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*Schizophrenia and Bipolar Disorders:
Diagnosis, Descriptive Epidemiology,
and Natural History*

William W. Eaton, PhD
Johns Hopkins University



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Section A

Diagnosis

Psychoses (ICD 8: 290-299)

- ★ *Mental disorders in which impairment of mental function has developed to a degree that interferes grossly with insight, ability to meet some ordinary demands of life, or to maintain adequate contact with reality*
- ★ *It is not an exact or well defined term*
- ★ *Mental retardation is excluded*

A. Characteristic symptoms

- ★ *Delusions*
- ★ *Hallucinations*
- ★ *Disorganized speech*
- ★ *Disorganized behavior*
- ★ *Negative symptoms*

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- ★ *Delusions*
- ★ *Hallucinations*
- ★ *Disorganized speech*
- ★ *Disorganized behavior*
- ★ *Negative symptoms*

DSM-IV Diagnosis of Schizophrenia

- B. Poor functioning
- C. Duration of six months
- D. Not due to a mood disorder
- E. Not due to substances
- F. Not autism

A. Episode of elevated mood (> one week)

B. Three or more . . .

- ★ *Grandiosity*
- ★ *Decreased need for sleep*
- ★ *Talkative*
- ★ *Flight of ideas*
- ★ *Distractible*
- ★ *Increase in goal-directed activity*
- ★ *Spending sprees, promiscuity, etc.*

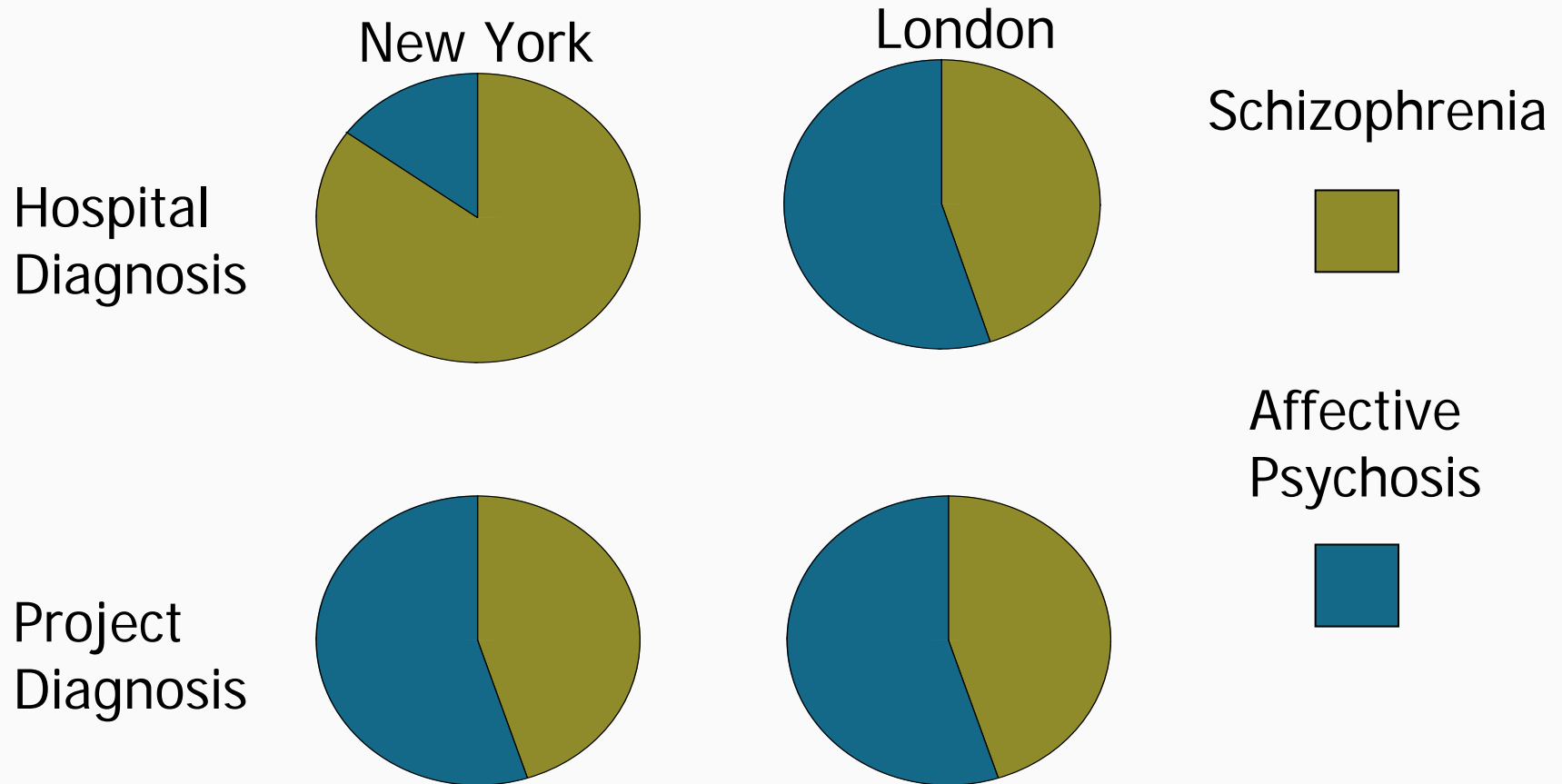
- C. Not mixed with major depressive episode
- D. Marked impairment
- E. Not due to substance or medical condition



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Section B

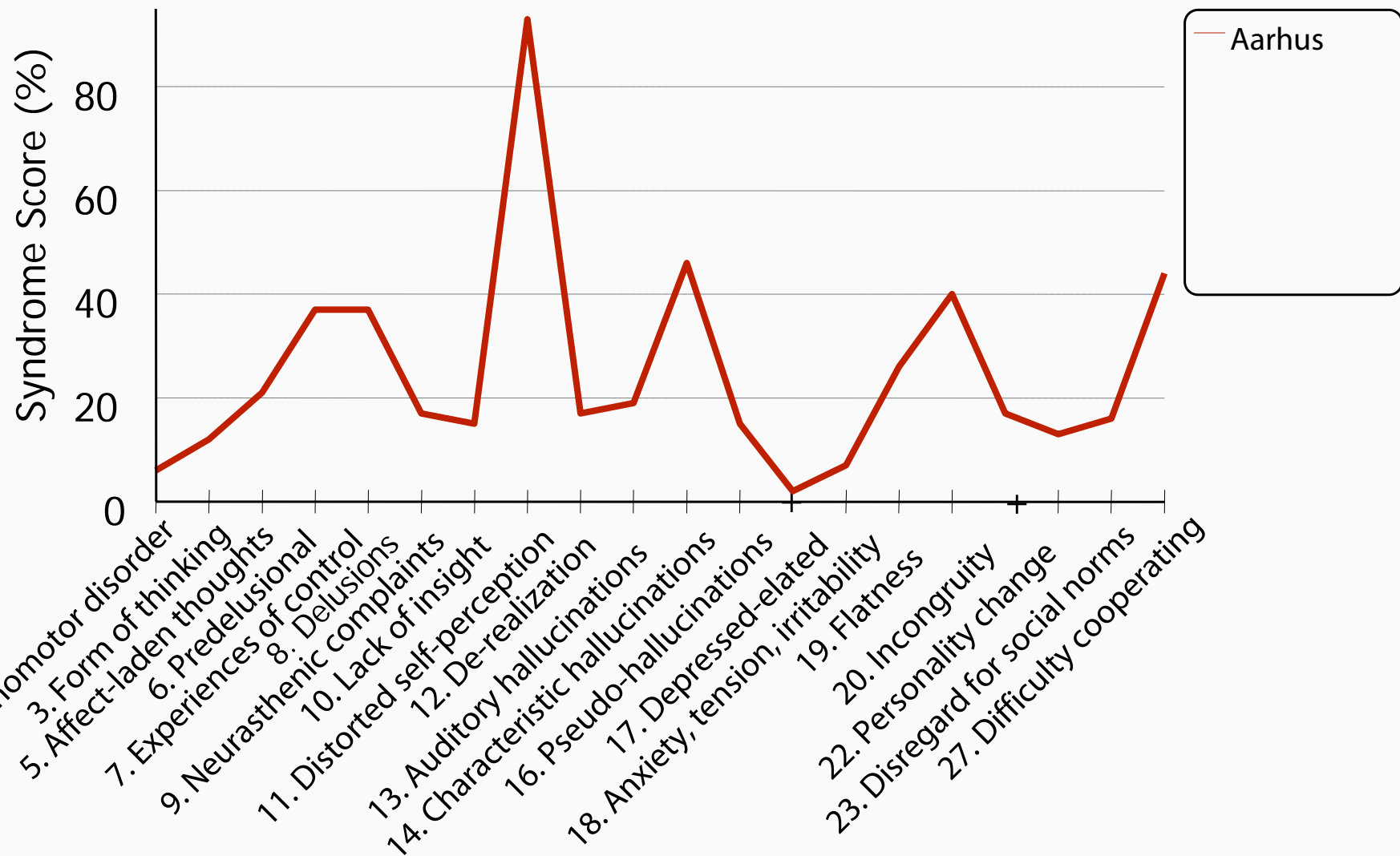
International Variation in Schizophrenia: Signs and Symptoms



Diagnostic differences were mostly due to failure of Americans to exclude affective disorders

