Comorbidity and temporal ordering of anxiety, mood and substance use disorders in the Australian general population: Which come first and what does this tell us?

Tim Slade[1], Peter McEvoy[2], Cath Chapman[1], Rachel Grove[1], Maree Teesson[1]

1. National Drug and Alcohol Research Centre, University of New South Wales, Sydney Australia
2. School of Psychology, University of Western Australia, Perth Australia

Background and rationale

- Comorbidity is the presence, either simultaneously or in sequence, of two or more mental or substance use disorders
- It is the norm amongst people with any mental or substance use disorder
- Understanding the lifetime patterns and sequences of comorbid disorders has the potential to guide the timing and targeting of prevention efforts
- Many studies only investigate individual pairs of comorbid disorders (e.g. alcohol dependence and major depression)
- Fewer studies have examined comorbidity among anxiety, mood and substance use disorders at the same time

Aim

- To use nationally representative epidemiological survey data to:
  1. describe the prevalence and patterns of comorbidity of the common anxiety, mood and substance use disorders
  2. describe the onset and temporal sequencing of these groups of disorders, by sex

Method

Sampling and response rate

- Data came from the Australian National Survey of Mental Health and Wellbeing
- Nationally representative household survey
- Conducted by the Australian Bureau of Statistics (ABS) between August and December 2007
- Number of people approached = 14805
- Number of people interviewed = 8841
- Response rate of 60%:
  - Non-response follow-up survey showed small under-estimations of prevalence in young males

Interview

- World Mental Health Survey Initiative version of Composite International Diagnostic Interview (WMH-CIDI)
- Adapted for Australian context (e.g. small language edits and substantial changes to service use module)
- Lifetime timeframe – *"Have you ever…"*
- Onset age based on retrospective recall
  - All data are weighted to represent the Australian population
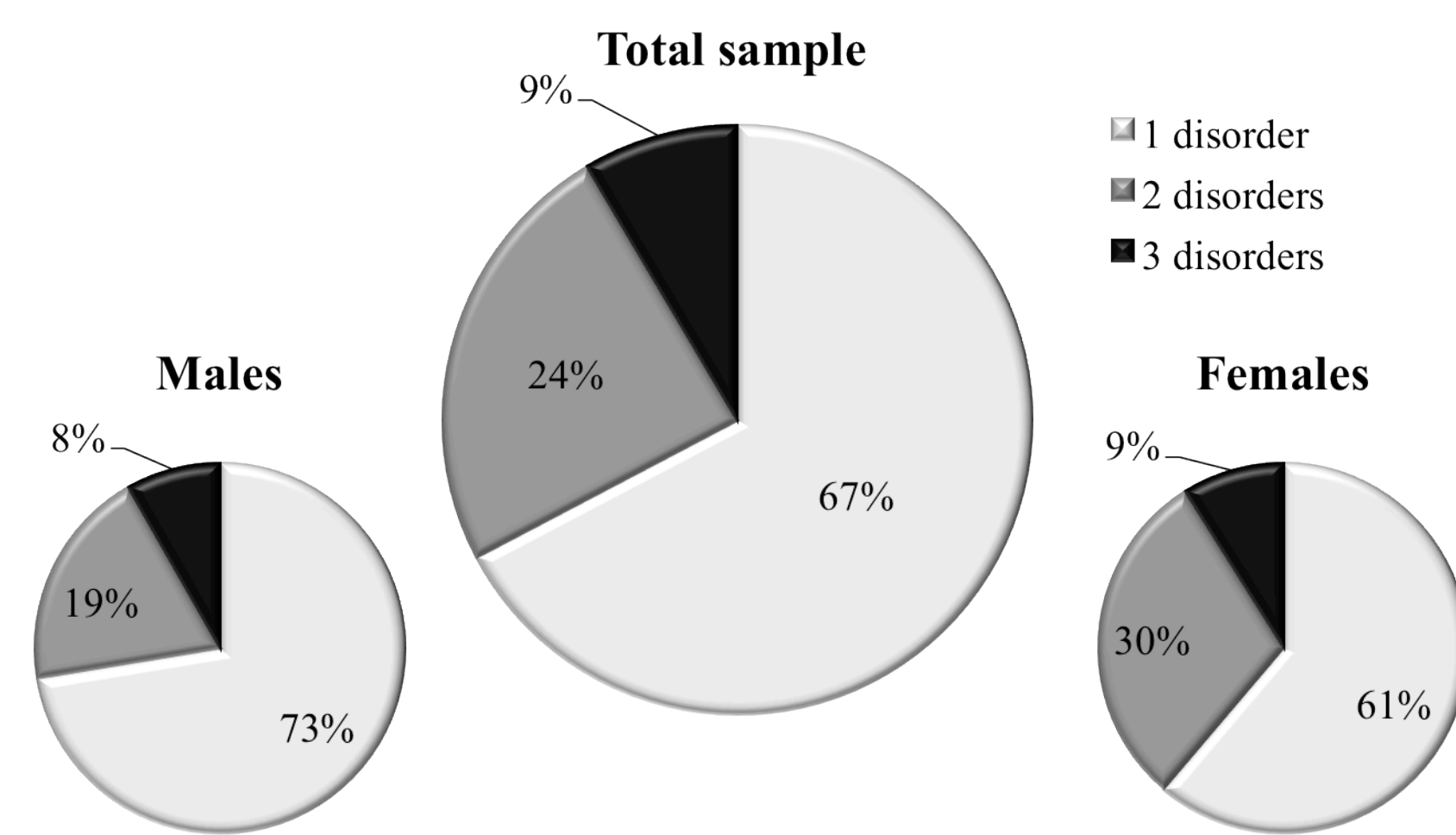
Method

