



**Kinder- und Jugend-
psychiatrie / Psychotherapie**

Universitätsklinikum Ulm





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Substanzmißbrauch und ADHS Prävention und Therapie

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THEMATIC PAPERS

PREVENTING LATER SUBSTANCE USE DISORDERS
IN AT-RISK CHILDREN AND ADOLESCENTS

a review of the theory and evidence base
of indicated prevention





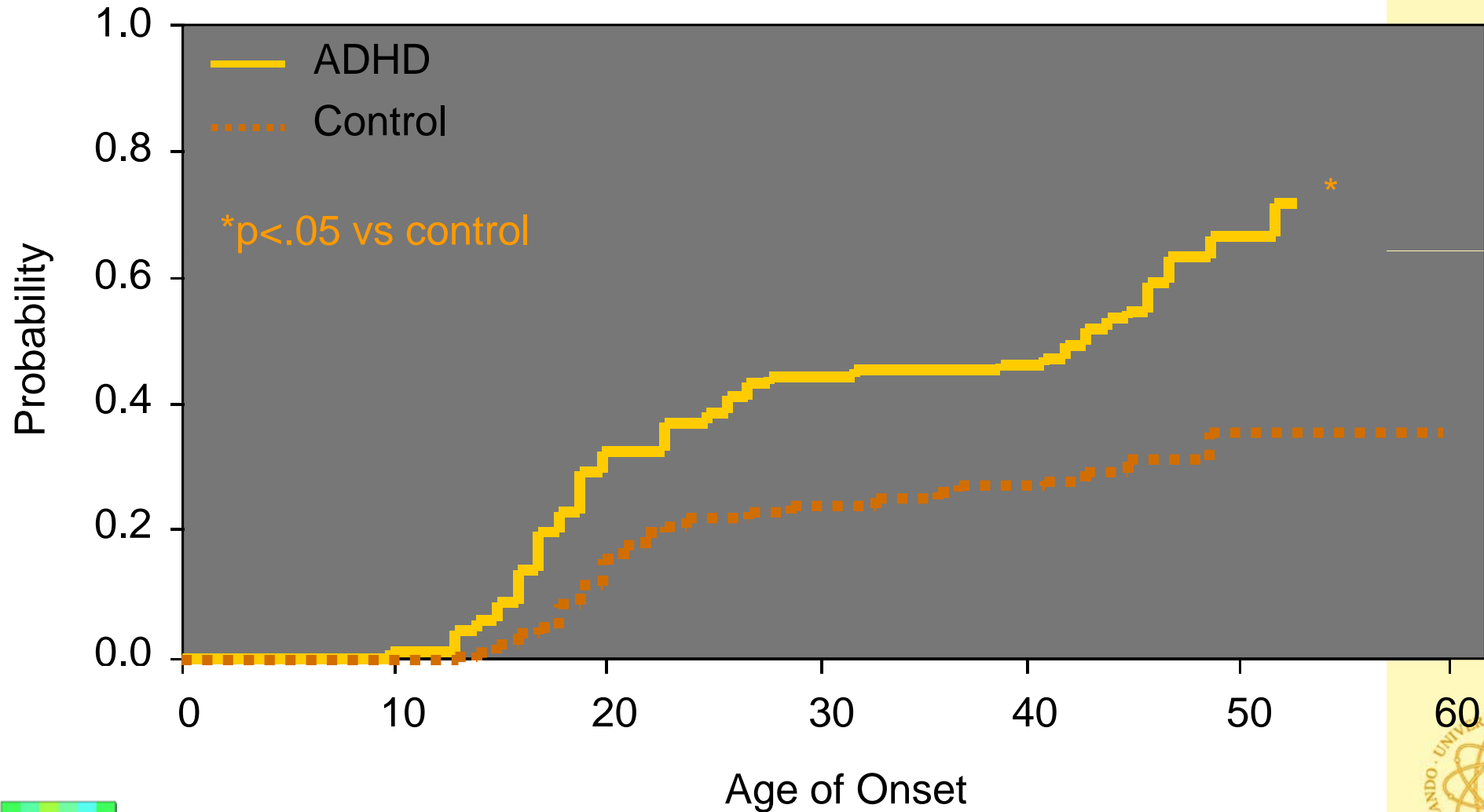
EMCDDA REPORT

1. BACKGROUND AND OVERVIEW
2. PRINCIPLES OF INDICATED PREVENTION
3. RISK AND PROTECTIVE FACTORS IN THE DEVELOPMENT OF SUBSTANCE USE AND SUD
4. GUIDELINES AND STANDARDS FOR THE ASSESSMENT AND TREATMENT OF PSYCHIATRIC RISK CONDITIONS FOR ADOLESCENT SUBSTANCE ABUSE
5. STRATEGIES AND PROGRAMMES IN INDICATED PREVENTION
6. ETHICAL ISSUES
7. CONCLUSION AND RECOMMENDATIONS
8. SUMMARY
9. REFERENCES





Onset of Substance Abuse in ADHD Adults (Retrospectively Derived)



Wilens TE, et al. *J Nerv Ment Dis.* 1997;185(8):475-482.

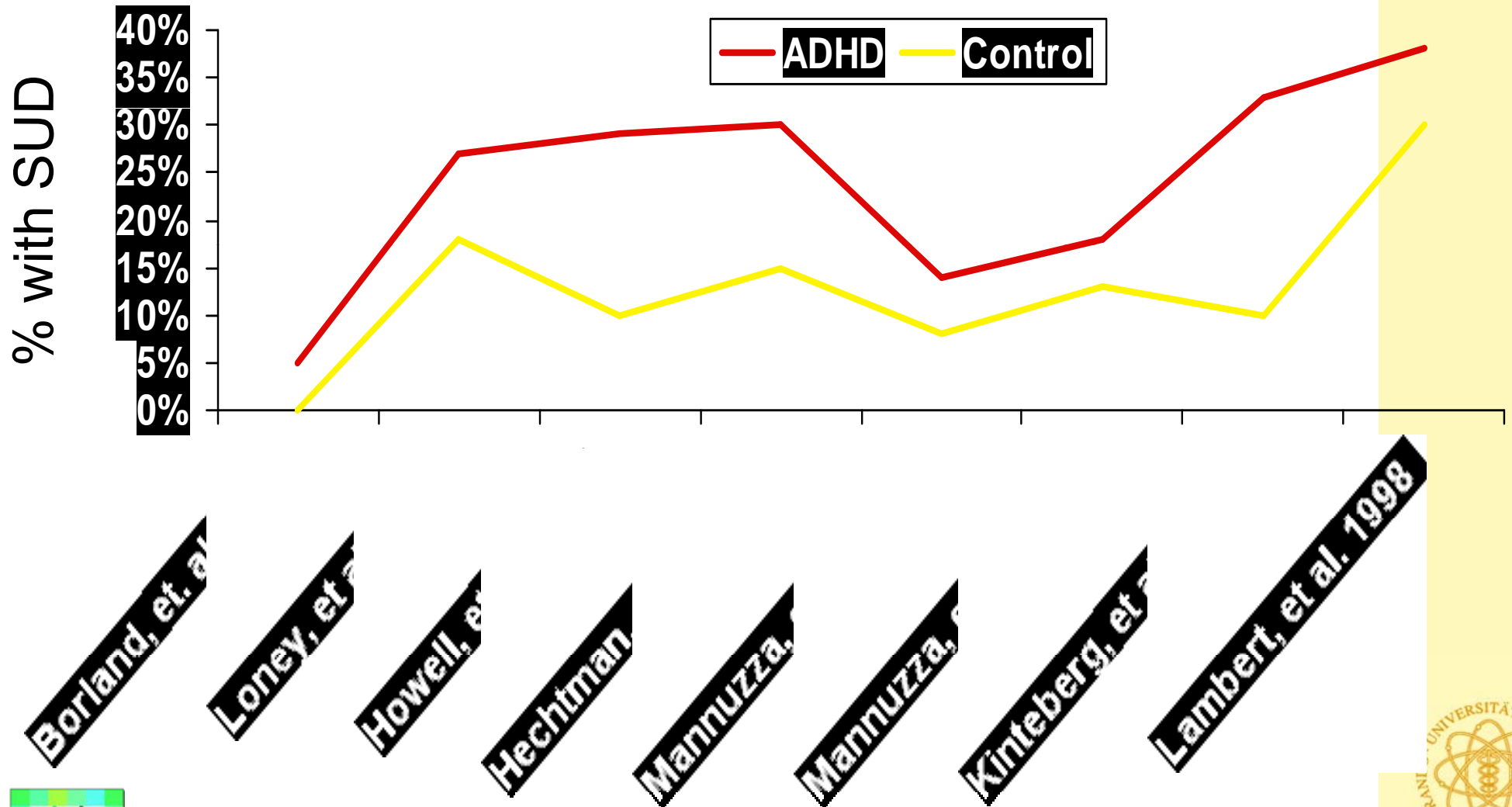




Lifetime Rates of SUD in Controlled Longitudinal Studies of ADHD Adults

Mean age range at follow-up: 18-26 years

Total ADHD N=845, total Control N=1085



(from Wilens et al., Psych Clin N Am: 2004)