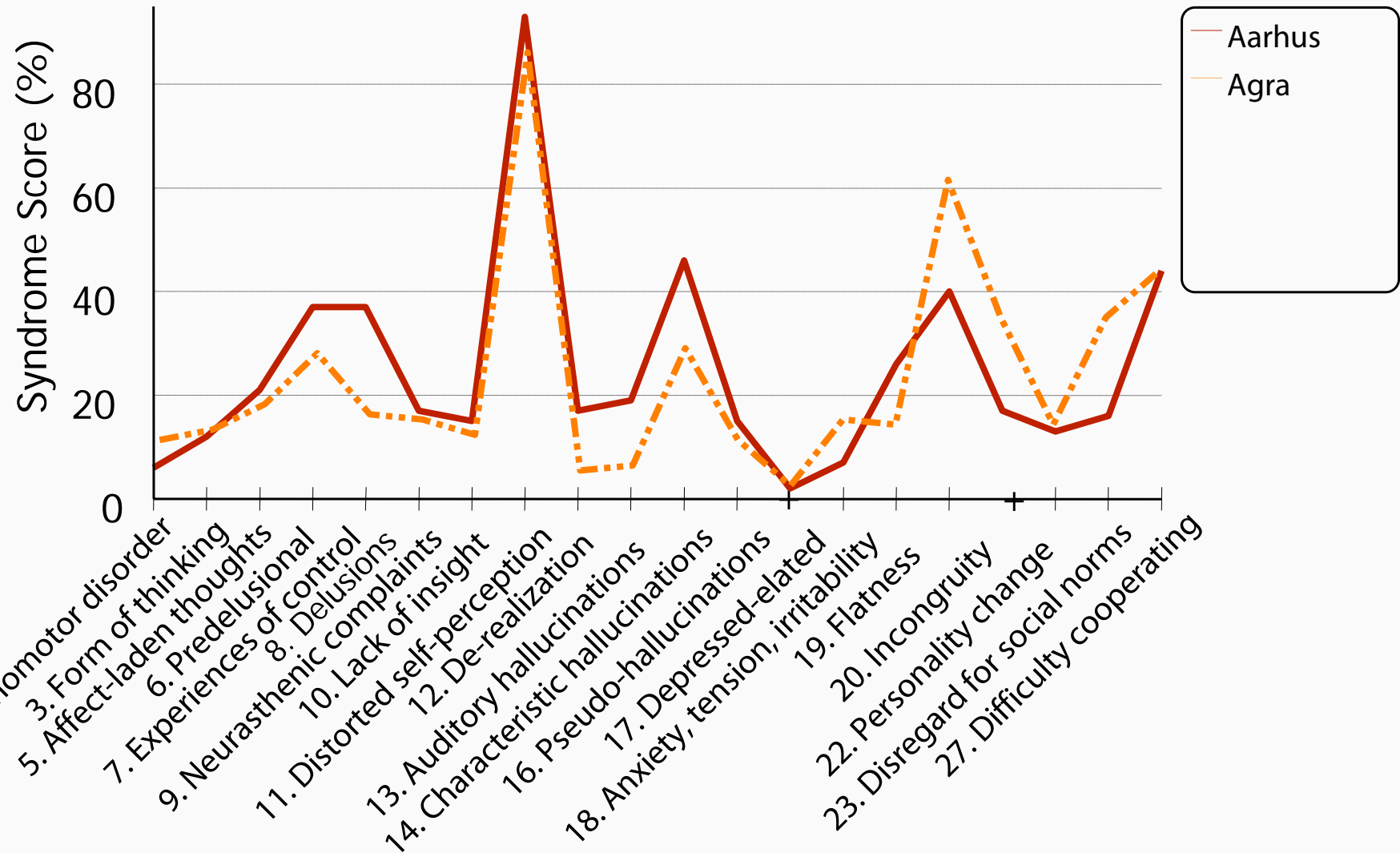
International Pilot Study of Schizophrenia

Syndrome Profiles for Schizophrenics in Aarhus, Denmark



International Pilot Study of Schizophrenia

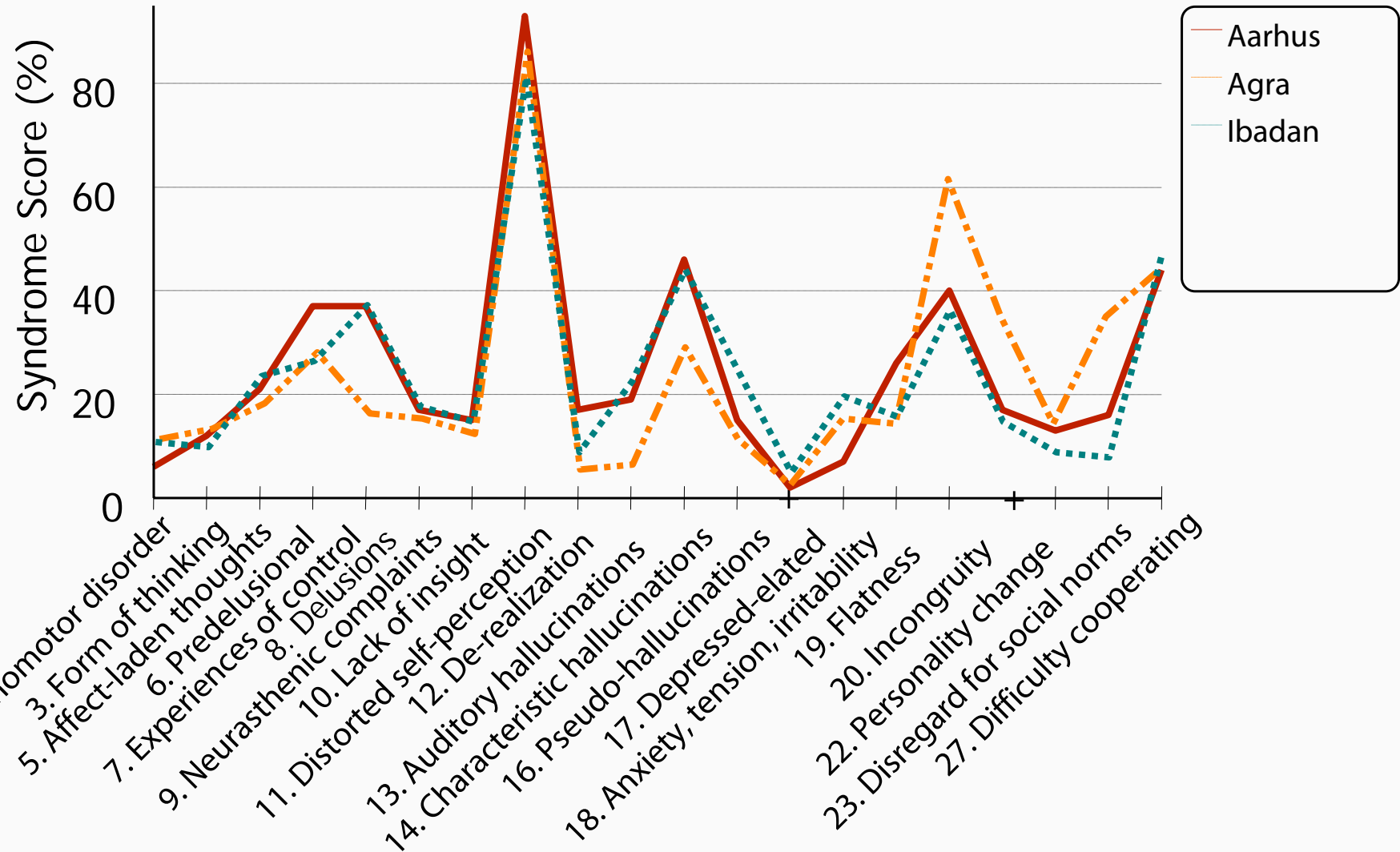
Syndrome Profiles for Schizophrenics in Denmark and Agra



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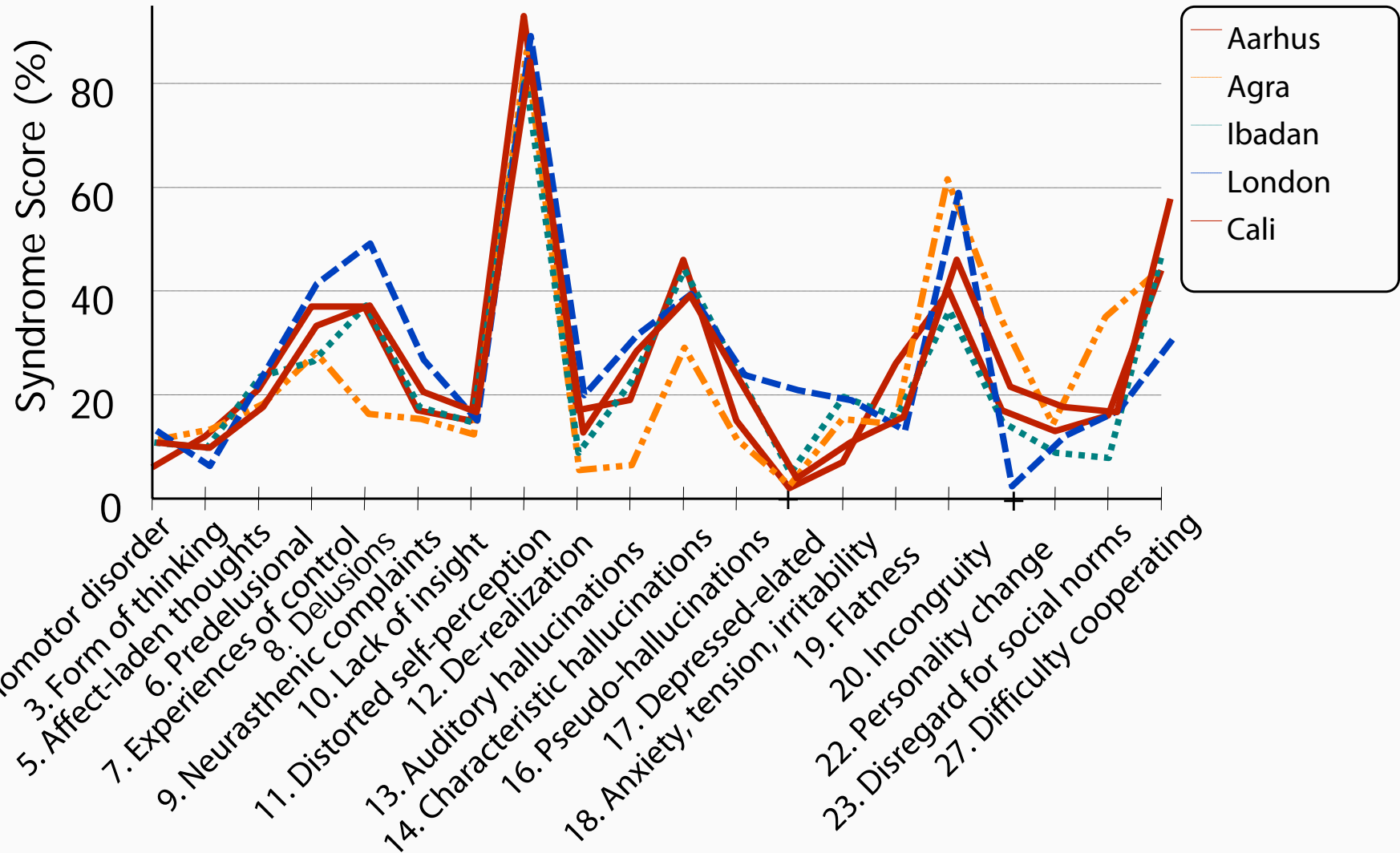
International Pilot Study of Schizophrenia