Interview content

- Separate modules were used to assess:
  - Anxiety disorders (panic disorder, agoraphobia, social phobia, generalized anxiety disorder, posttraumatic stress disorder, obsessive-compulsive disorder)
  - Mood disorders (major depressive disorder, dysthymia, bipolar I/II disorder)
  - Substance use disorders (abuse and dependence on alcohol and illicit drugs – cannabis, stimulants, sedatives and opioids)
- Analysis focussed on classes of mental and substance use disorders
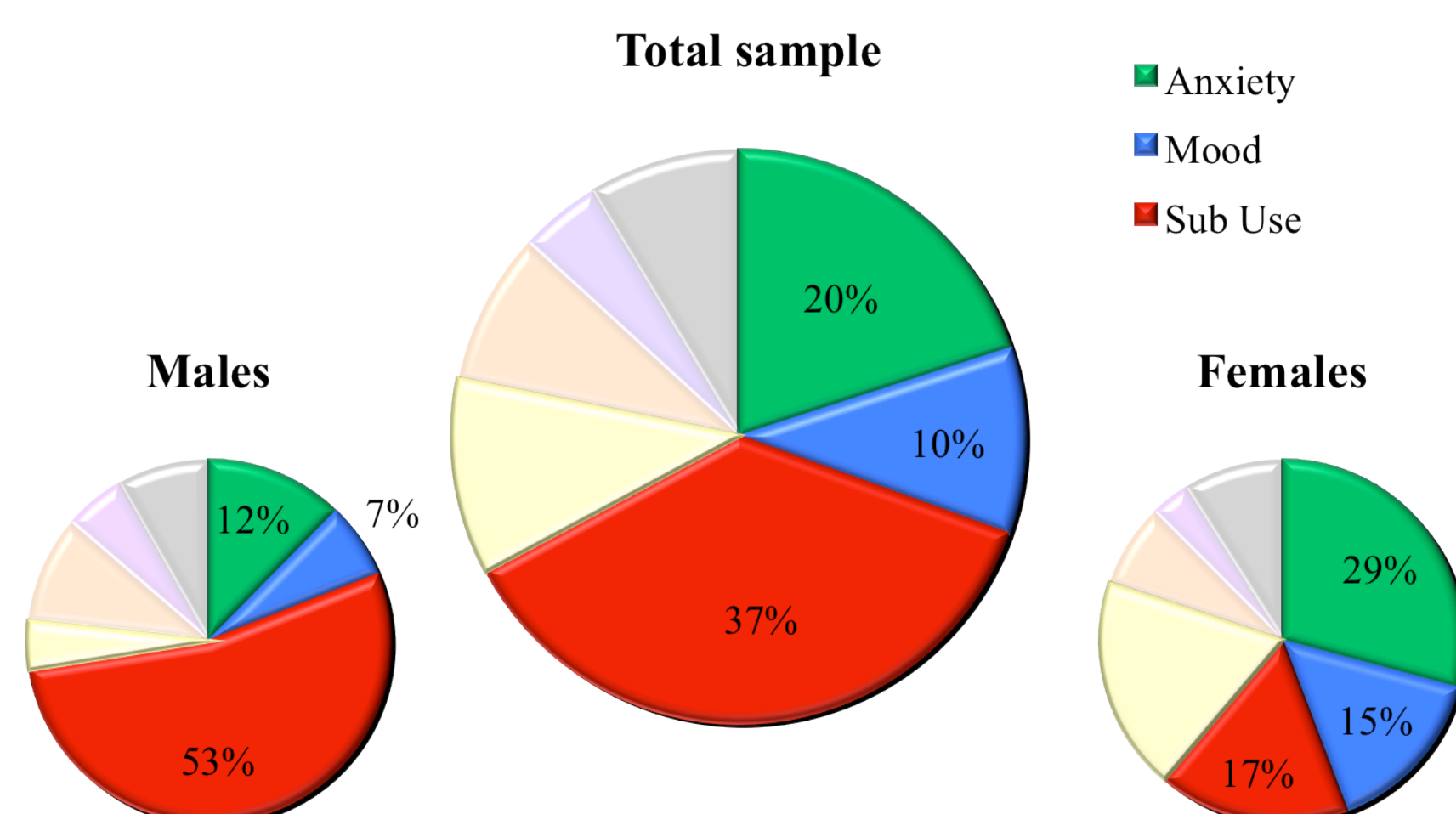
Results