ADHD+Substance Abuse

- ◆ ADHD is a risk factor for Cigarette Smoking
- ◆ ADHD is a risk factor for any and heavy substance use
 - ⇒ Adolescent-onset clearly linked to conduct disorder
 - ⇒ Later onset probably more linked to ADHD
- ◆ Evidence of self medication
 - ⇒ Attenuation of mood
 - ⇒ positive effects of medication
 - ⇒ High risk groups (those with ADHD+SUD+Conduct)





Definitions of indicated prevention

| | |
|----------------------|---|
| Universal prevention | Addresses general public or segment of entire population with average probability, risk or condition of developing disorder |
| Selective prevention | Specific sub-population with risk significantly above average, either imminently or over lifetime |
| Indicated prevention | Addresses identified individuals with minimal but detectable signs or symptoms suggesting a disorder |

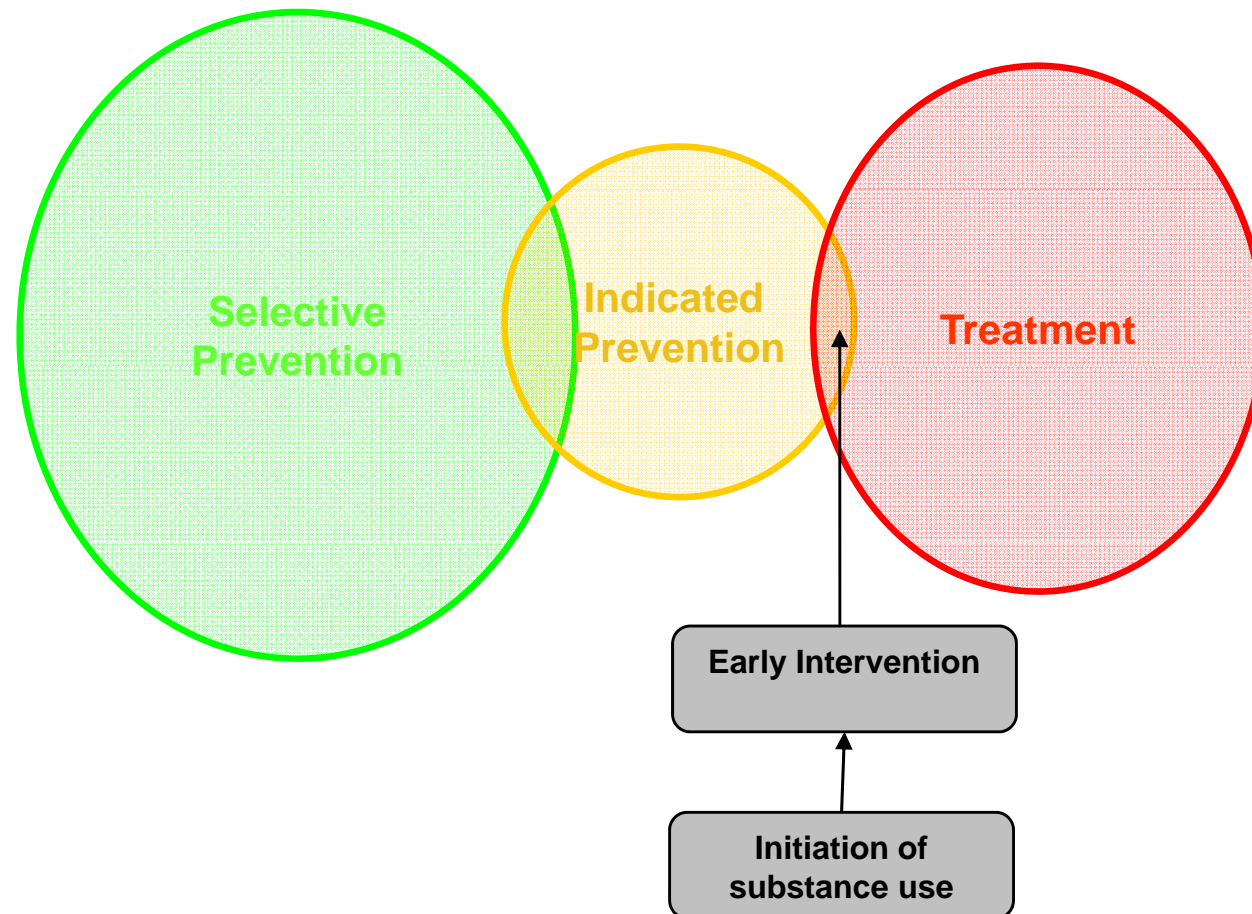


IOM framework by Springer & Phillips (2007)



