.99, 1.25
Female ^a		
Number of years of education**	.88	.87, .90
Ever received medications for psychological or emotional problems**	.36	.29, .44
Ever been in inpatient treatment for psychiatric problems**	1.56	1.38, 1.75
Ever been in outpatient treatment for psychiatric problems	.99	.89, 1.11
Currently on parole or probation**	1.70	1.50, 1.94
Number of drug crimes**	1.12	1.11, 1.13
Homeless status**		
Yes ^a	1.88	1.62, 2.20
No		



Logistic Regression Model: Immigration Status Associated with Self-reported History of Compulsory Drug Treatment (n = 13,622)

controlling for age, gender, education, history of mental treatment, criminal justice history, and homelessness

	Compulsory drug treatment	
	Odds ratio	(95% CI: lower, upper)
Immigrant status (one five-category variable)		
Individual and their parents born in Sweden ^a		
Individual born in either Norway, Denmark, or Finland *	.72	.56, .93
Individual born outside of Sweden, Norway, Denmark, and Finland	.93	.78, 1.10
Individual born in Sweden and at least one parent born in Norway, Denmark, or Finland	1.04	.86, 1.24
Individual born in Sweden and at least one parent born outside Sweden, Norway, Denmark, and Finland **	1.41	1.19, 1.68

^aReference group.

* $p < .05$, ** $p < .001$.

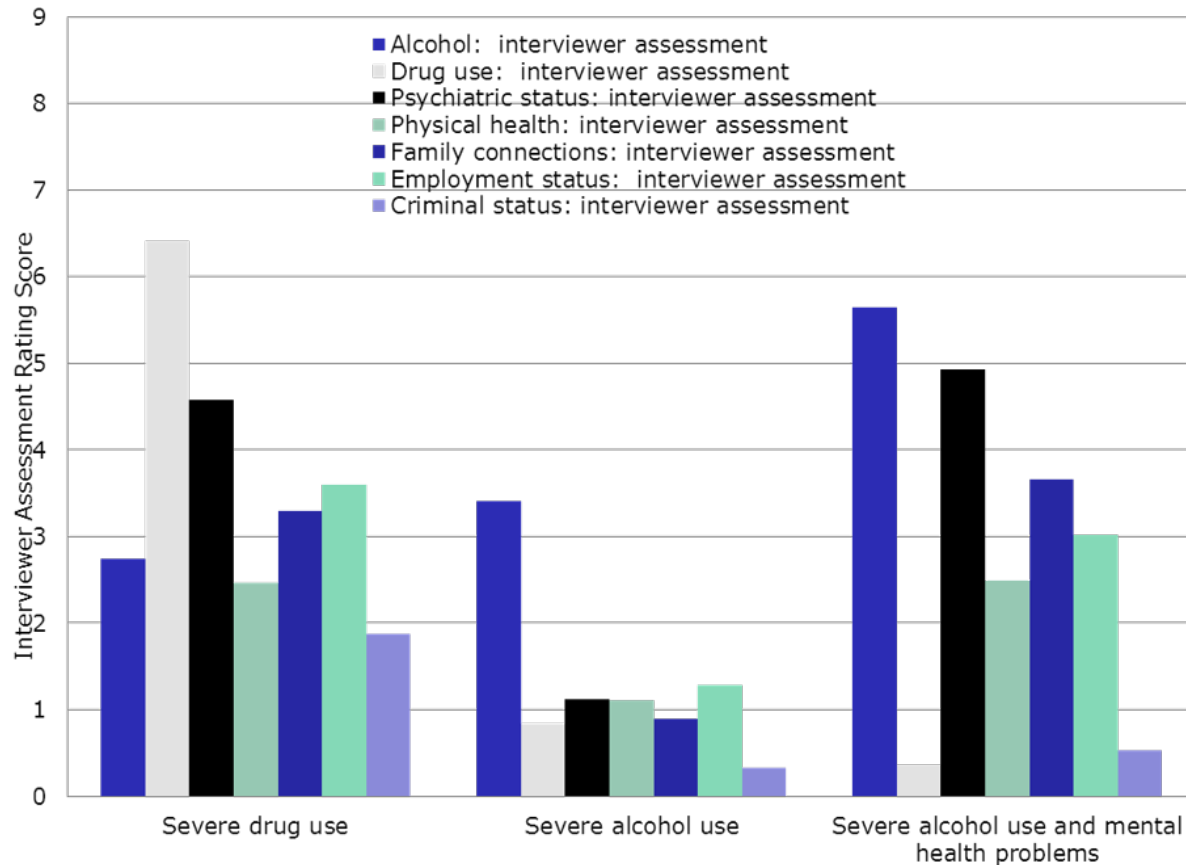
Note: Model chi square (χ^2) = 1,647.73; df = 13; $p < .000$; Nagelkerke R square = .198.