Profiles for Schizophrenics in Denmark, India, Ibadan, and Nigeria



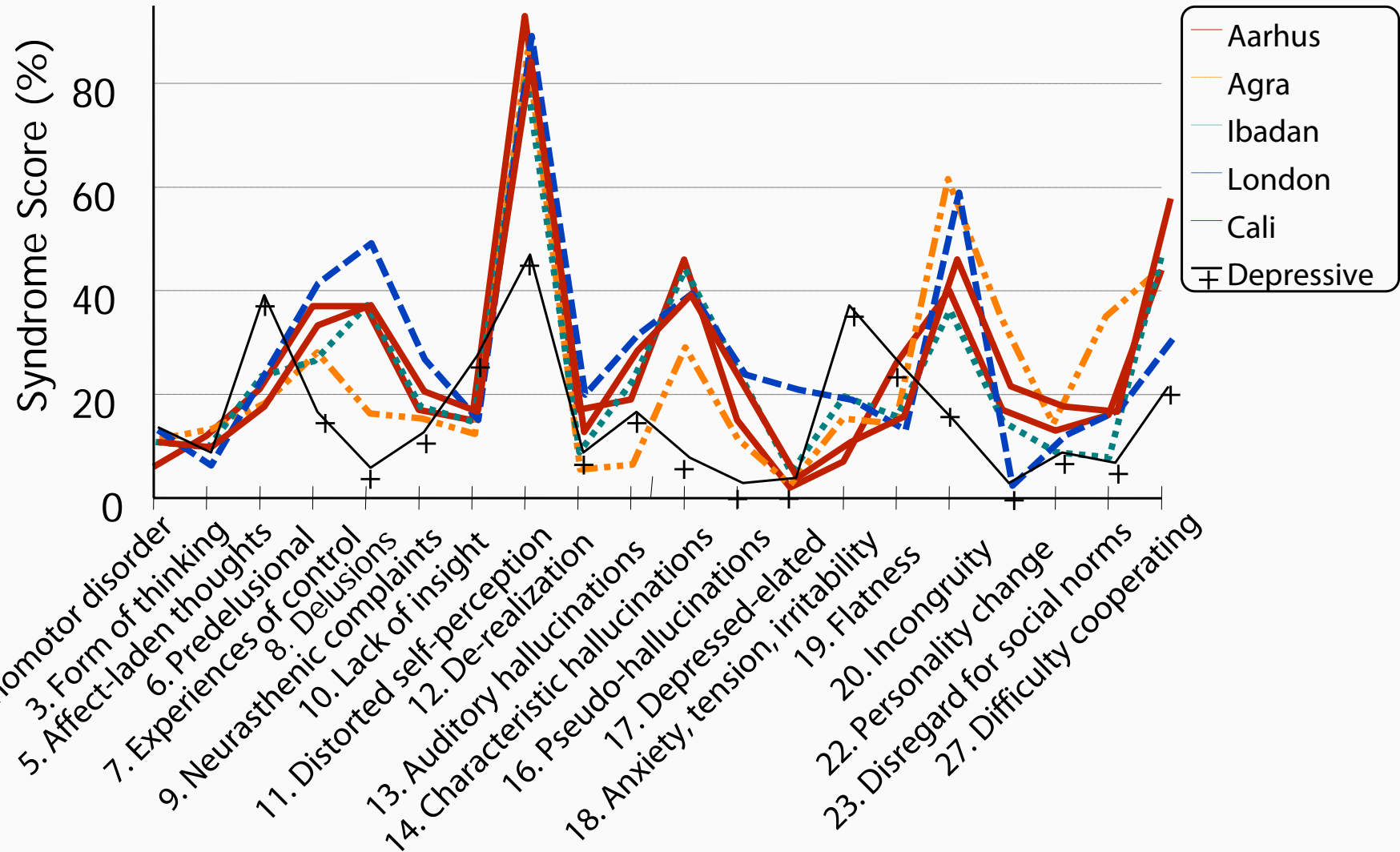
International Pilot Study of Schizophrenia

Profiles for Schizophrenics in Five Countries



International Pilot Study of Schizophrenia

Profiles for Schizophrenics in Five Countries



Symptoms of schizophrenia are found around the world in many cultures

Profiles of schizophrenics look similar in different cultures

Profiles of schizophrenia look different than affective disorder

It is possible to conduct a multinational study with many collaborators



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Section C

International Variation in Schizophrenia: Rates
of Occurrence

Rates of Schizophrenia

Prevalence and Incidence of Schizophrenia per 1000 Population

Area	Date	Author	Age	Prevalence		Incidence
				Type	Rate	
Denmark	1977	Nielsen	15 +	Lifetime	2.7	
	1972	Munk-Jorgensen	All	Annual		0.12
Baltimore,	1963	Wing	All	One year	7	
Maryland, USA	1963	Warthen	All	Annual		0.7
Camberwell,	1963	Wing	15+	One year	4.4	
England	1971	Hailey	All	Annual		0.11
Ireland	1973	Walsh	15+	Point	8.3	
	1986	WHO	15-54	Annual		0.22
Portogruaro,	1982-9	de Salvia et al.			2.7	
Itlay	1989	de Salvia et al.		Annual		0.19
Hampstead,	1991-5	Jeffreys et al.			5.1	
England	1991-5	McNaught et al.		Annual		0.21

Sources: Eaton, *Epidemiol Rev.*, 1985; 1991; Jeffreys, *et al.*, *Br J Psychiatry*, 1997; McNaught, *et al.*, *Br J Psychiatry*, 1997; de Salvia, *et al.*, *J Nerv Ment Dis.*, 1993

Incidence of Schizophrenia

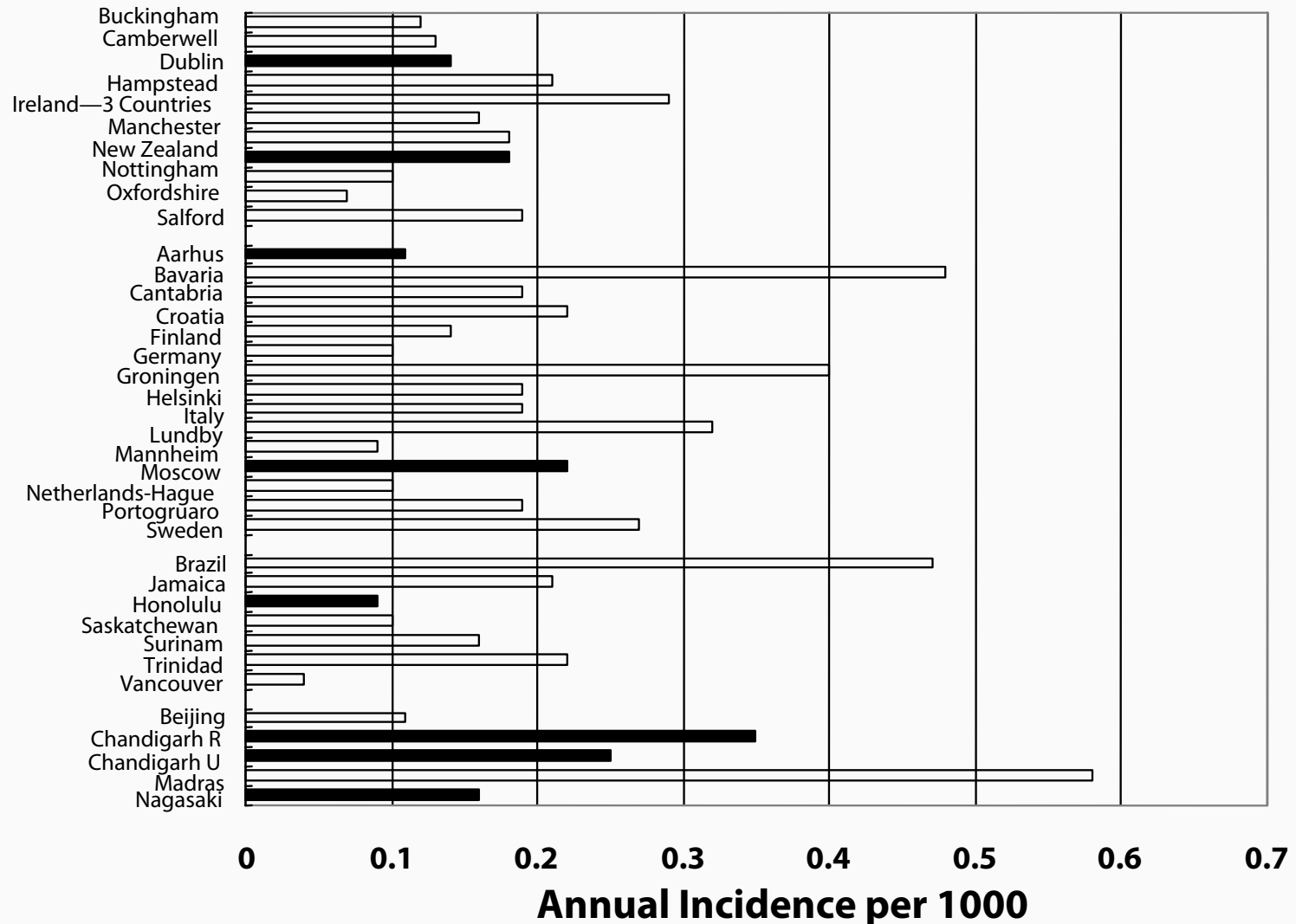
WHO Collaborative Study

Place	Annual Incidence per 1000
Aarhus, Denmark	0.18
Chandigarh, India (rural)	0.42
Chandigarh, India (urban)	0.35
Dublin, Ireland	0.22
Honolulu, Hawaii	0.16
Moscow, Russia	0.28
Nagasaki, Japan	0.21
Nottingham, England	0.22