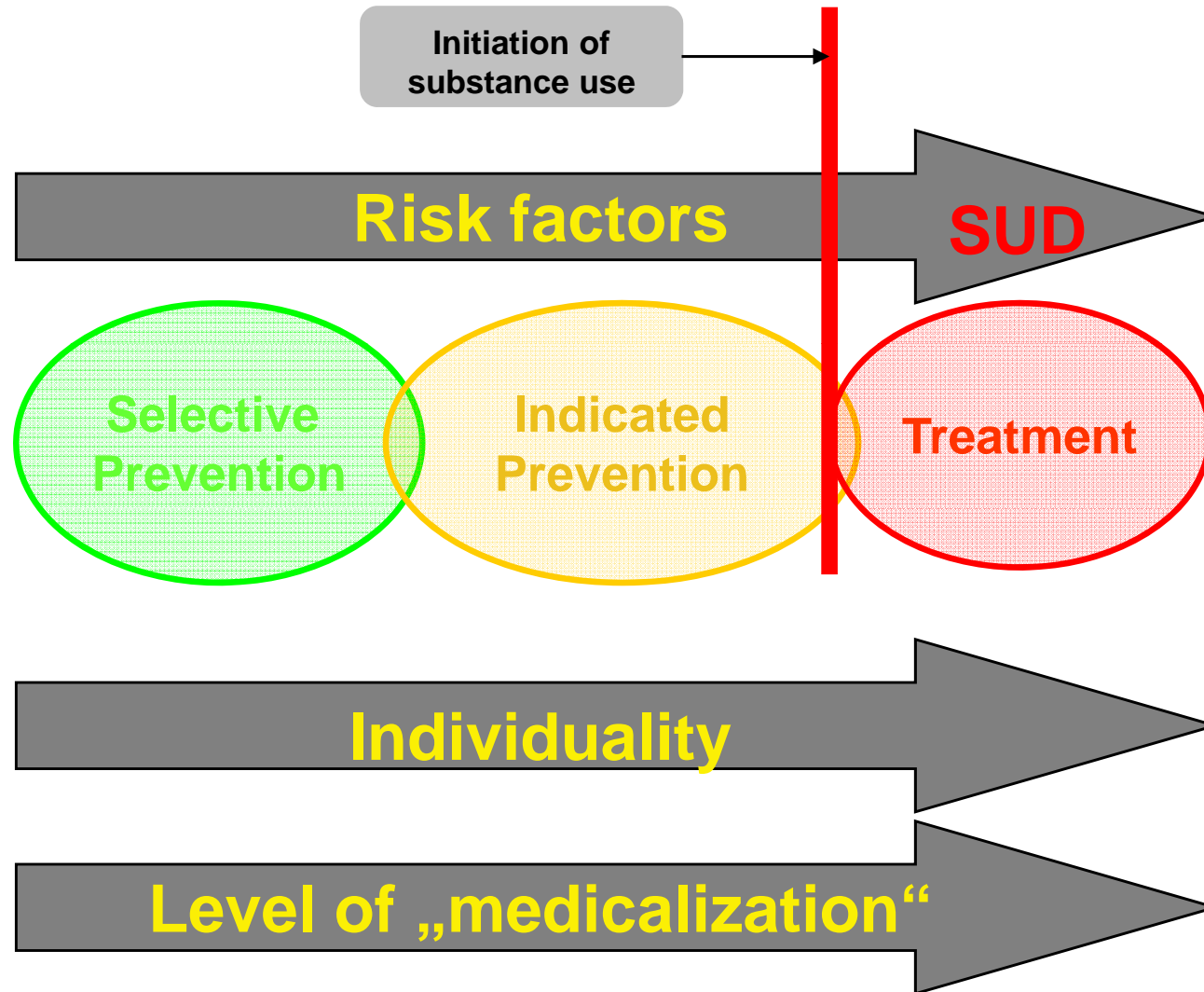


Definitions of indicated prevention



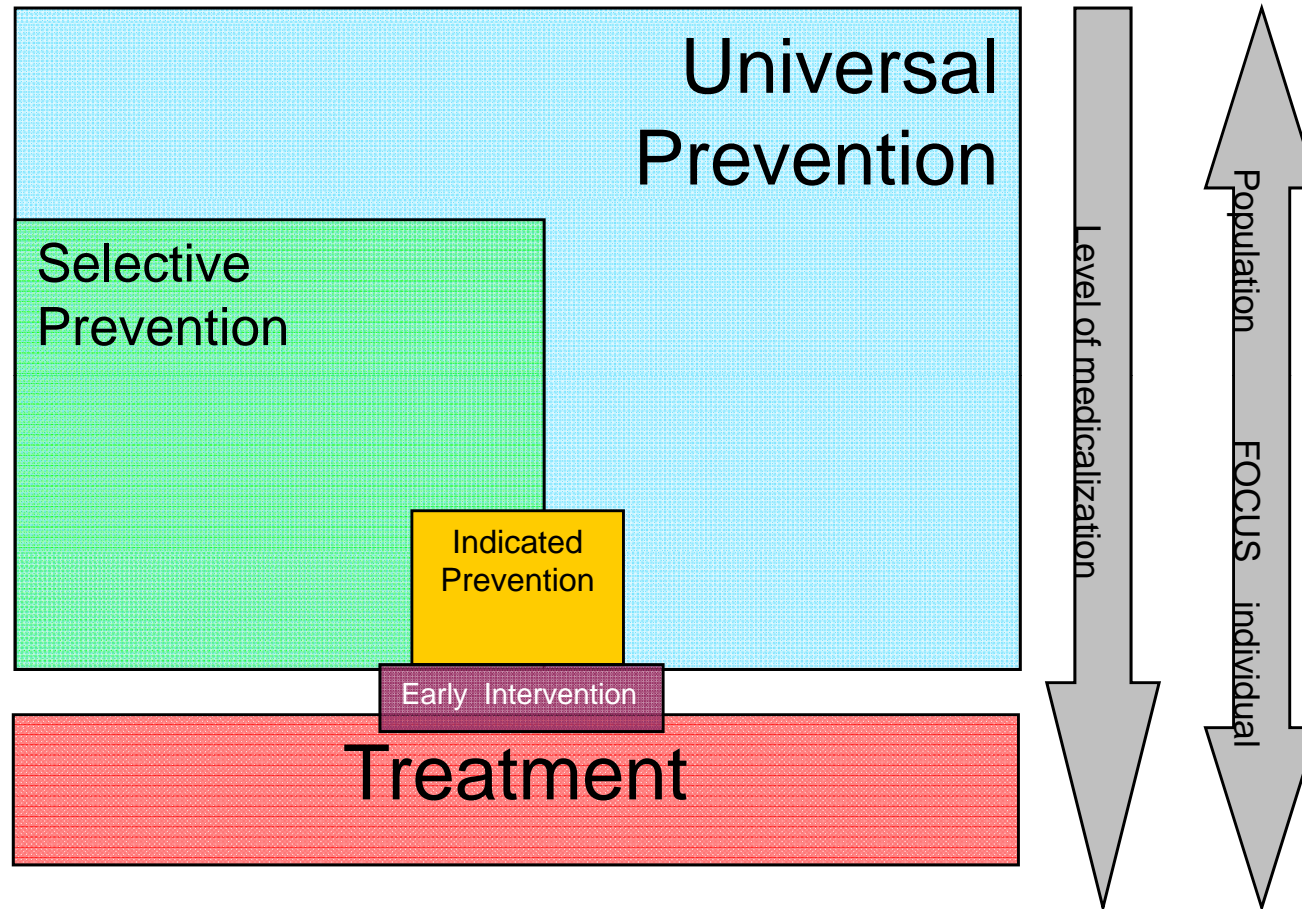


Definitions of indicated prevention





The USIP-Treatment continuum





Defining indicated prevention I

- **Indicated prevention can be summarised as:**
- Preventive intervention that is **targeted to the individual**
- The individual **presents voluntarily** or is **referred** to an expert, for example by parents, teachers, social workers, paediatricians.
- The individual is **identified on an individual level** based on a professional expertise.
- The individual might exhibit substance use, but does not fulfil criteria for dependence (according to DSM-IV or ICD-10) and/or shows indicators that are highly correlated with an individual risk of developing substance abuse later in their life (such as psychiatric disorder, school failure, antisocial behaviour etc.). **Substance use is not mandatory for inclusion in preventive interventions.**





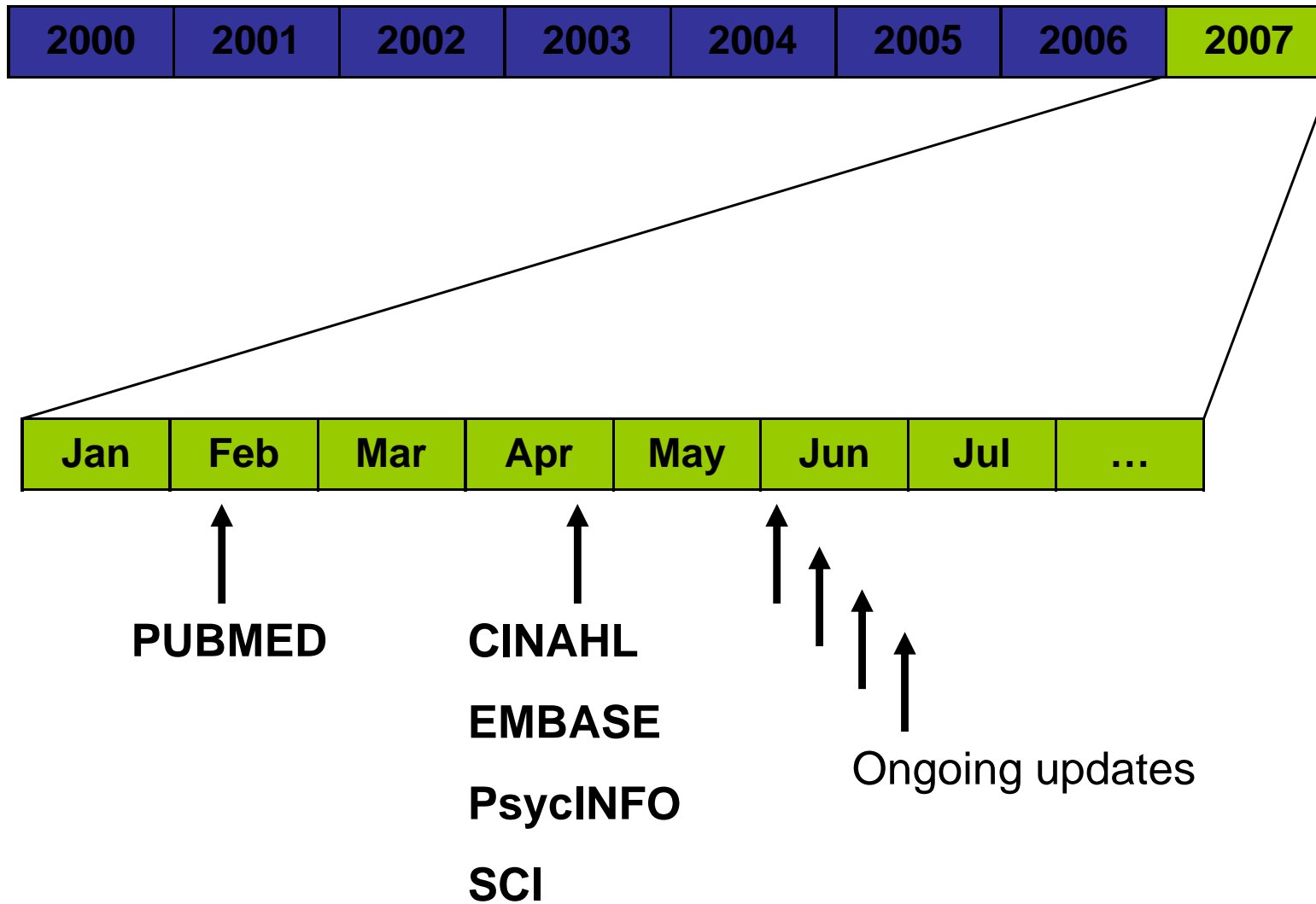
Defining indicated prevention II

- Differentiation from the field of **selective prevention** is possible due to the stronger correlation and individualised nature of identified indicators for the development of a substance abuse or dependence.
- Differentiation from the field of **treatment** is possible due to the fact that treatment is provided for individuals fulfilling DSM-IV or ICD-10 criteria for substance abuse.
- The aim of indicated prevention efforts is not necessarily to prevent the initiation of use nor the use of substances but to **prevent the development of a dependence, to diminish the frequency and to prevent 'dangerous' substance use** (e.g. moderate instead of binge-drinking).