National population of those assessed for a substance use disorder in Sweden, 2003-2008 (n=12,833)

95% clustered in to three groups (k-means cluster analysis)

Cluster Development



Study 2: Compulsory care for addiction

- 3-year registry database study on compulsory care utilization
 - Mortality of those entering compulsory care
 - Repeated compulsory care entry
 - Hospitalization of compulsory care clients
 - Drop-out of compulsory care
- Merged compulsory care data with national mortality and hospitalization data for 4055 individuals entering compulsory care between 2001-2009.



Compulsory addiction care: Mortality data

Mortality of those who have been deemed by the court to be of danger to themselves and others due to their substance abuse and sentenced to Compulsory Care

- **FINDINGS:**

- Mortality rate 8-9 times higher than the general population (Hall... & Lundgren (2015)).
- Average age of death: 32 for narcotics users (55 alcohol).
- Primary cause of death: alcohol/drug-related
- For heroin users, death due to overdose most strongly associated with age (Blom, Padyab, Lundgren, 2015).



Sweden vs United States

Yet individuals in addiction treatment in Sweden...

Enter treatment earlier in their substance use careers,

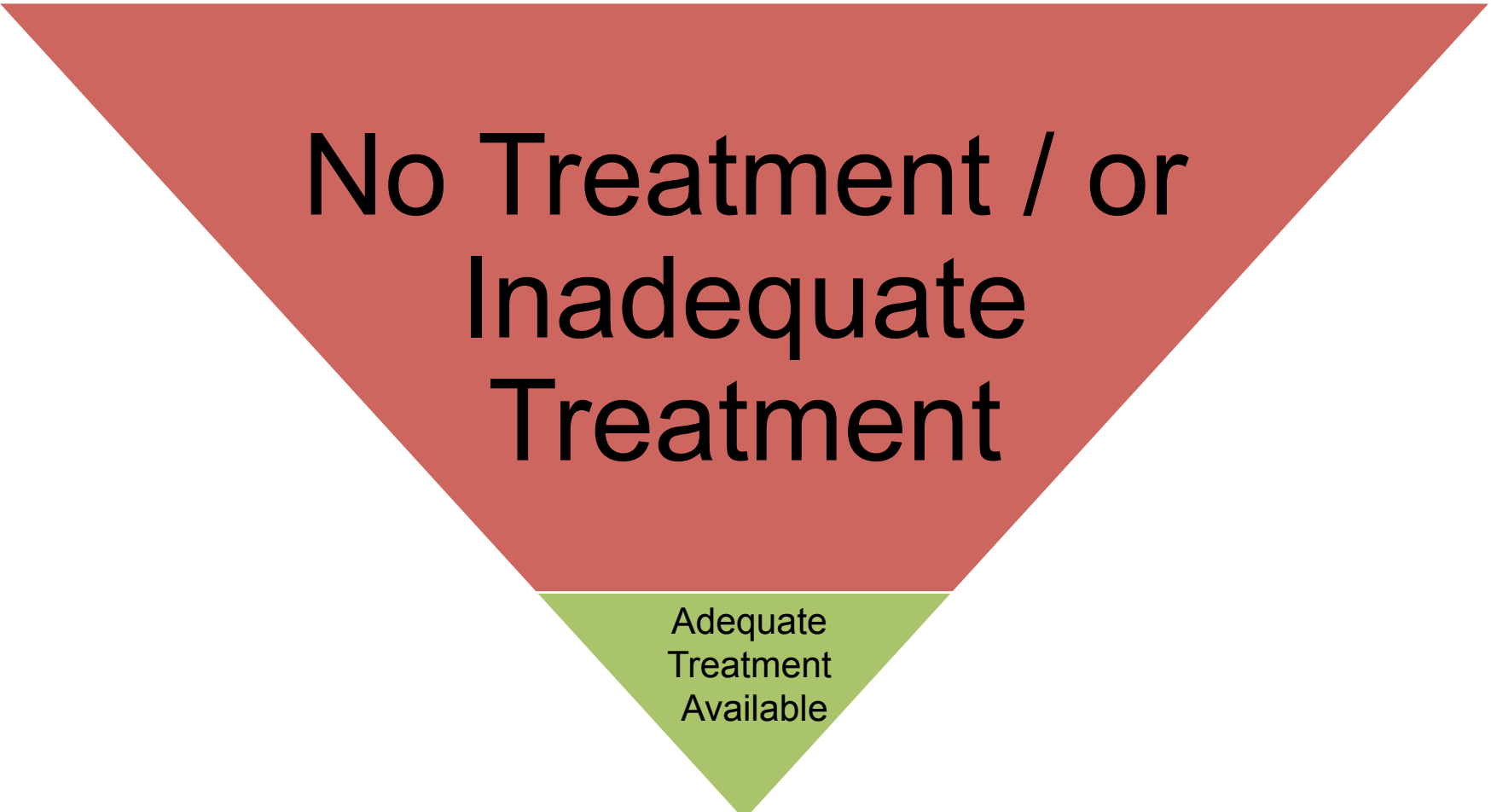
Receive more treatment than their US counterparts,