Continued

Incidence of Schizophrenia

Selected Studies Published after 1985



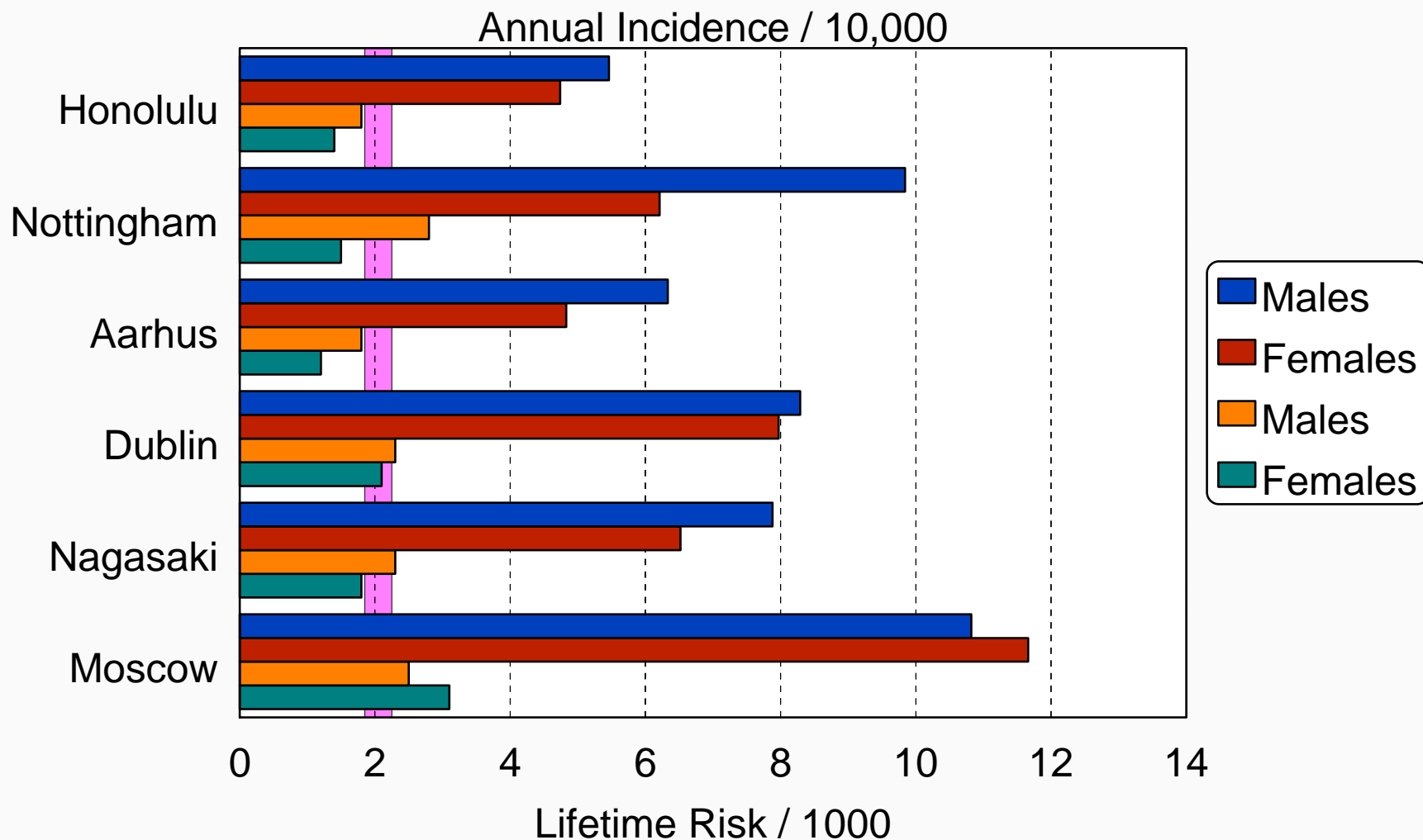
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Comparison of Six WHO Sites for Broad Schizophrenia

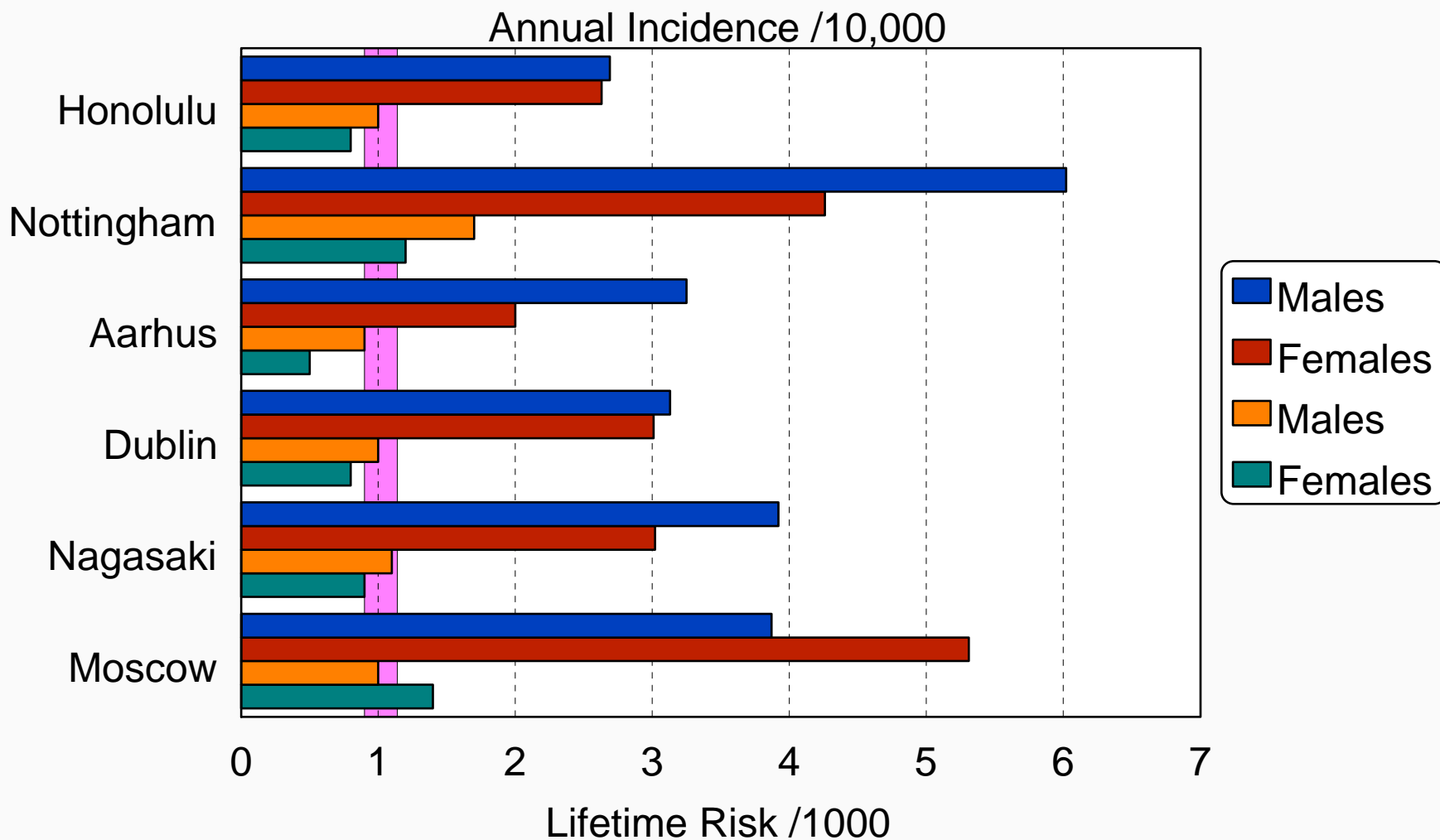
Lifetime Risk and Annual Incidence



Goal Range for Annual Incidence is 1/5 of Range, Centered on Mean of 2.05

Comparison of Six WHO Sites for Narrow Schizophrenia

Lifetime Risk and Annual Incidence



Goal Range for Annual Incidence is 1/5 of Range, Centered on Mean of 1.02

Prevalence and Incidence—Conclusions

Prevalence—about five per 1000

Incidence—about 0.2 per 1000 per year

Rates vary in different populations



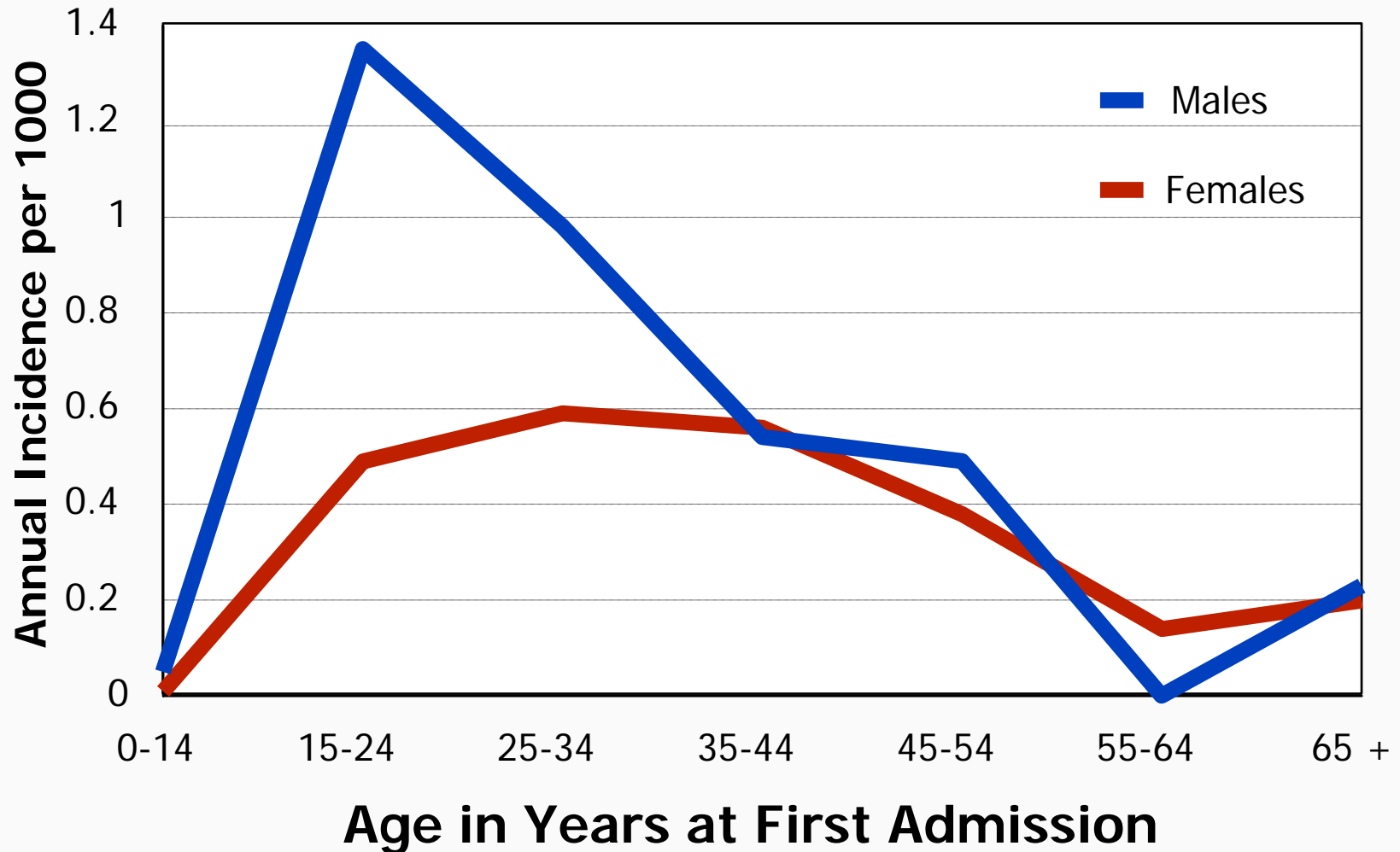
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Section D