Conducting a literature research I





Chap. 3: Risk and protective factors

3.2 PSYCHOSOCIAL AND FAMILIAL RISK AND PROTECTIVE FACTORS

- 3.2.1. Peer group
- 3.2.2. Family
- 3.2.3. Social activities
- 3.2.4. High risk groups in schools
- 3.2.5. High risk groups in residential care

3.3 INDIVIDUAL RISK AND PROTECTIVE FACTORS

- 3.3.1. Gender effects
- 3.3.2. Personality / Temperament
- 3.3.3. Psychopathology
 - Externalising / internalising psychopathology,
 - Conduct disorder/ aggressive behaviour, ADHD,
 - Internalising behaviour, Stressful life events and PTSD
- 3.3.4. Substance related risk trajectories





Classification of + and - factors relating to six domains

| Risk factors | Domain | Protective factors |
|------------------------------------|---------------------|---|
| Early aggressive behaviour | Individual | Self-control |
| Lack of parental supervision | Family | Parental monitoring |
| Substance abuse | Peer | Academic competence |
| Drug availability | School | Anti-drug use policies |
| foster care, out of home placement | Institutions | professional monitoring, leisure activities |
| Poverty | Community | Strong neighbourhood attachment |

Adapted and extended from Robertson et al. (2003) and Gee et al. (2006)





High risk groups in specialized settings

There are different identified high-risk groups, such as students of continuation high schools (**drop outs** of normal schools) and **adolescents in foster or residential care**.

Adolescents in residential care are more likely to have a psychiatric disorder and are more likely to use substances.





Prevalence of different psychiatric diagnoses in residential care

| Diagnosis (ICD-10) | Prevalence | |
|----------------------------------|----------------------|--|
| | Residential care | General population |
| Conduct disorder (F 91, F 92) | 26 % (+ 22 % F 90.1) | 6 % |
| ADHD (F 90.0 + F 90.1) | 24 % | 3 – 6 % |
| Depression (F 32, F 34) | 10.4 % | 1 – 5 % |
| Anxiety | 4 % | 1.8 – 5.3 % |
| Enuresis | 6 % (14 years) | 2 % |
| Substance abuse | 8.8 % (14 years) | 4 % Alcohol (16 years) 1 % Cannabis (14years) |

Source: Schmid et al. (2006, 2008)





Personality / Temperament

Good self-control leads to less adolescent substance use.

Being **shy** may be protective for marijuana use.

Weak negative mood regulation, stronger tension reduction alcohol expectancies, and drinking to cope increase the risk of drinking alcohol.

Sensation seeking is associated with cigarette and marijuana use





Psychopathology I

Children with a **mental disorder** are more likely to start drinking at a young age and to have used cannabis in the past month

Conduct problems, aggressive behaviour and delinquency are strong predictors for substance use

Much of the association between **early ADHD** and later substance use can be explained by the associations between ADHD and conduct problems





Psychopathology II

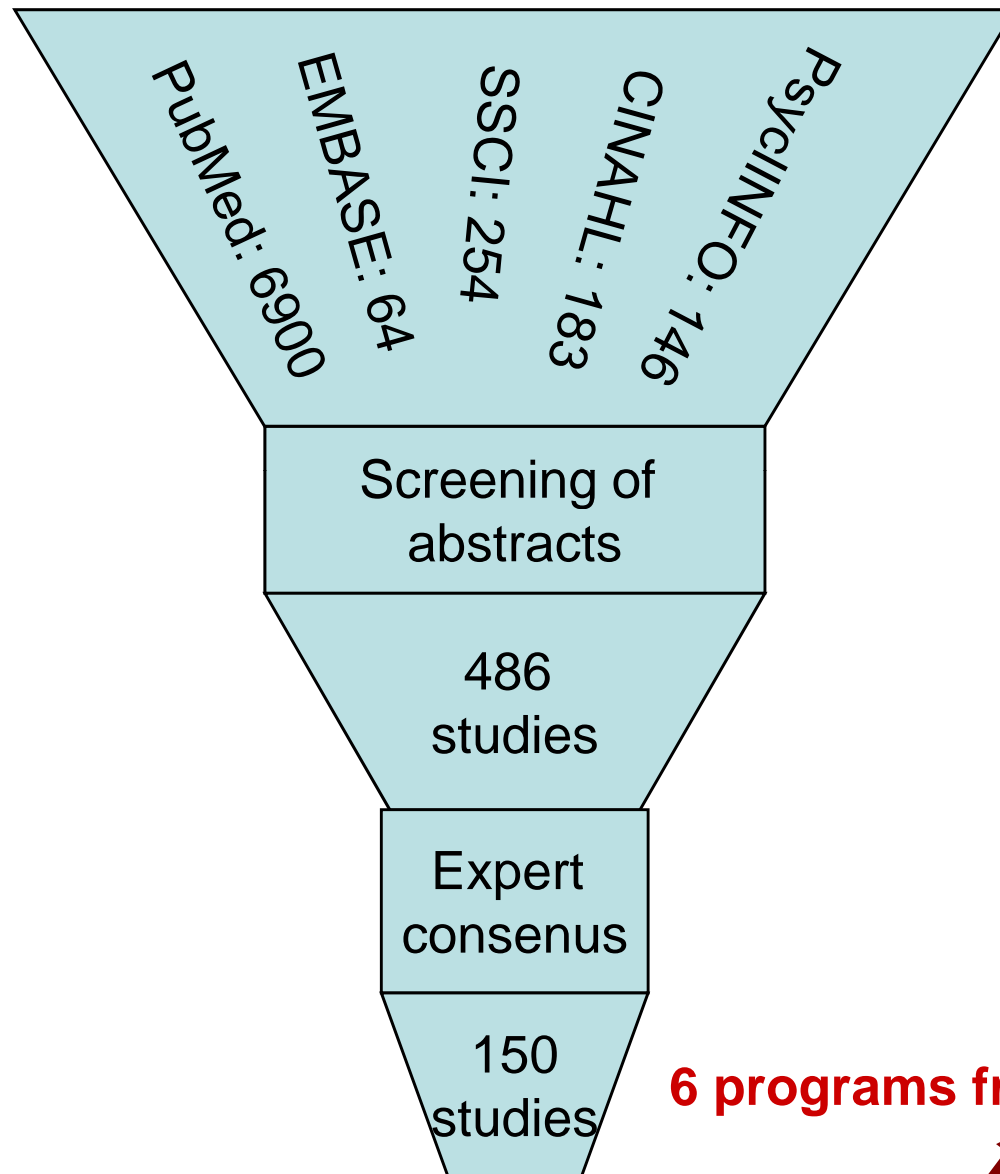
Depressive disorders have an association with alcohol abuse/dependence and cannabis dependence. There are also reciprocal effects of suicidality and substance use. Mood disorders (including bipolar disorders (hypomania and mania)) predict increased rates for cannabis use and cannabis use disorder. For anxiety disorders, results were variable

Childhood abuse, neglect and post-traumatic stress disorder are associated with substance use and abuse