Treatment is universal and free

(Widthbrodt, & Romelsjo 2013, Trochio, Lundgren 2013).



The U.S. Treatment Gap



No Treatment / or
Inadequate
Treatment

Adequate
Treatment
Available



U.S. Treatment Gap (continued)



An estimated **23 million individuals**
in the U.S., or **9%** of the
population aged 12 years and older,
meet criteria for a diagnosis of
substance abuse or dependence.



U.S. Treatment Gap (continued)

Only 4 million people, or 17 % of those who need addiction treatment, enter care for their SUD each year:

- In 2008 of those who entered treatment, only 2.6 million entered into facilities that specialize in addiction treatment (McCarty, McConnell & Schmidt, 2009; SAMHSA, 2008)



Is there an Addiction Treatment System of Care?

- Our 2006 state-level study using MIS data suggested that the preferred system of care-- detox, inpatient, outpatient, or detox-outpatient-- may not exist for many clients.
- For a sample of approximately 3,000 individuals new to treatment:
 - The 10 most common patterns of care covering approximately 50 percent of clients were a range of detox entries followed by no entry to treatment (Lundgren et al, JSAT 2006).
 - I.e. we need a system of treatment integrated with other care systems.



Affordable Care Act (ACA)

The ACA includes health insurance coverage for addiction treatment which will likely and hopefully increase access to treatment.

- A Fee-For-Service (FFS) model is increasingly being utilized in reimbursing addiction treatment providers (National Institute of Mental Health, The Economics of Health Care Reform, 2011).



ACA (continued)

Under ACA primary care physicians (PCPs) are to be the center for all care.

Historically, these health care providers, for a number of reasons, have not been the primary source of referral to addiction treatment for those with severe SUD; including homeless populations.



Lack of PCP Clinical Skills & Training

Studies conducted by those in the medical/health profession report that “physicians receive little **training in treatment of addictions** and lack the clinical skills necessary to identify and intervene effectively with substance users” (Kahan, 2009).

Medical School students lack role models, instruction and experiences in **addiction medicine** throughout their years of medical education (Miller, 2001).



PCPs and Feelings of Incompetence

Most primary care physicians do not feel competent to treat alcohol- and drug-related disorders, they are trained that diagnosis and treatment of such disorders are separate from “medical matters” (Miller 2001).



Diagnostic Impact on Patients

Multiple studies found that a significant number of SUDs were underdiagnosed by PCPs.

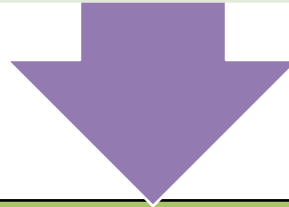
- In one study, half of patients seeking addiction treatment from their PCP were not recognized as having a disorder by their PCP (Reif, 2011).