Incidence by Age and Sex

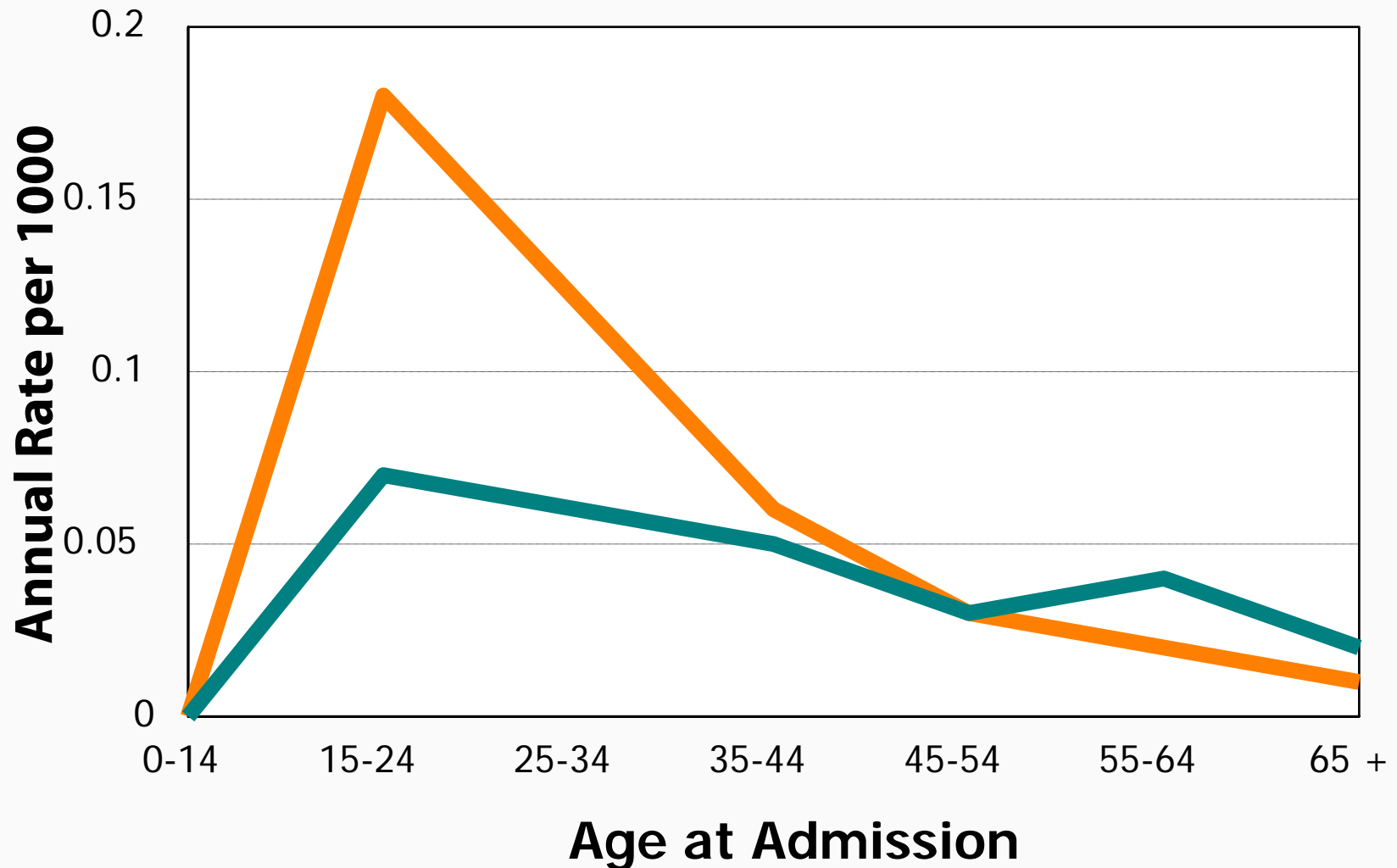
Incidence by Age and Sex, Monroe County

DSM-II Schizophrenia in Monroe County, New York, 1975



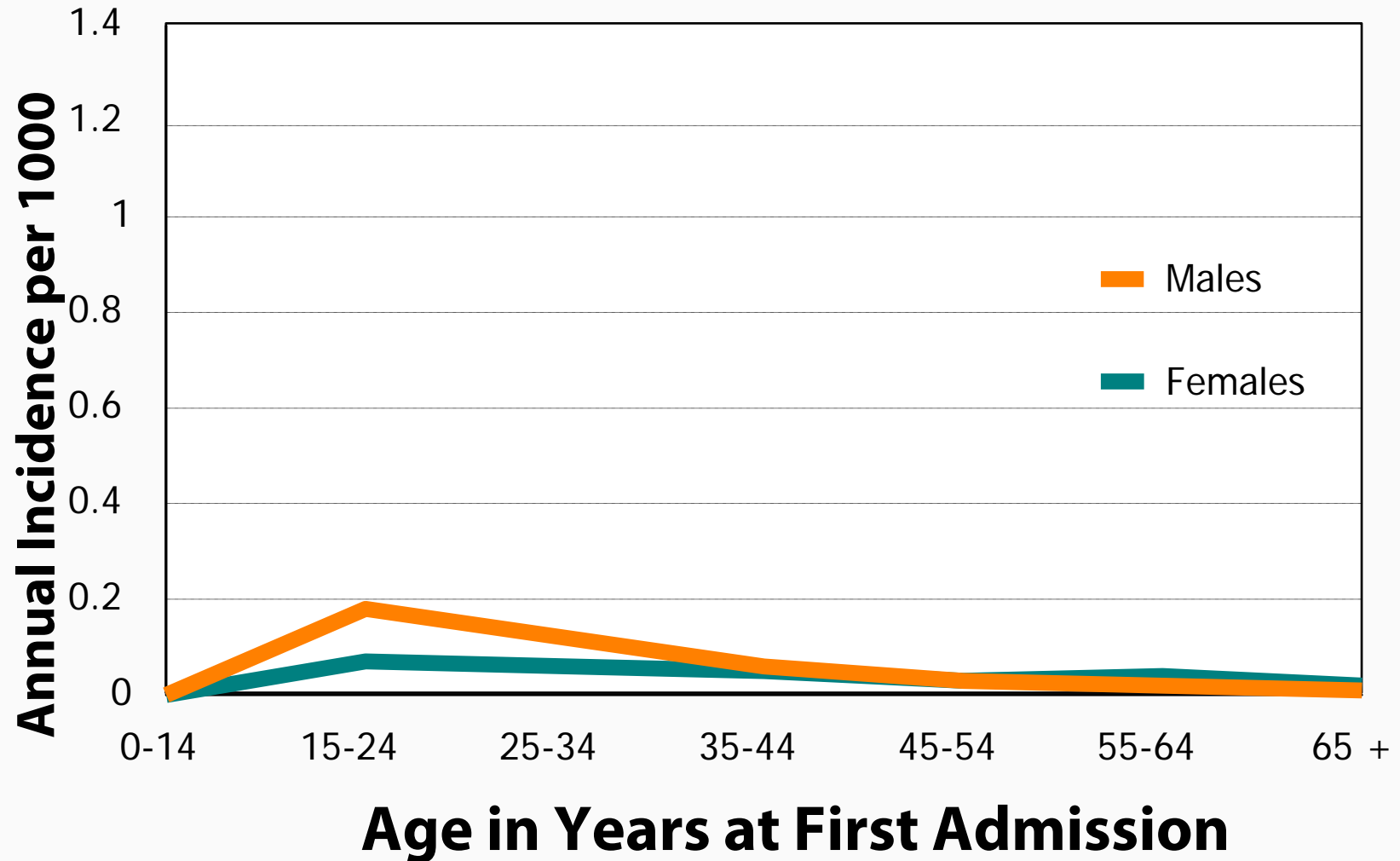
Incidence by Age and Sex, Denmark

ICD-8 Schizophrenia in Denmark, 1970–1982



Incidence by Age and Sex, Denmark

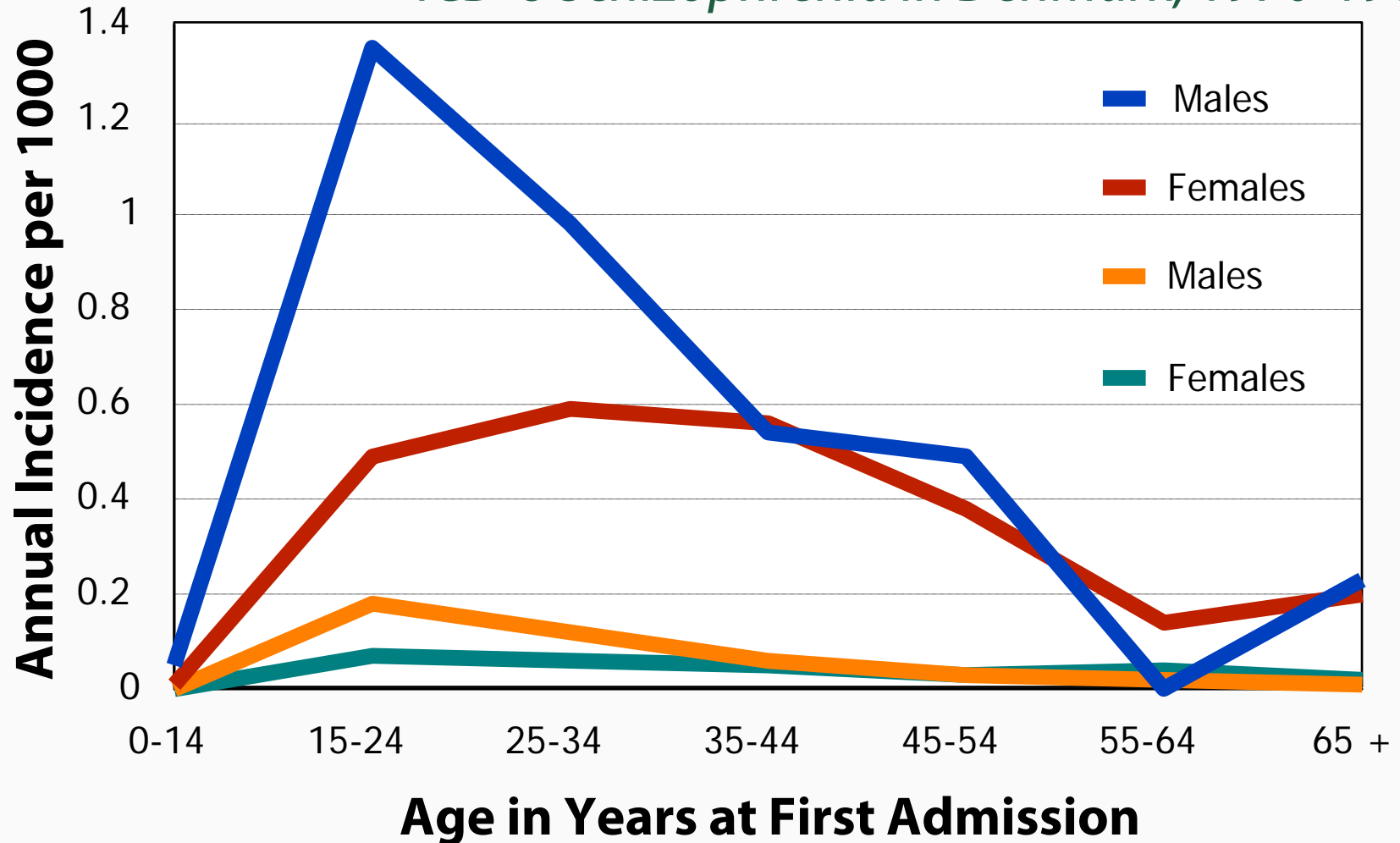
ICD-8 Schizophrenia in Denmark, 1970–1982



Incidence by Age and Sex, Denmark and NY

DSM-II Schizophrenia in Monroe County, New York, 1975

ICD-8 Schizophrenia in Denmark, 1970-1982



Adapted from Babigian (1985), in Comprehensive Textbook of Psychiatry IV,;
Munk-Jorgensen (1987), Acta Psychiatr Scand.