Conducting a literature research II

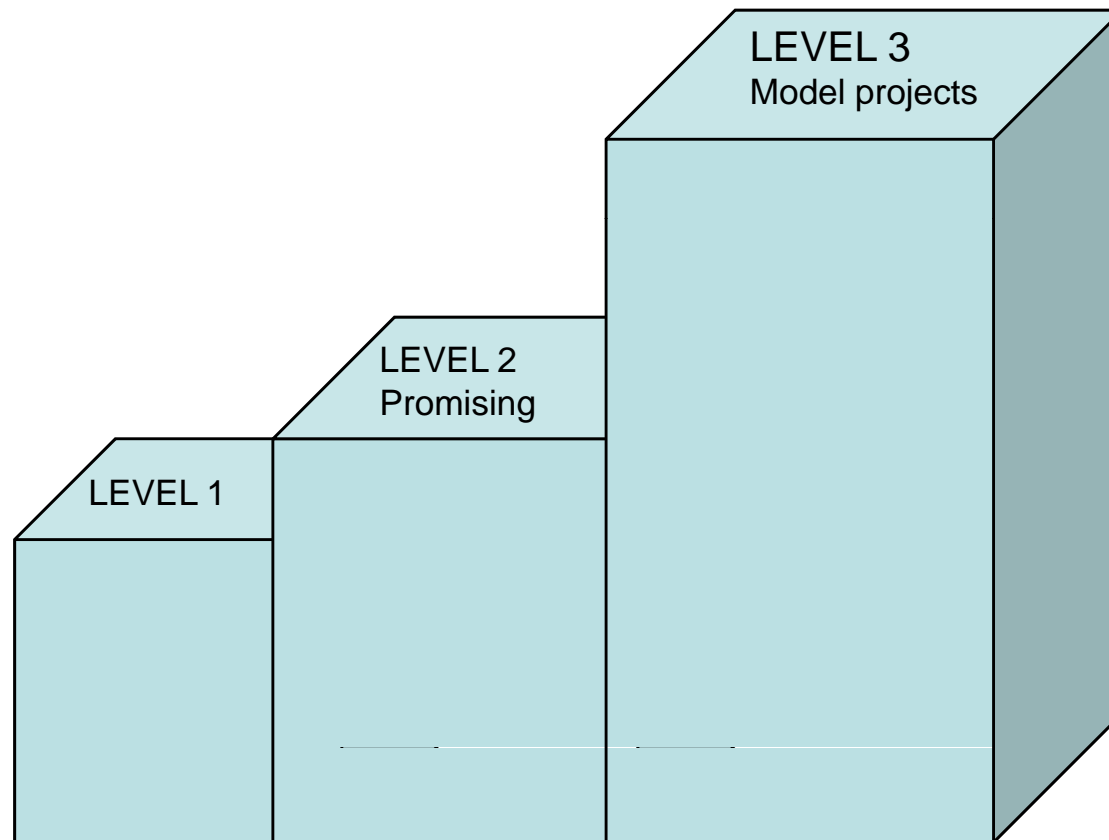


21 programmes of indicated prevention





Levels I



Hillebrand & Burkhart 2007





Levels II

| Level I | Level II | Level III |
|--|---|---|
| <p>A theory base that is clearly related to the objectives</p> <p>Clear evaluation indicators in place that relate to the objectives, initial situation</p> <p>Clear description of the evaluation design</p> <p>The project must be at least one year old</p> | <p>Clear project results</p> <p>A theory base that is clearly related to the objectives, the initial situation and the indicators</p> <p>Clear description of the evaluation design</p> <p>A meaningful overall description</p> | <p>Content: A theory base that is clearly related to the objectives, the initial situation and the indicators</p> <p>Type of design chosen</p> <p>Measures: operational relevance and psychometric quality of measures</p> <p>Dissemination: Provision of all program materials & evaluation tools</p> <p>Coordination elements</p> |