What is the lifetime prevalence of anxiety, mood and substance use disorders?

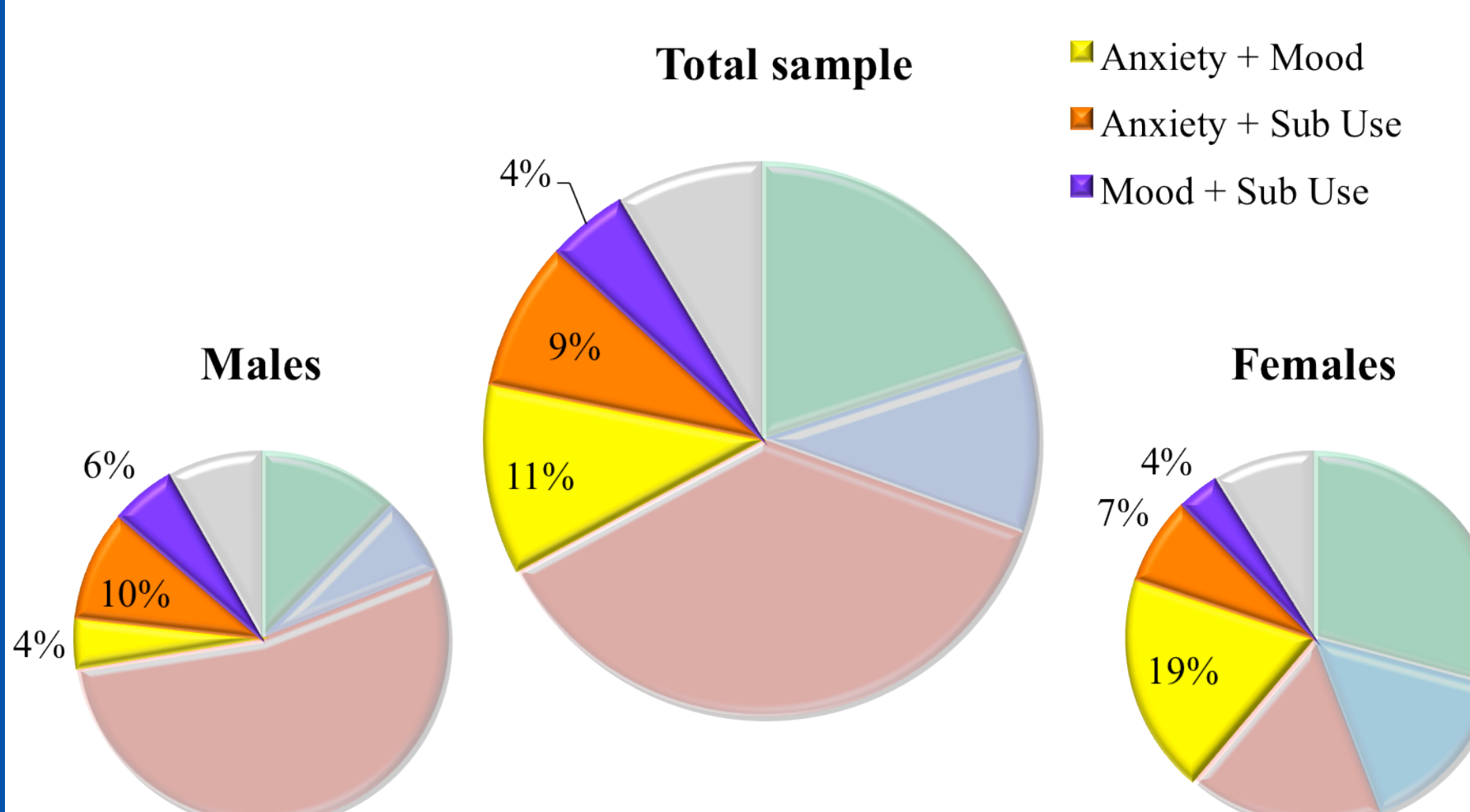|	Males (%)	Females (%)	Total (%)
Anxiety disorder	15.6	24.3	20.0
Mood disorder	11.2	17.5	14.4
Substance use disorder	34.7	13.9	24.2