Onset peaks in young adulthood

Females peak about five years later

Age-sex curve not affected by diagnostic threshold

Lifetime risk for males and females roughly equal

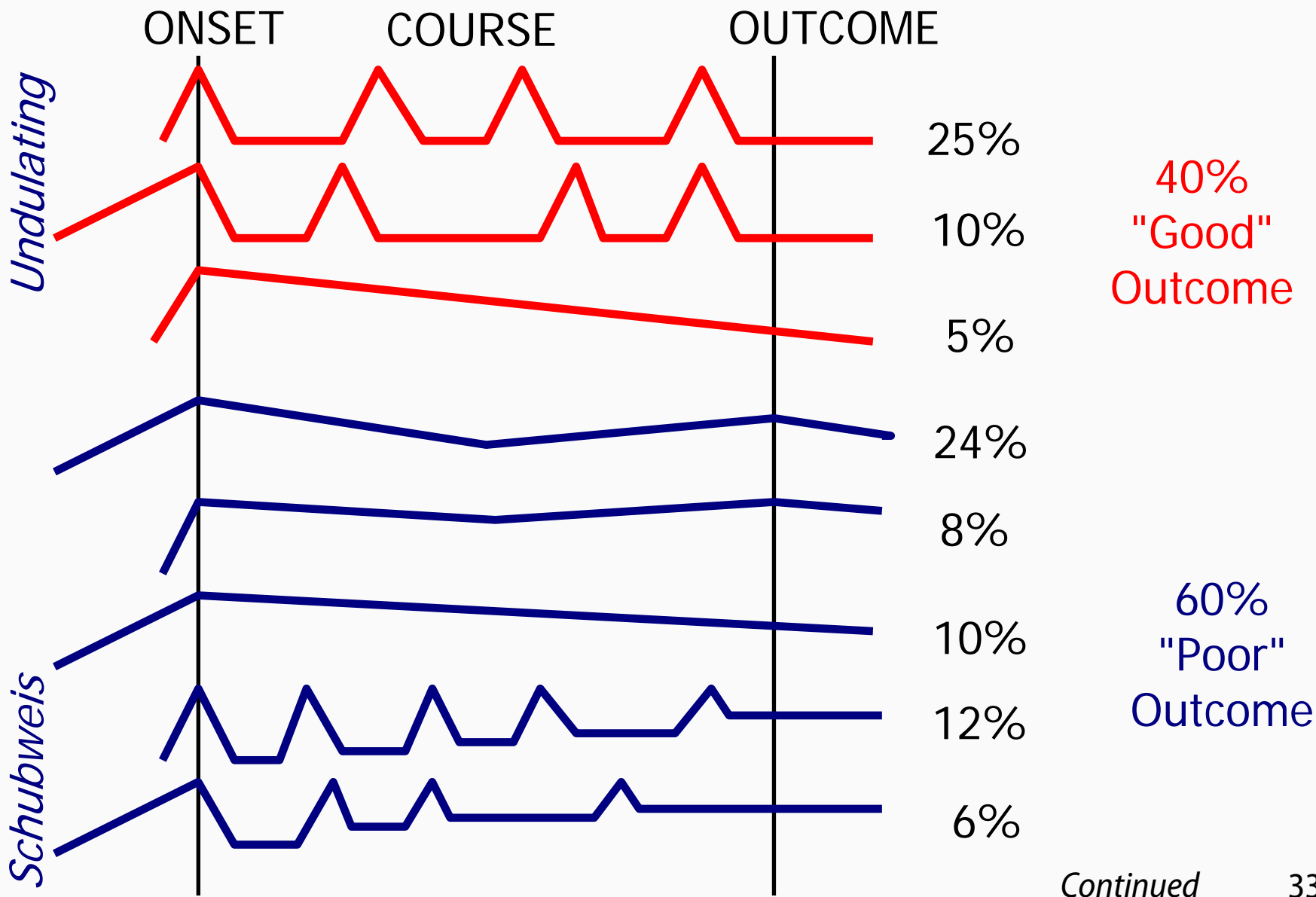


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Section E

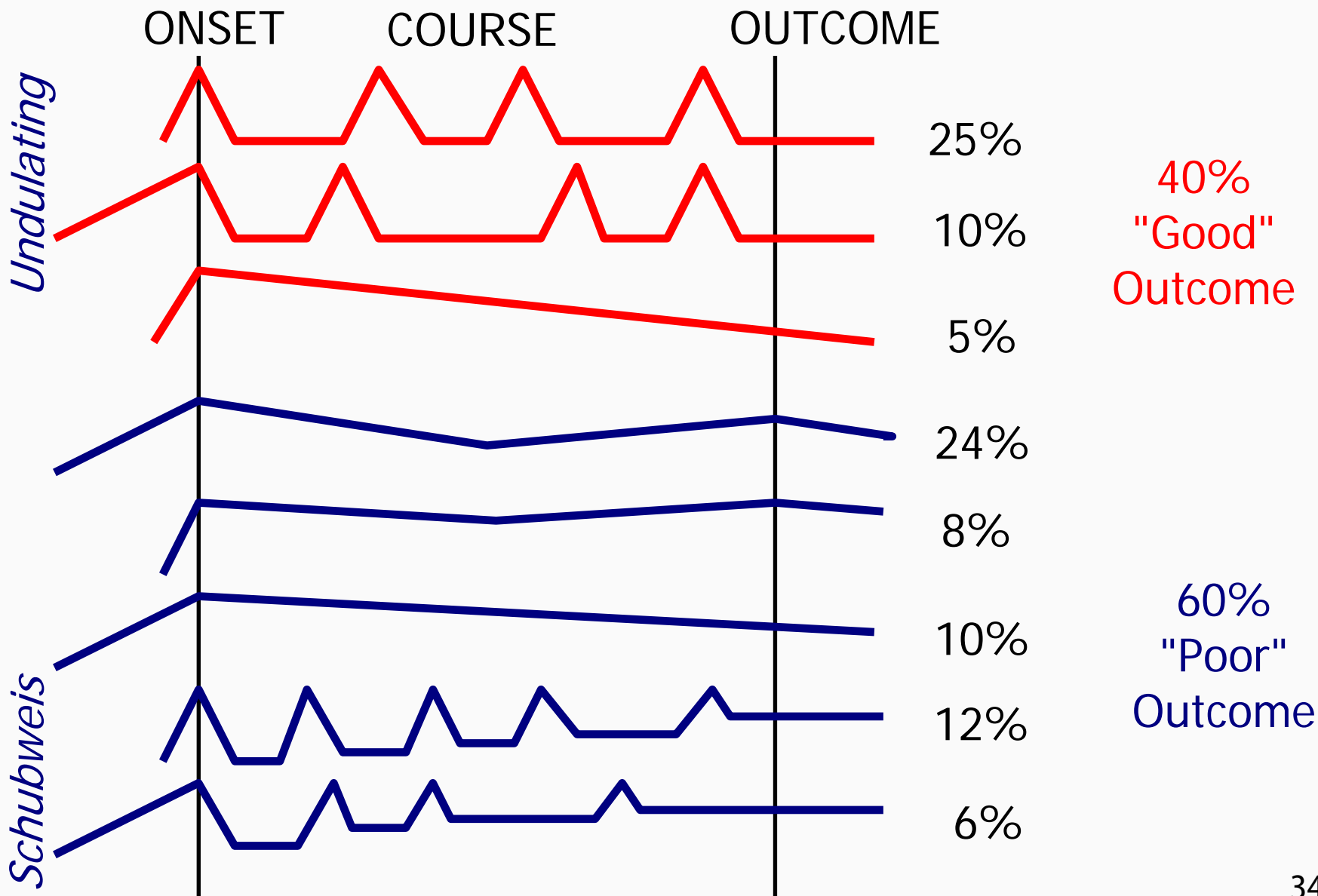
Natural History of Schizophrenia

Typologies of Course from Ciompi Follow-up

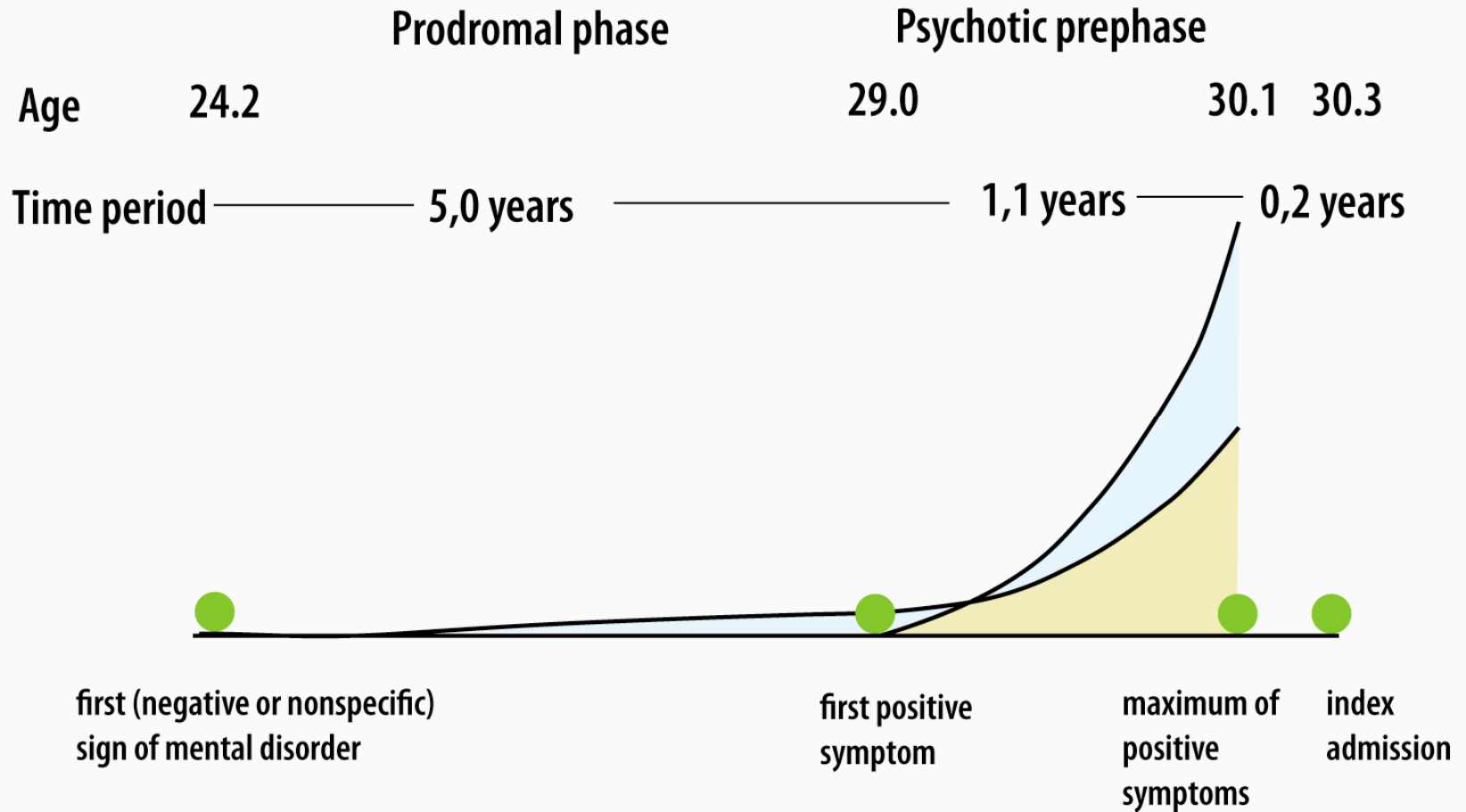


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Typologies of Course from Ciompi Follow-up



Prodrome of Schizophrenia

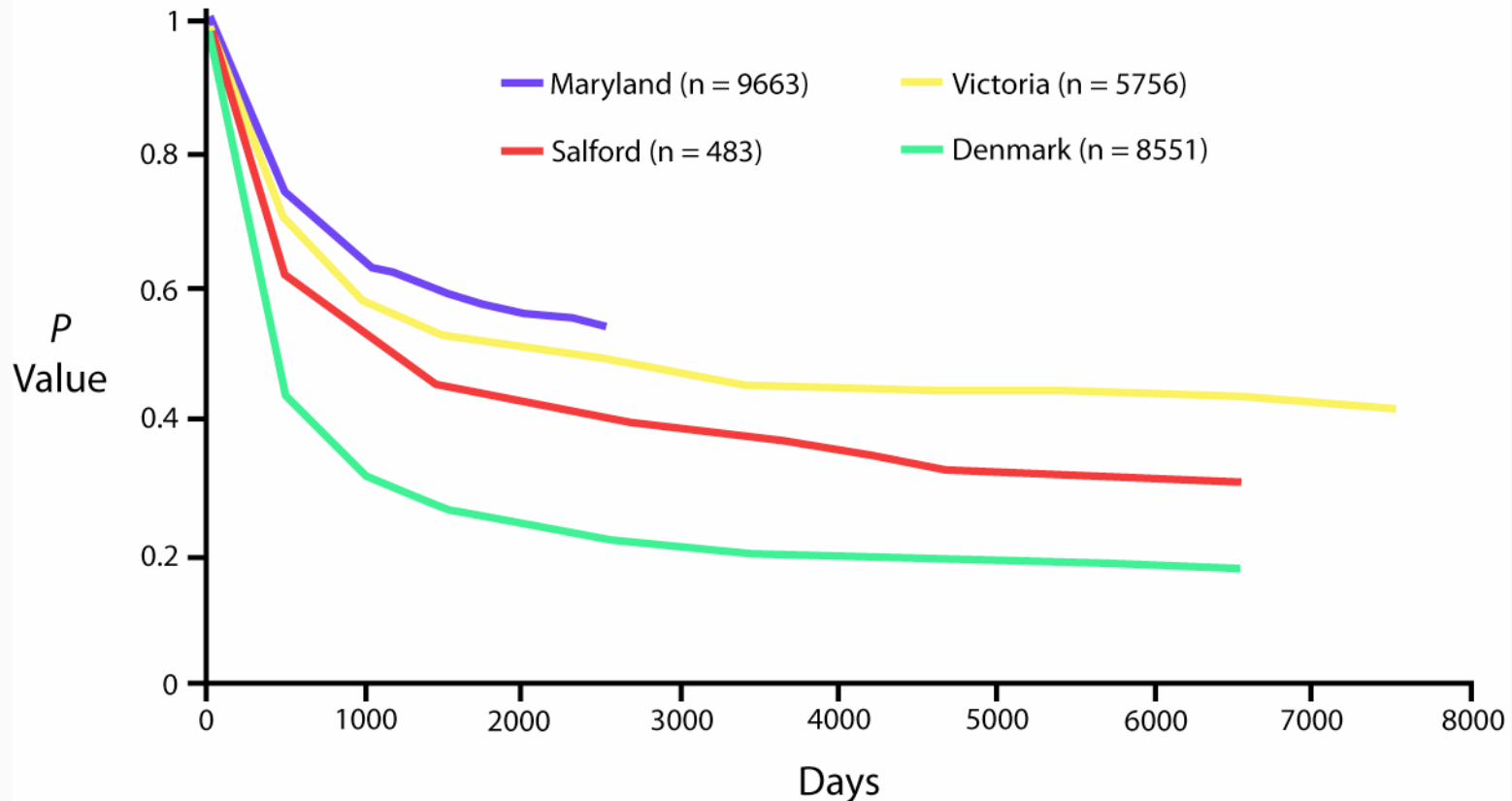


Precursor Signs and Symptoms of Schizophrenia

<i>Sign or Symptom</i>	<i>Consistency of Finding</i>
Early psychotic-like symptoms	+
Few friends, schizoid	+++
Abnormal social behavior	+++
Language impairment	+
Poor School Achievement	++
Neurological soft signs	++

Course of Re-Hospitalization