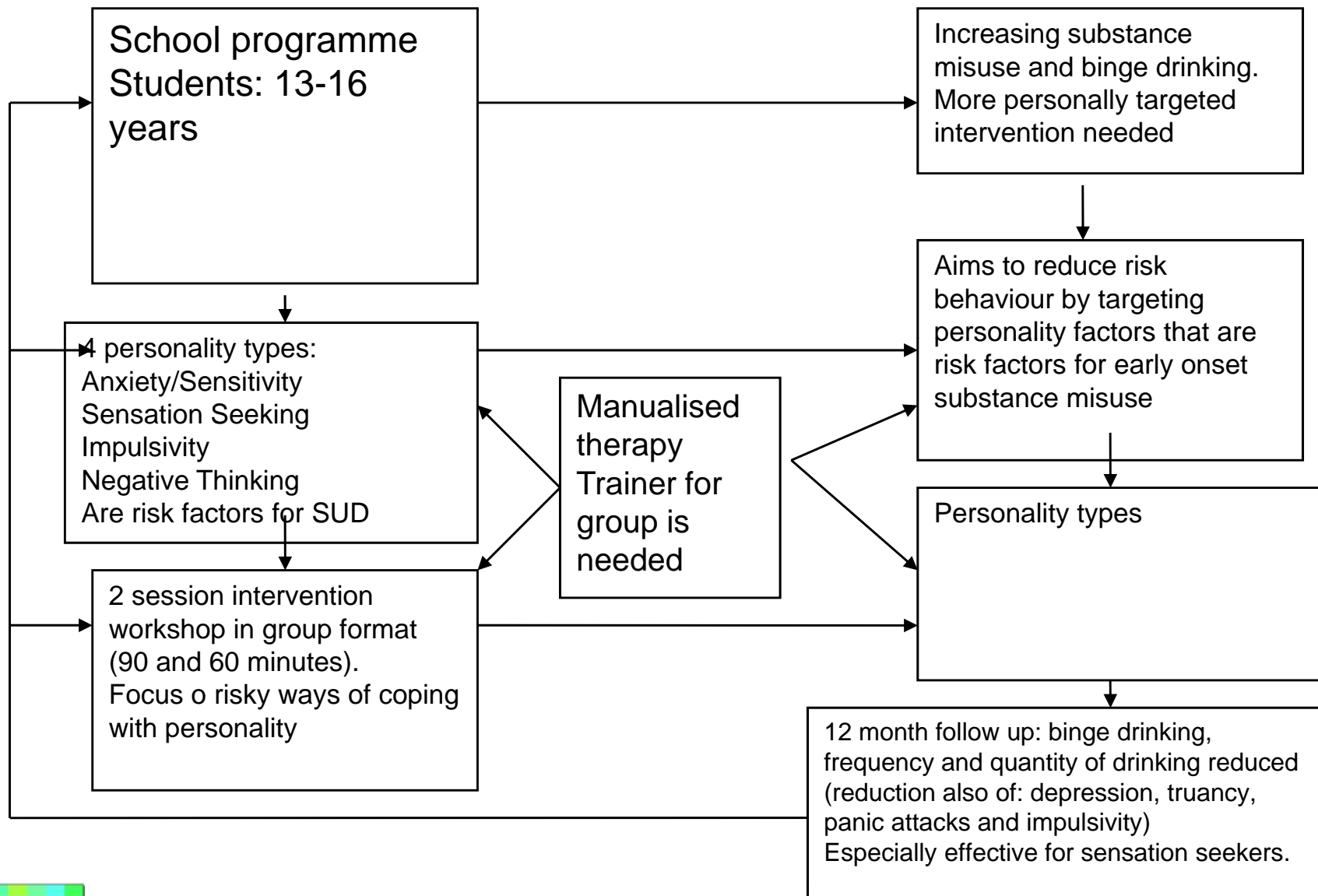


Hillebrand & Burkhart 2007



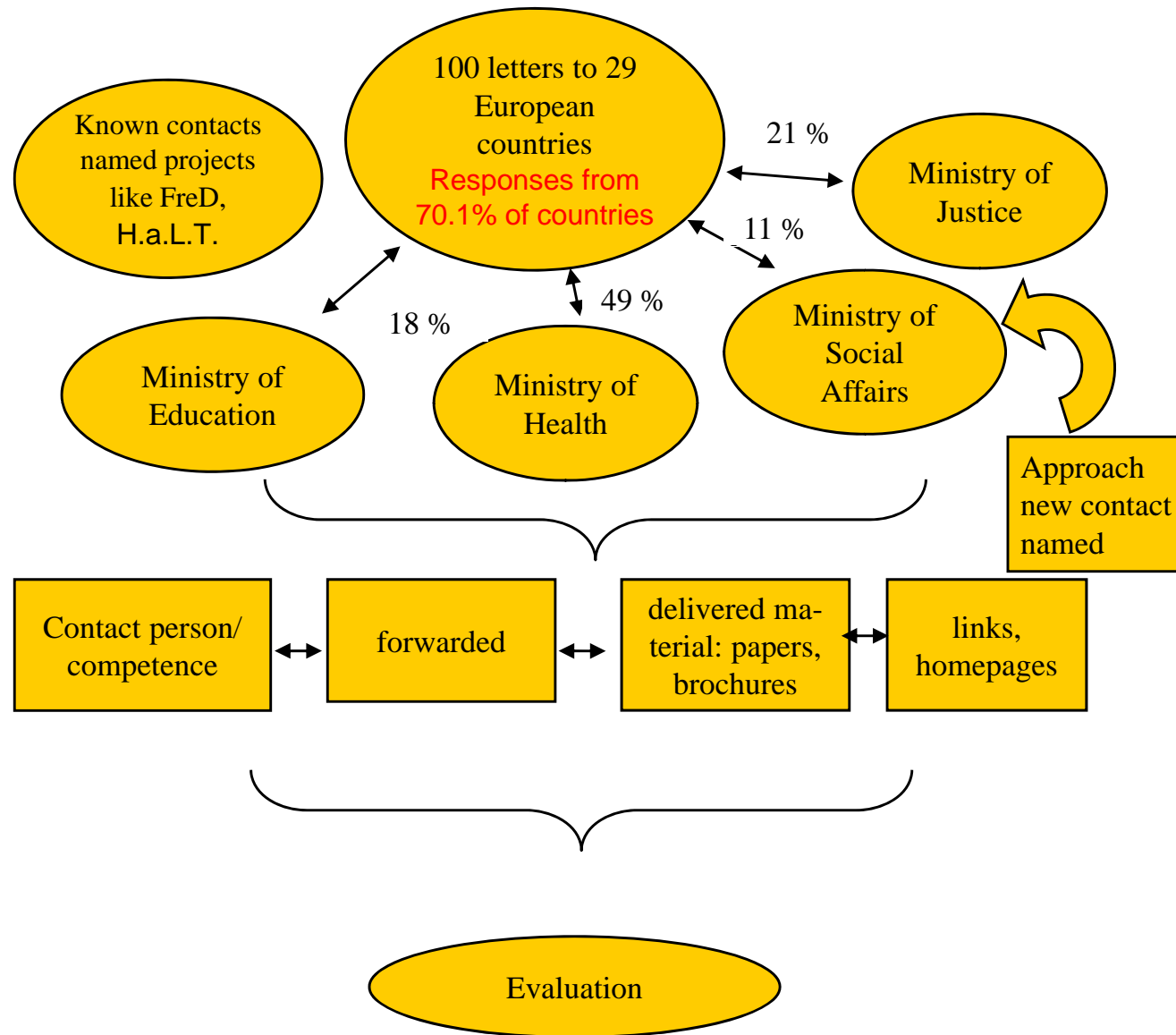


Prevention: Sully & Conrod (2006)





Feedback from European countries



Response rate: 70.1 % of the countries replied





clean.kick





March 2002 - July 2006
complete datasets N=745

(94% of all patients)





Mean age : 17;2 SD 1.4
range 12;9 – 20;9

571 Boys (76,6%) and 174 girls (23,4%)
mean treatment duration 26,7 d range 0 - 147





reason for placement

| | | |
|---|----------|------------|
| • psychiatric symptomatology and substance abuse problems | N 343 | % 46,0% |
| • withdrawal | 346 | 46,4% |
| • intoxication | 11 | 1,5% |
| • psychiatric illness not primarily induced by substance abuse | 13 | 1,7% |
| • other | 32 | 4,3% |





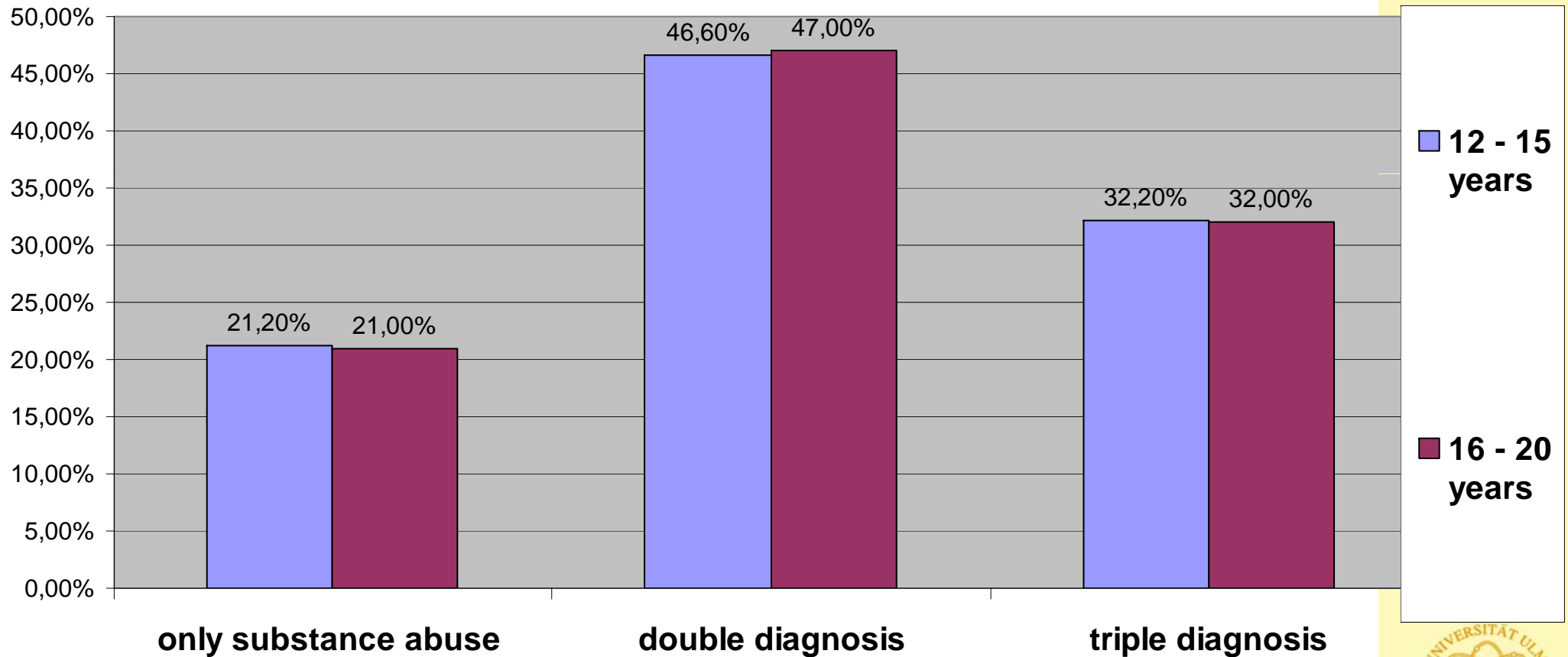
Manifest substance abuse disorder according to ICD 10 N= 580 (77.8 %)

- **F1x.2 580 77.8%**
 - All dependency disorders together
- **F12.2 377 50,6%**
 - Cannabinoid dependent
- **F19.2 126 16,9%**
 - Multiple substance dependency
- **F11.2 37 5.0%**
 - Opioid dependency
- **F10.2 31 4.2%**
 - Alcohol dependency