Additional Implications

Access barriers for vulnerable populations:

These individuals need a comprehensive range of services. It is not evident that weekly or bi-monthly outpatient services can address these needs.



Hence, as federal treatment funding may continue to decrease for community-based addiction treatment, a concern is that the most vulnerable population groups will experience reduced access to treatment, whereas those with higher incomes will continue to access the most comprehensive treatment.



Social Work Training

- However,
 - National study of MSW programs ($N = 210$) examined prevalence of addiction courses and specializations.
 - Web-based analyses showed:
 - Only 14% of accredited schools offered **specialization** in substance use;
 - Only 5% of accredited schools had one or more required **courses** related to substance abuse.
 - Social work education has not met addiction workforce development needs (Wilkey, C., Lundgren, L., Amodeo, M., 2013).



Can Sweden serve as a model for behavioral health integration with social work as leaders?

- Utilizing existing and developing new register data on addiction treatment and hospitalization, my next study builds upon scientific evidence of SUD as a bio/psycho/social condition which has reached epidemic proportions in many countries.
- Acknowledges that individuals with SUD use a range of interventions in terms of health and behavioral health and social services.



Responds to gaps in theory

- The Gelberg-Andersen Behavioral Model for Vulnerable Populations and their original Behavioral Model of Health Services Utilization currently the most commonly used frameworks for understanding treatment and health care utilization.
- These frameworks, however, neither acknowledge that governmental and non-governmental institutions provide **differential systems of access** to addiction treatment interventions nor recognize that societal values affect these access paths.



Expands theory (continued)

- Existing theory does not model variation in outcomes due to systems of care varying in their institutionalization of addiction treatment as:
 - (1) a free universal right,
 - (2) a cost to the individual and society which one insures against, or
 - (3) a charity with the individual bearing primary responsibility for recovery



Expands theory (continued)

- These theories, moreover, do not model whether other values (e.g., policies about criminalization of narcotics use) affect the use of treatment and hospitalization.
- Hence, the “behavioural health model” has limited use in cross-national comparisons, given significant “between- country” value and institutional differences regarding both access to treatment and criminalization of drugs.



Expands theory (continued)

- The development a new theoretical framework that explains how societal-level differences in access systems to treatment for a SUD impact societal outcomes:
 - Acute health care use specifically rates of hospitalization.



Research Questions

1) Do public, universal, free access systems result in increased utilization of addiction treatment, compared to insurance access systems and/or a mix of NGO/self-pay access systems?

2) Does increased access to addiction treatment reduce the use of acute health care for alcohol and drug-related problems?

3) Is there an interaction between societal legalization/criminalization of narcotics use and societal rates of treatment and acute health care use?



Research Aims

- **Aim 1:** Assess and describe the number, types and duration of addiction treatment episodes for two years (2017-2019) and compare individuals new to treatment in five different countries representing five different institutional systems.



Research Aims (continued)

- **Aim 2:** Assess and describe the number of reasons for, and duration of acute health care/inpatient hospitalizations received within two years (2017-2019) and assess range and clusters of addiction treatment and hospitalizations for individuals new to treatment in five different countries representing five different institutional systems.