Schizophrenic Patient's Probability of Remaining in the Community After First Discharge



Data of W.W. Eaton et al: 1992.

WHO Follow-Up of Schizophrenia

First Onset Cases in Eight Centers

Place	Sample Size	Percent with No Symptoms	Percent with Chronic Psychosis
<i>Developed Countries</i>			
Aarhus, Denmark	50	6	40
London, England	64	5	14
Moscow, Russia	66	17	21
Prague, Czechoslovakia	65	6	23
Washington, D.C., USA	51	3	23

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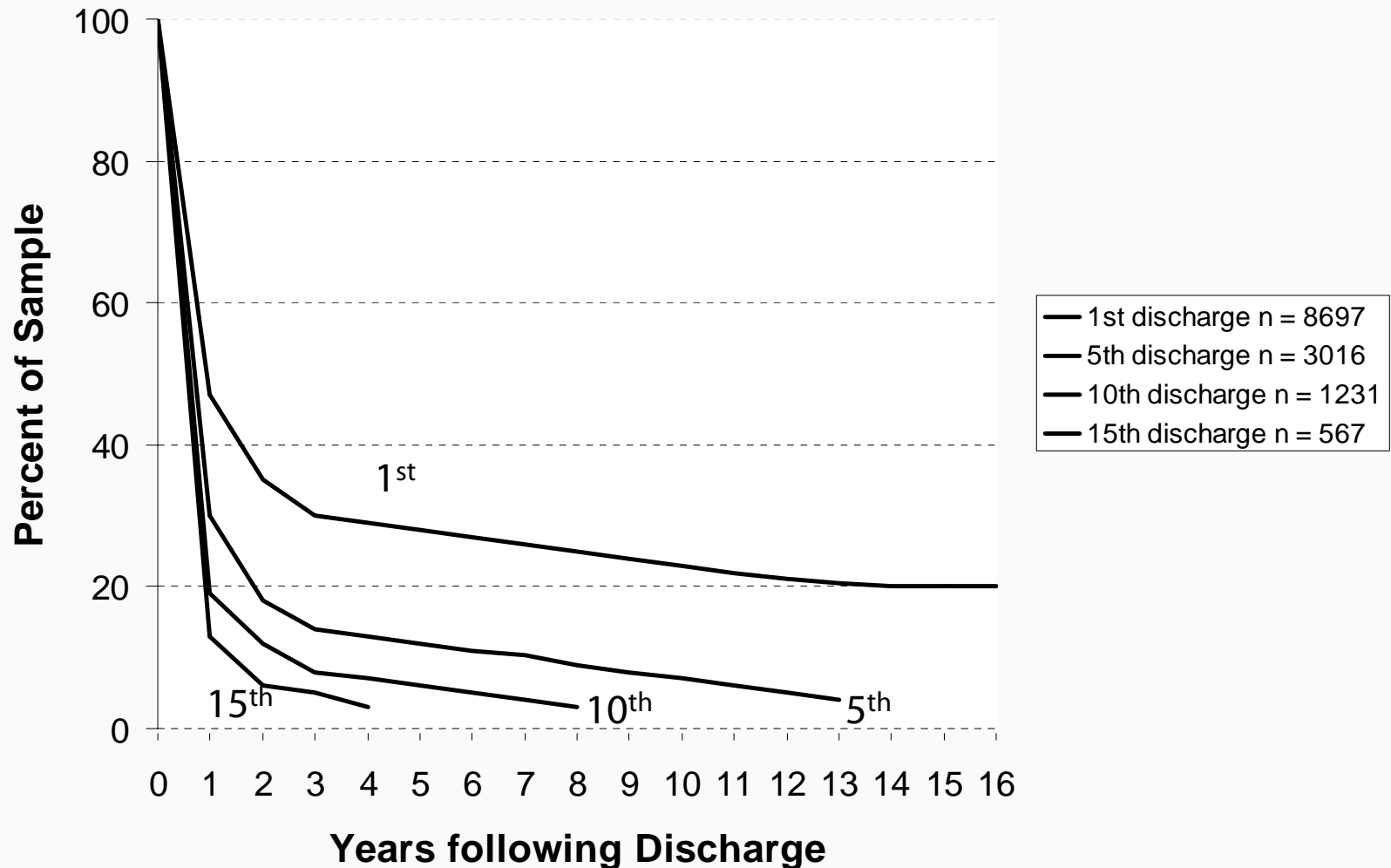
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Prague, Czechoslovakia	65	6	23
Washington, D.C., USA	51	3	23
<i>Developing Countries</i>			
Agra, India	73	42	10
Cali, Colombia	91	11	21
Ibadan, Nigeria	68	34	10

Readmission Risk for Schizophrenia in Denmark

in a Single Cohort of 8697 First Admissions



Adapted from: Mortensen, P. B., and Eaton, W. W. (1994). Predictors for readmission risk in schizophrenia. *Psychological Medicine*, 24, 223-232.