no difference in two age groups 12- 15 years and 16 – 20 years





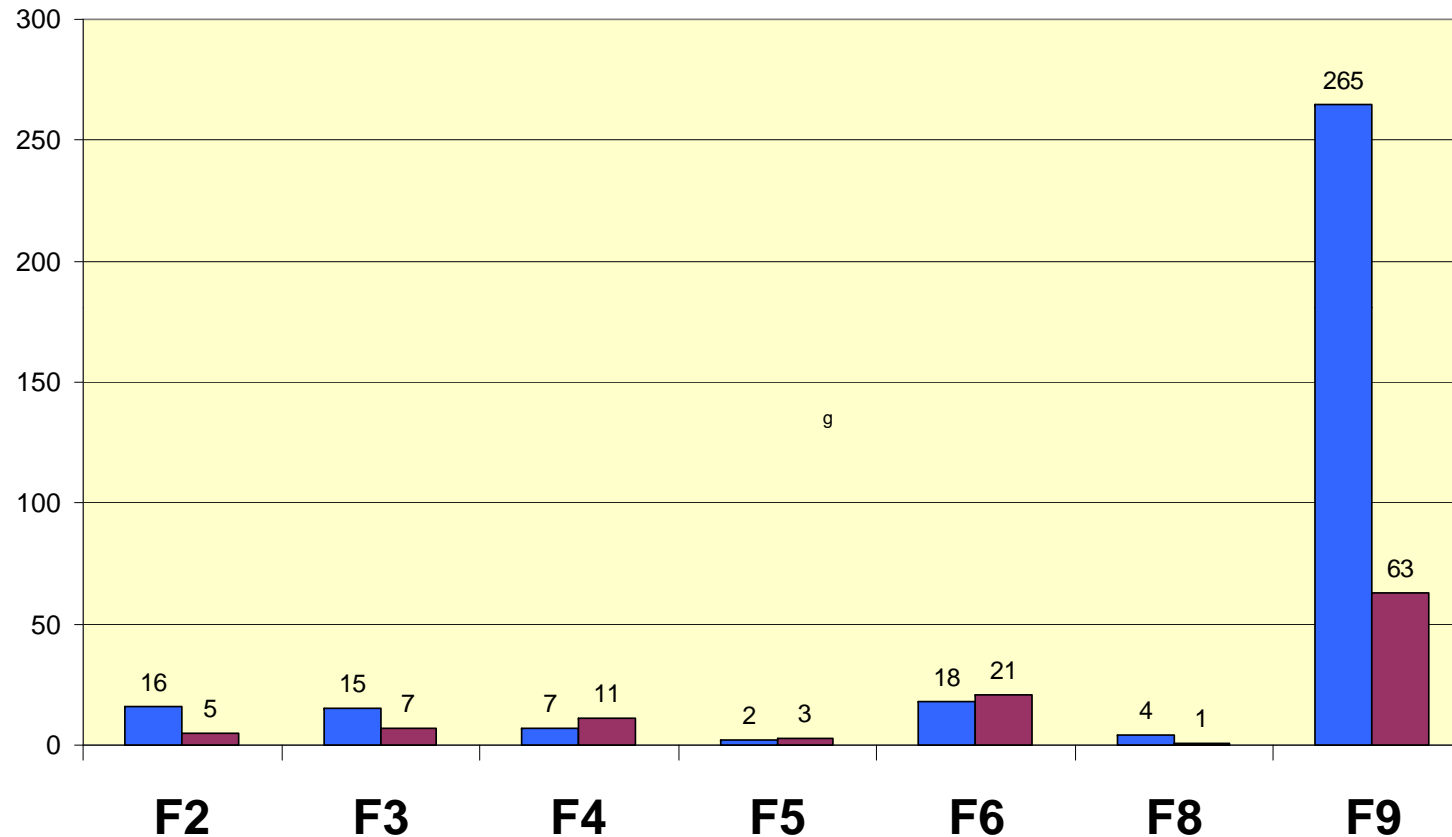
Comorbidities

- Psychosis 5,6%
 - ADHD (F90.0) & combined hyperkinetic and conduct disorder (F90.1) 11.8%
 - all disruptive disorders 38.2%
- associated risk factors:
- more than 50% of the parents had substance abuse problems or a psychiatric disorder
 - broken home
 - sexual abuse (especially in girls)