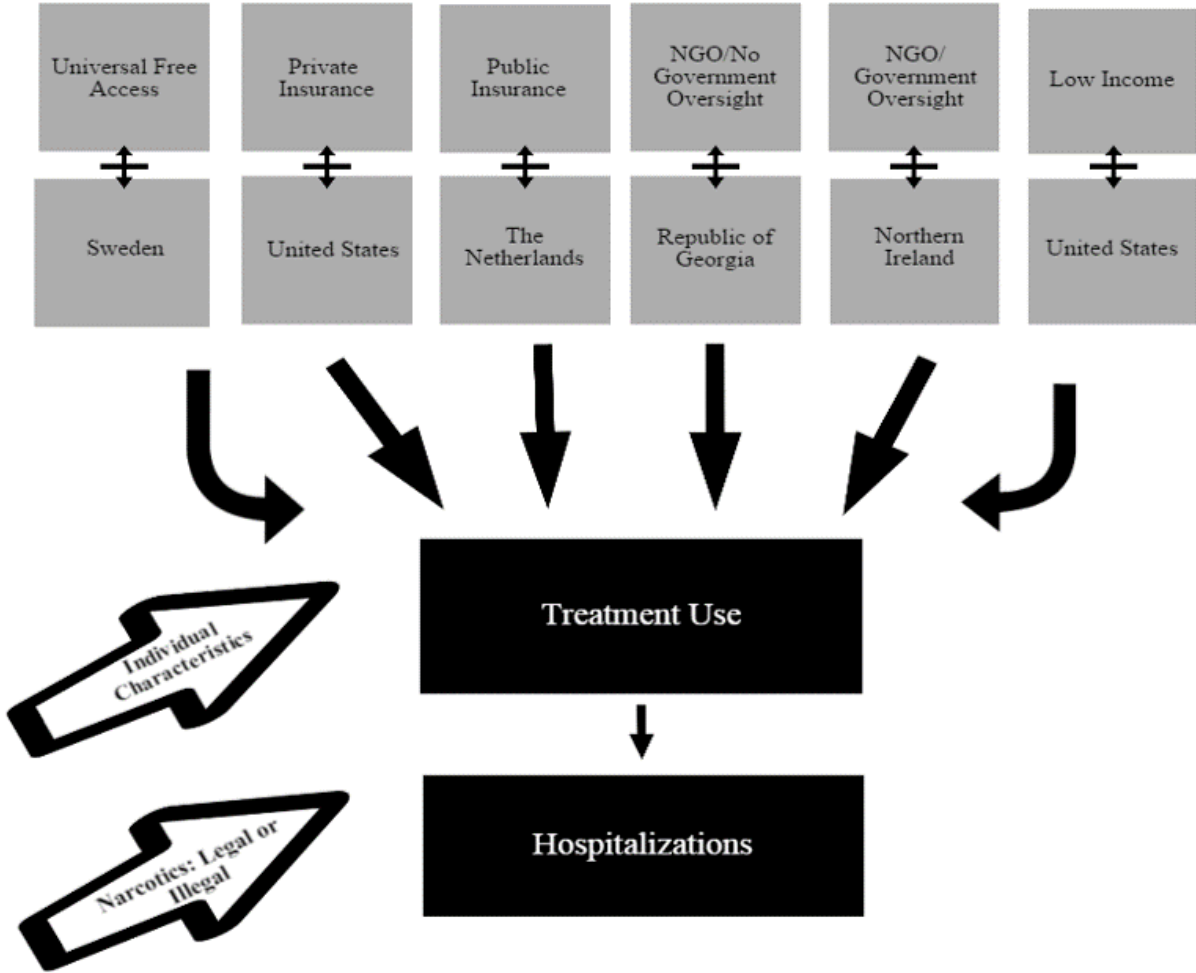


Research Aims (continued)

- **Aim 3:** Estimate and compare the moderating effects of individual-level characteristics (demographics, type, history of primary substance used, mental health history, medical care in the two years prior to first addiction treatment) and institutional characteristics (legalization/criminalization of narcotics) on the relationship between addiction treatment use and hospitalization use.



Conceptual Model of Research Design



Potential research and policy impact

- Provide critical results informing those who are implementing ACA as to whether universal access to addiction treatment:
 - (1) increases utilization of treatment
 - (2) reduces rates of hospitalization.
 - (3) Reduces substance use related mortality.