Progressive Course of Schizophrenia

Relative Risk of Rehospitalization During 16 Years

<i>Age of Onset</i>	<i>Victoria</i>	<i>Denmark</i>
Total # episodes	1.33	1.13
Each additional	0.89	0.95
Total episodes	2866	3193

Additional variables controlled included gender, age of onset, and number of hospitalizations prior to diagnosis of schizophrenia

Heterogeneity as to onset, course, and outcome

Considerable chronicity—long term course is mostly stable, not progressive

Outcome: 33%– 33%–33%??

Extended prodrome and insidious onset

Languid negative—volatile positive symptoms

More benign course in non-modern settings

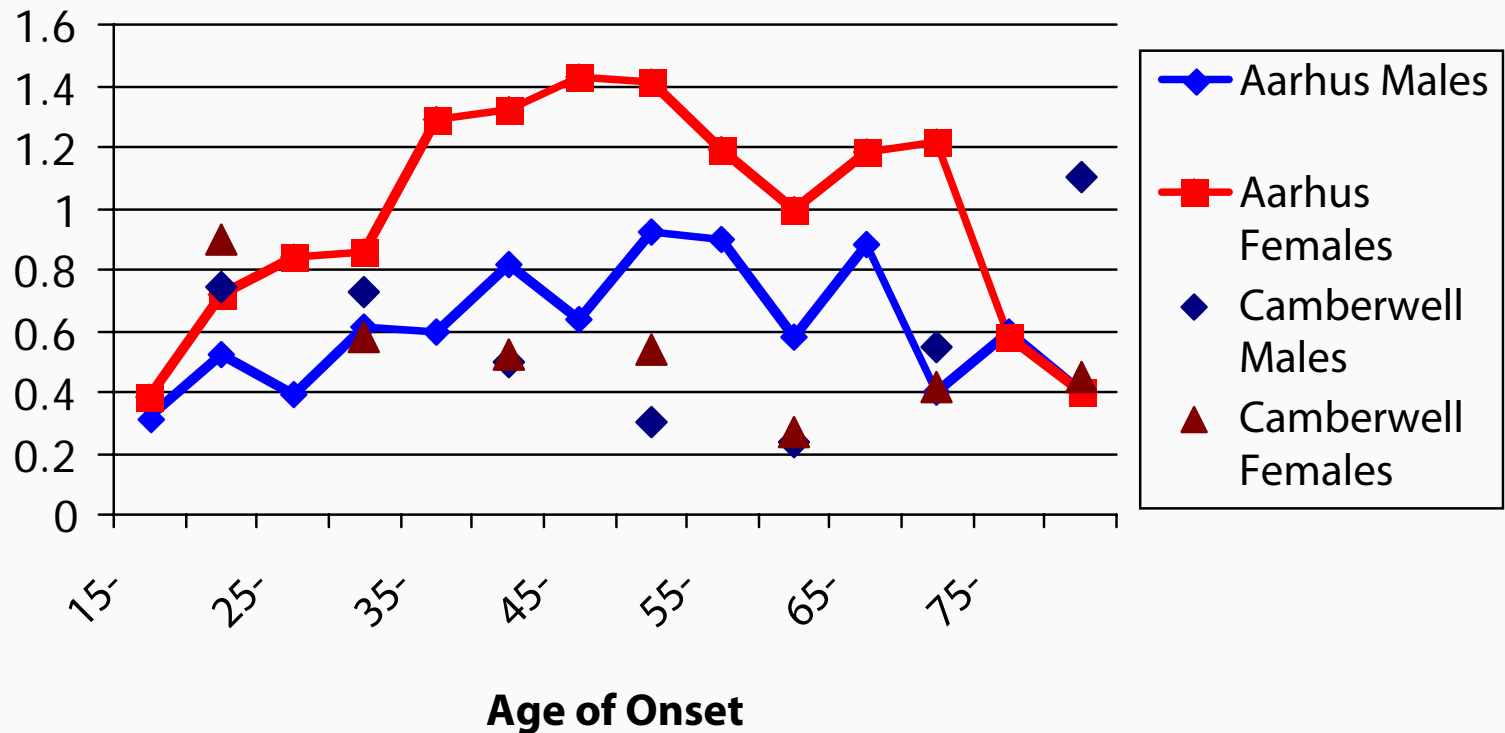


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Section F

Natural History of Bipolar Disorder

Bipolar Disorder in Denmark and England

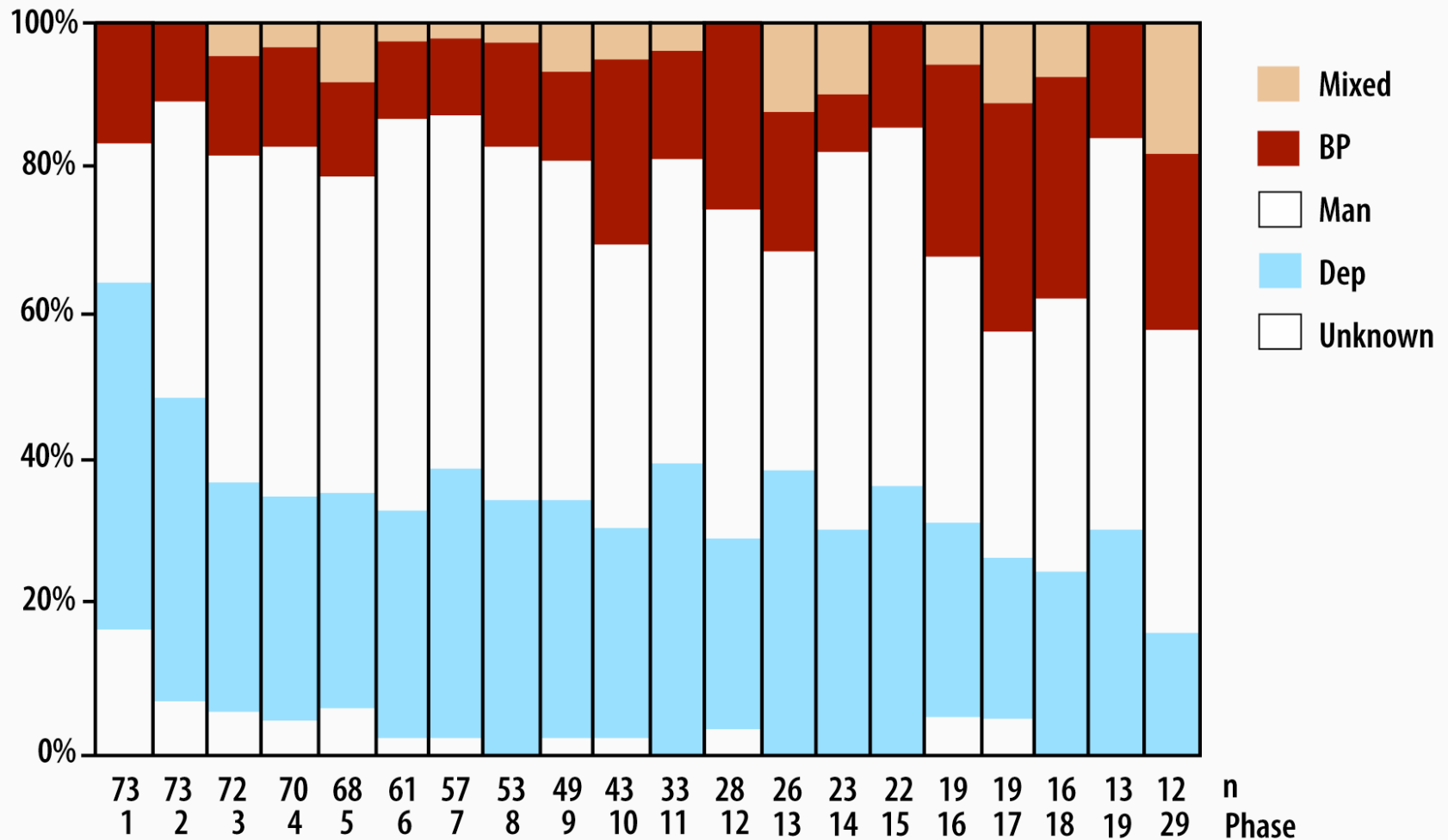


Source: Weeke, et al. (1995), *Acta Psychiatr Scand.*, Figure 1;

Bebbington and Ramana, *Soc Psychiatry Psychiatr Epidemiol.*, Figure 4

Syndromal Stability of the Course

Proportion of Syndromes across 20 Episodes in Male Subjects



Syndromal Stability of the Course of Bipolar I

Collaborative Depression 13 year follow-Up of 146 Patients

Symptom Level	Mean % Weeks
Asymptomatic	52.7
Depression only	31.9
<i>Subsyndromal</i>	9.4
<i>Minor</i>	13.5
<i>Major</i>	8.9
Mania/hypomania only	9.3
<i>Subsyndromal</i>	2.4
<i>Hypomania</i>	4.6
<i>Mania</i>	2.3
Cycling or mixed	5.9

Number of Cycles and Length (Zurich Study)

Cycles	Patients	Median length of cycles (months)																		
		1	2	3	4	5	6	7	8	9+										
1	4	64																		
2	8	105	12																	
3	9	55	21	34																
4	15	78	25	33	45															
5	14	30	22	37	19	20														
6	21	44	35	36	24	24	17													
7	12	42	23	34	16	17	30	17												
8	13	34	22	23	30	23	12	17	28											
9+	124	26	19	21	15	15	12	12	12	12										
Cycles		1	2	3	4	5	6	7	8	9+										

Natural History of Bipolar Disorder—Summary

Relatively abrupt onset in youth is common

Course is stable, not progressive

Continuing infrequent psychotic episodes

Continuing depressive and hypomanic episodes throughout the course