Comorbidities by Gender and ICD 10 diagnostic categories

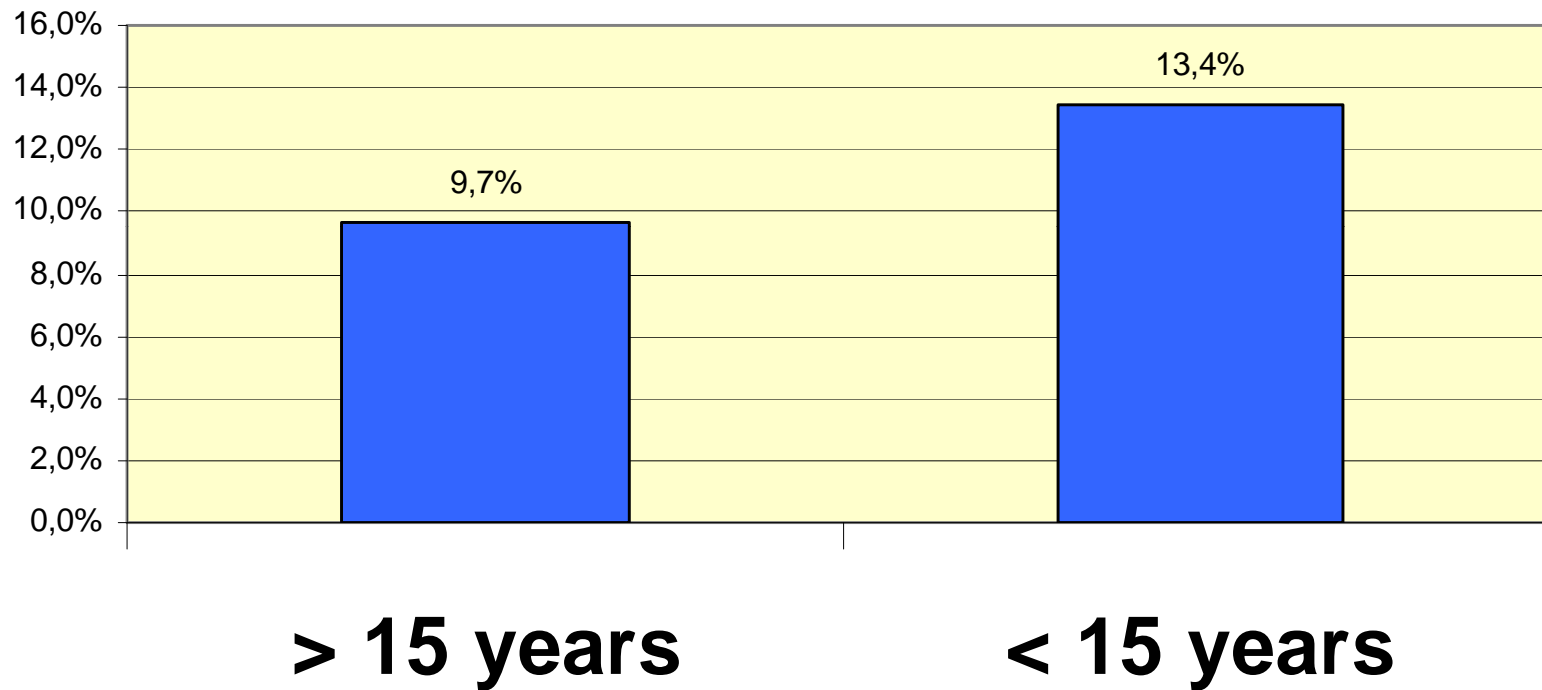


boys and girls



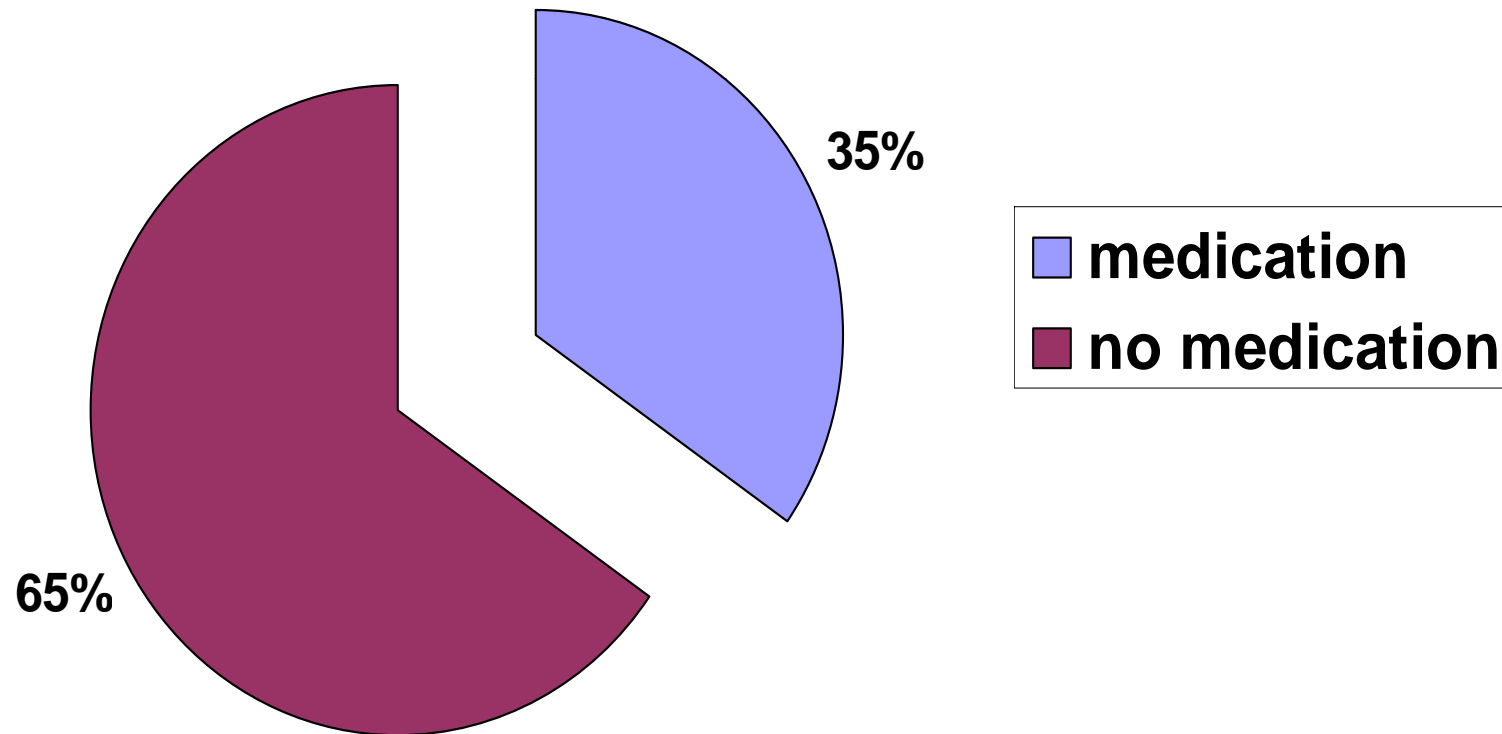


age dependant proportion of ADHD comorbidity (F 90.0 & F 90.1)



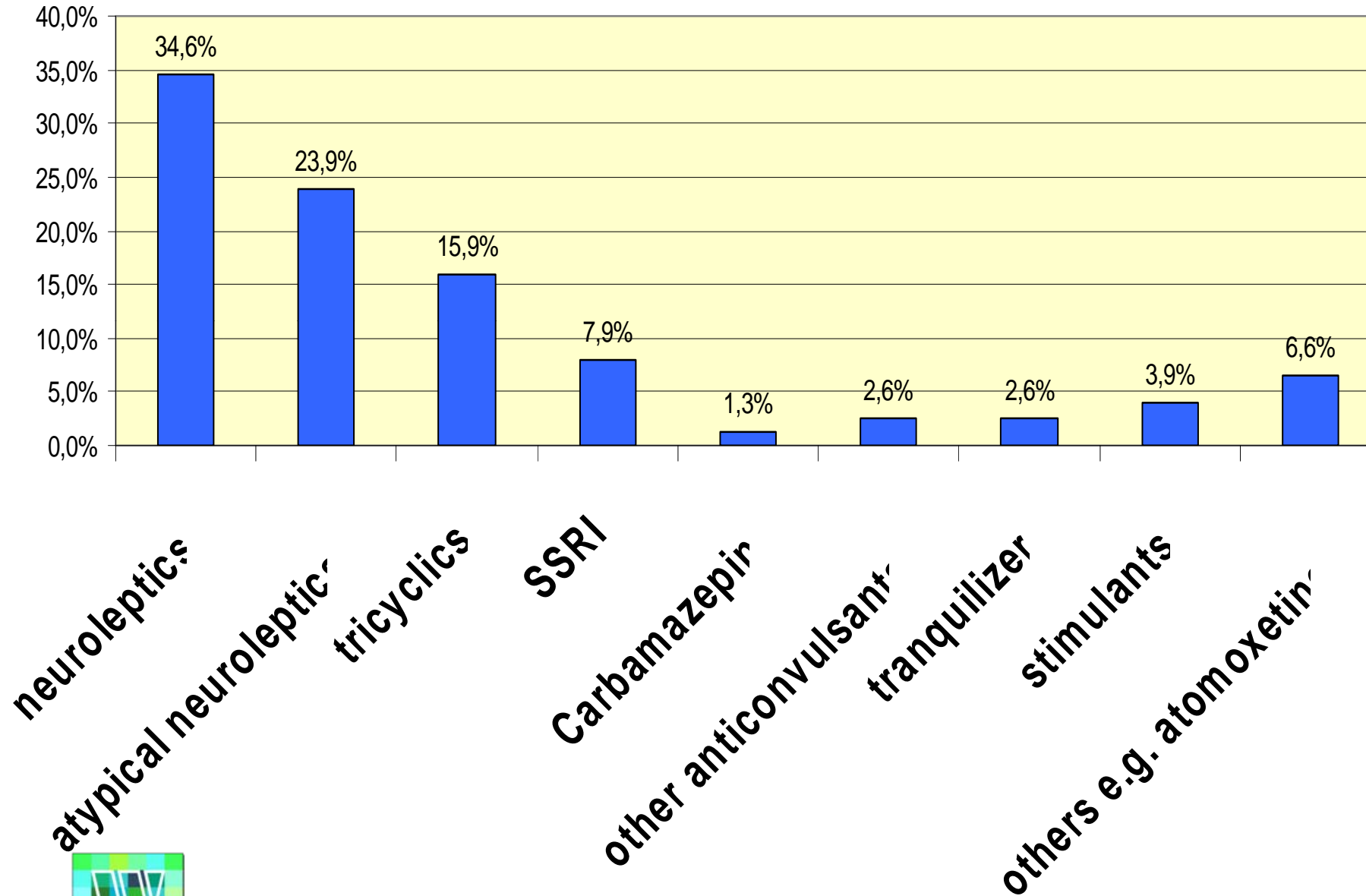


most patients get no psychotropic medication during their stay





medication during hospitalization proportion of all medicated patients





Atomoxetine treatment of adults with ADHD and comorbid alcohol use disorder

- **Timothy E. Wilens^a, Lenard A. Adler^b, Margaret D. Weiss^c, David Michelson^d, Janet L. Ramsey^d, Rodney J. Moore^d, Didier Renard^e, Kathleen T. Brady^f, Paula T. Trzepacz^d, Leslie M. Schuh^d, Lisa M. Ahrbecker^d, Louise R. Levine^d and The Atomoxetine ADHD/SUD Study Group**
- Available online 9 April 2008
- Adults with attention-deficit/hyperactivity disorder (ADHD) have higher rates of alcohol and drug use disorders than adults without ADHD. The study aim was to determine if atomoxetine was superior to placebo in improving ADHD and alcohol use in recently abstinent adults with ADHD and comorbid alcohol use
- **Results**
- Subjects received atomoxetine ($n = 72$) or placebo ($n = 75$) and 80 subjects completed the 12-week double-blind period ($n = 32$ and 48, respectively). ADHD symptoms were significantly improved in the atomoxetine cohort. No significant differences between treatment groups occurred in time-to-relapse of heavy drinking ($P = .93$).





ADHD in Adolescents With Substance Use Disorders

This study has been completed.

First Received: December 10, 2005 Last Updated:

November 16, 2009 [History of Changes](#)

Sponsor: University of Cincinnati Collaborator: University of Colorado, Denver

Information provided by: National Institute on Drug Abuse (NIDA) Clinic

Methylphenidate: Active Comparator

Drug: Methylphenidate (OROS-MPH) Participants will be scheduled for weekly medication (OROS-MPH) and research assessment visits (approximately 45 minutes to 1 hour in length). A forced titration dosing strategy will be used starting with 18 mg/day OROS-MPH for 3 days, increasing to 36mg/day for the next three days; increasing to 54 mg/day in week two, and to 72 mg/day in week three through the remainder of the study (as tolerated). Participants will also attend weekly CBT sessions (approximately 1 hour in length) targeting their drug use.

Methylphenidate (Placebo): Placebo Comparator

Drug: Methylphenidate (OROS-MPH) - Placebo Participants will be scheduled for weekly medication and research assessment visits (approximately 45 minutes to 1 hour in length). A forced titration dosing strategy will be used starting with 18 mg/day OROS-MPH placebo for 3 days, increasing to 36mg/day for the next three days; increasing to 54 mg/day in week two, and to 72 mg/day in week three through the remainder of the study (as tolerated). Participants will also attend weekly CBT sessions (approximately 1 hour in length) targeting their drug use.





Thanks for your attention

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