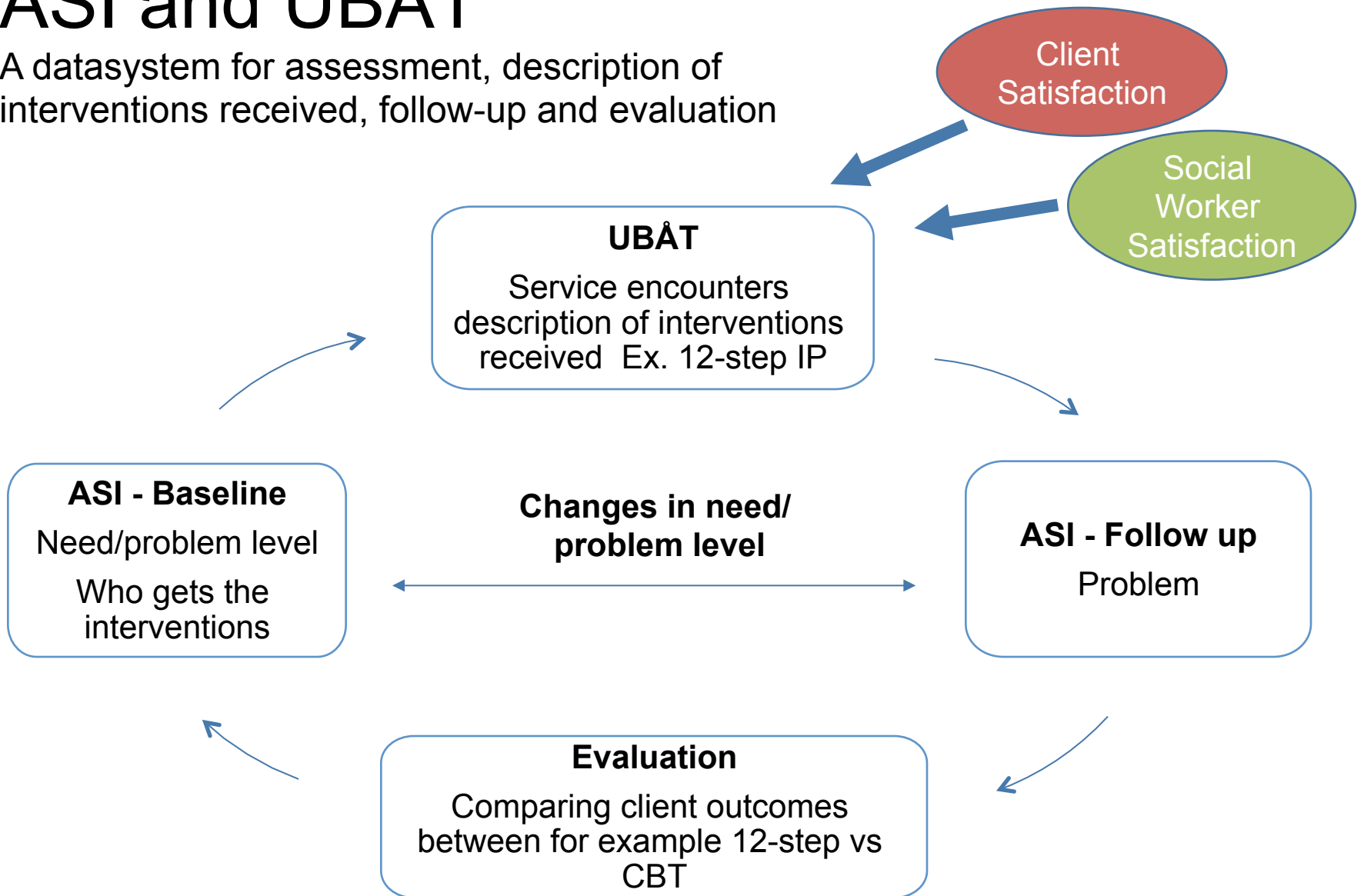
Back to reality

- Current funding (study 900k) to develop the first arm, develop research network.
- We are developing a new national Swedish registry database “U-bat =submarine” that includes all social work and other interventions that individuals with SUD receive in Sweden.
- The programming and pilot testing of “submarine” has been pilot tested and implemented.
- We are currently linking pilot data with registry data on hospitalization and we have started to analyze the first sets of “u-bat” data.



ASI and UBÅT

A datasystem for assessment, description of interventions received, follow-up and evaluation

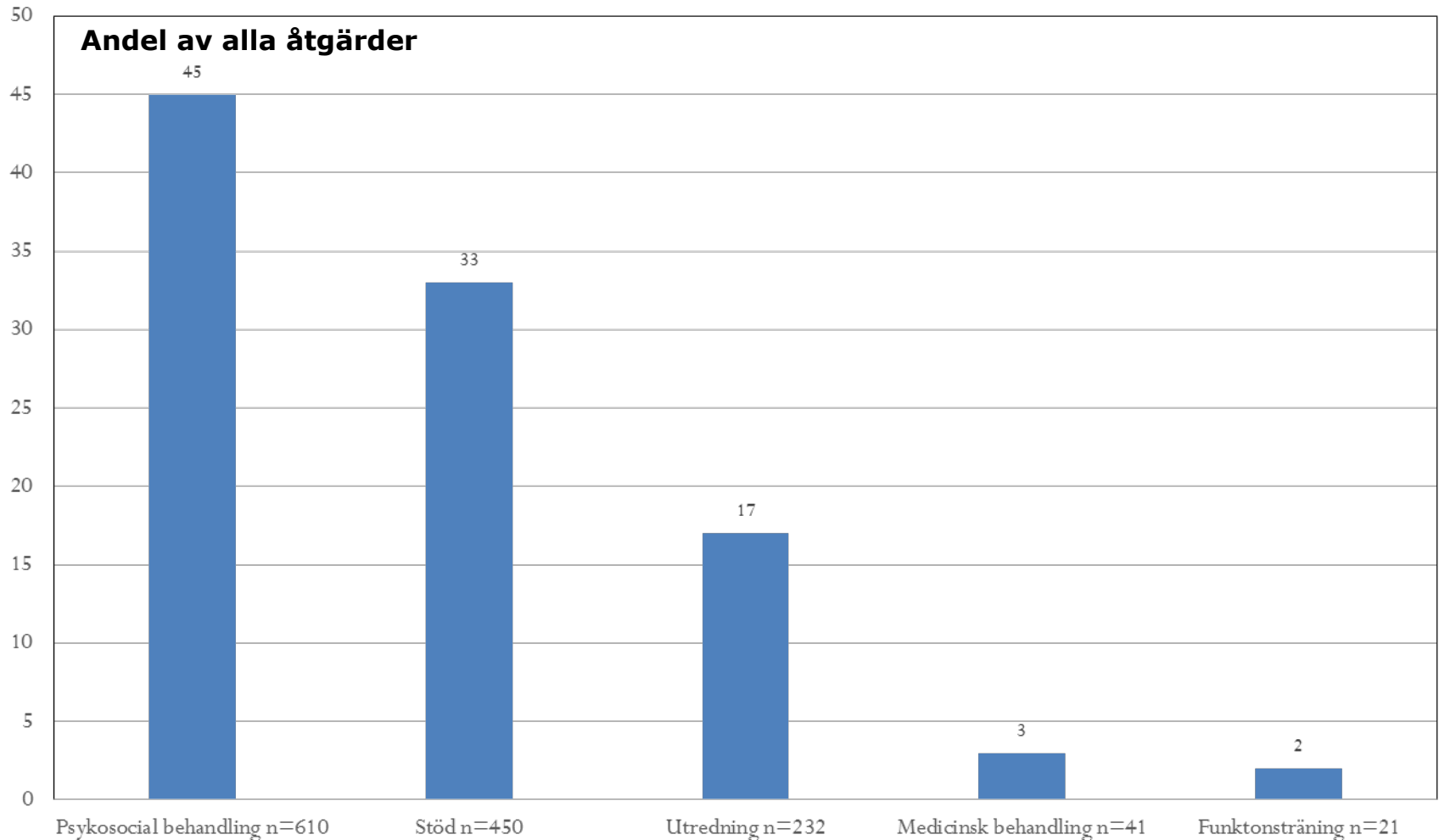


What have we learned so far

- Individuals who were assessed for a SUD, who had not been assessed for SUD in the year prior to base-line assessment, have on average been hospitalized 4.3 times over five years (range 0-89).
- Hence, the pilot study reduced our concern for not having any range in dependent variable.
- Severity of SUD primary predictor hospitalization (5 years past base-line). However, not based on client assessment at base-line, but on record of compulsory care sentences to treatment.

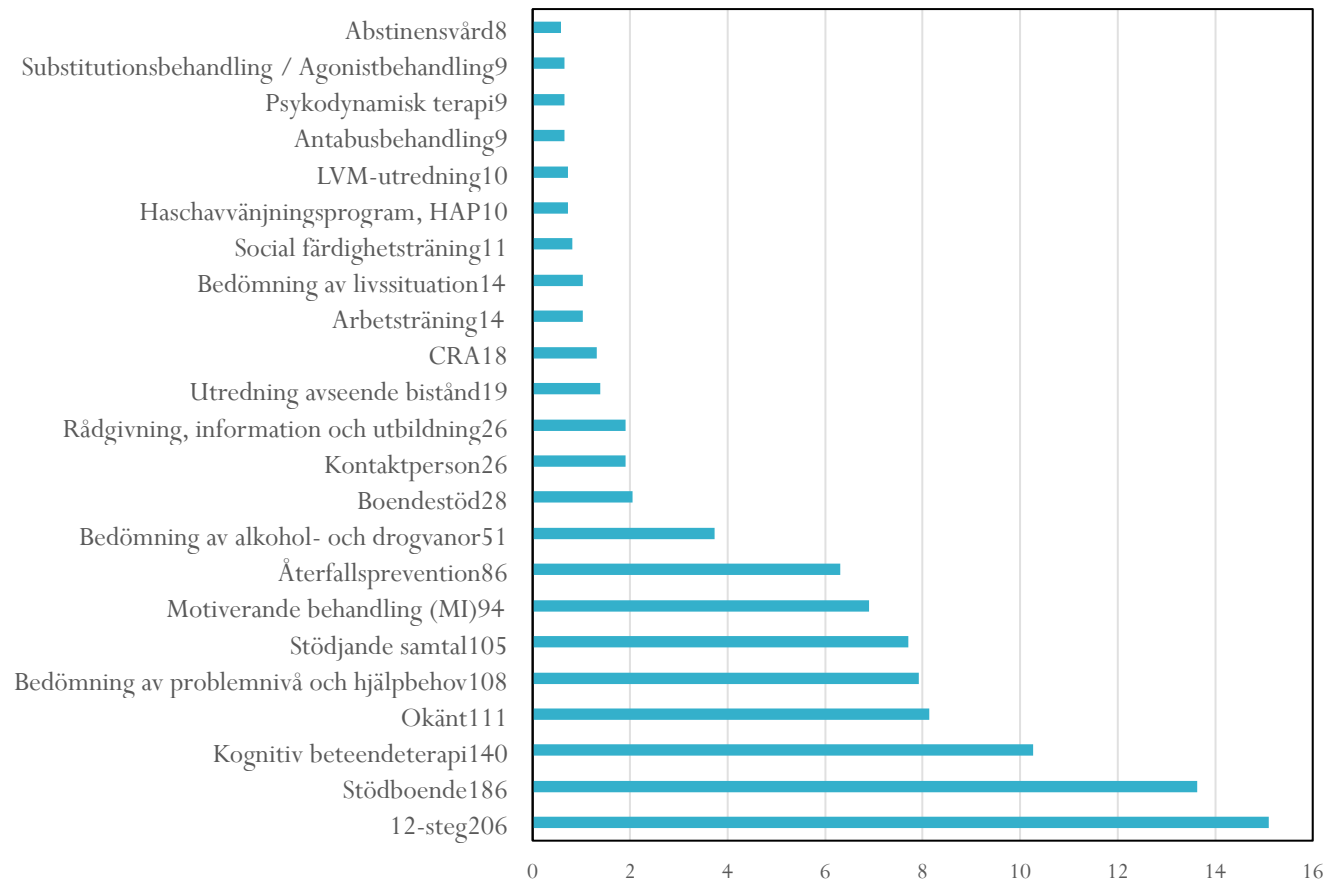


Psychosocial treatment the most common intervention



Most common interventions

(12-step outpatient, supportive housing, CBT, further assessment of socio-economic need, MI, relapse prevention, further assessment of SUD, economic support for housing, psycho educational support)



(% av all interventions)



Merged pilot ASI data with other registry data (5 years post base-line)

- 16% deceased
- 12% were at least once sentenced by courts to compulsory care for substance use severe enough they were deemed to both of danger to themselves and others.
- 54% sentenced for a crime at least once.
- 96% had at least one in-patient hospitalization visit



Next steps

- US and EU components:
- Meeting in Barcelona of International Research network containing senior faculty, statisticians, post-doc students, doctoral level students to implement the same data programming in the different countries.
- Oxford book contract.



Questions to you

- How would you deal with a longitudinal data set containing vast amounts of data points per individual?
 - Any preferred methods?
- US insurance data does not cover race/ethnicity; state-level data does. Massachusetts and California have these data sets.
 - What are advantages, disadvantages of using data representing two states versus national-level data?
- What are the “millions” of methodological complications 😊?



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