How many disorders do people have over their lifetime?

Total sample: 1 disorder 67%, 2 disorders 24%, 3 disorders 9%
Males: 1 disorder 73%, 2 disorders 19%, 3 disorders 8%
Females: 1 disorder 61%, 2 disorders 30%, 3 disorders 9%

When people have 1 disorder which disorder do they have?

Total sample: Anxiety 20%, Mood 10%, Sub Use 37%
Males: Anxiety 12%, Mood 7%, Sub Use 53%
Females: Anxiety 29%, Mood 15%, Sub Use 17%

When people have 2 disorders what disorders do they have?

Total sample: Anxiety + Mood, Anxiety + Sub Use 9%, Mood + Sub Use 4%
Males: Anxiety + Mood 11%, Anxiety + Sub Use 10%, Mood + Sub Use 6%, 4%
Females: Anxiety + Mood 19%, Anxiety + Sub Use 7%, Mood + Sub Use 4%

Results (continued)

What is the typical age of onset of anxiety, mood and substance use disorders?

Any Substance Use Disorder 19
Any Anxiety Disorder 15
Any Mood Disorder 24
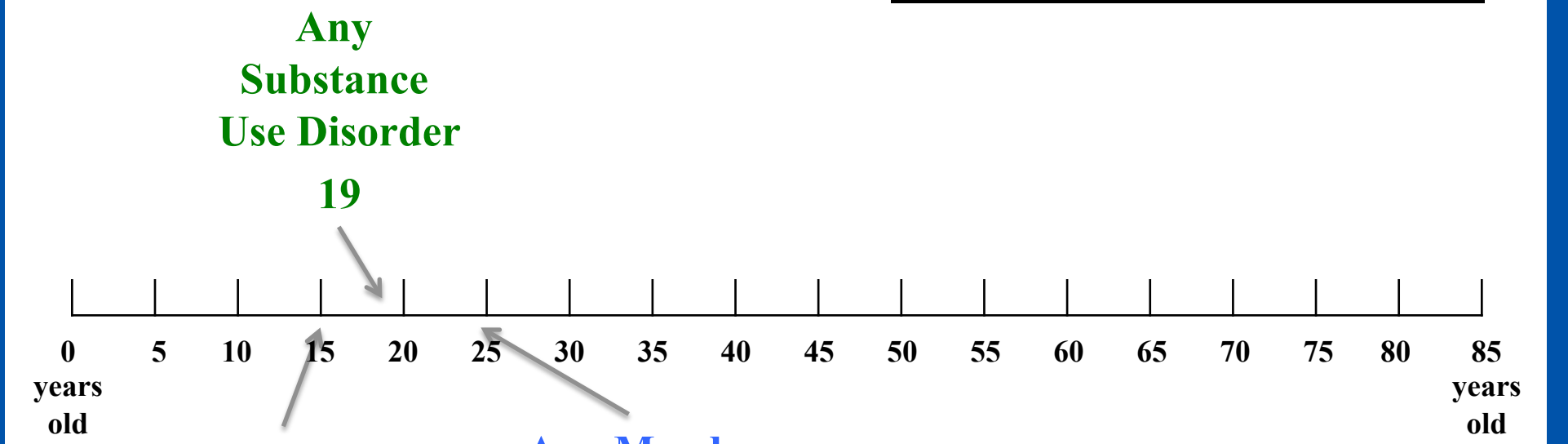
When people have anxiety and mood disorders which comes first?

Males: Anxiety 1st 46%, At the same time 32%, Mood 1st 22%
Females: Anxiety 1st 59%, At the same time 26%, Mood 1st 15%
(center): Anxiety 1st 56%, At the same time 28%, Mood 1st 16%
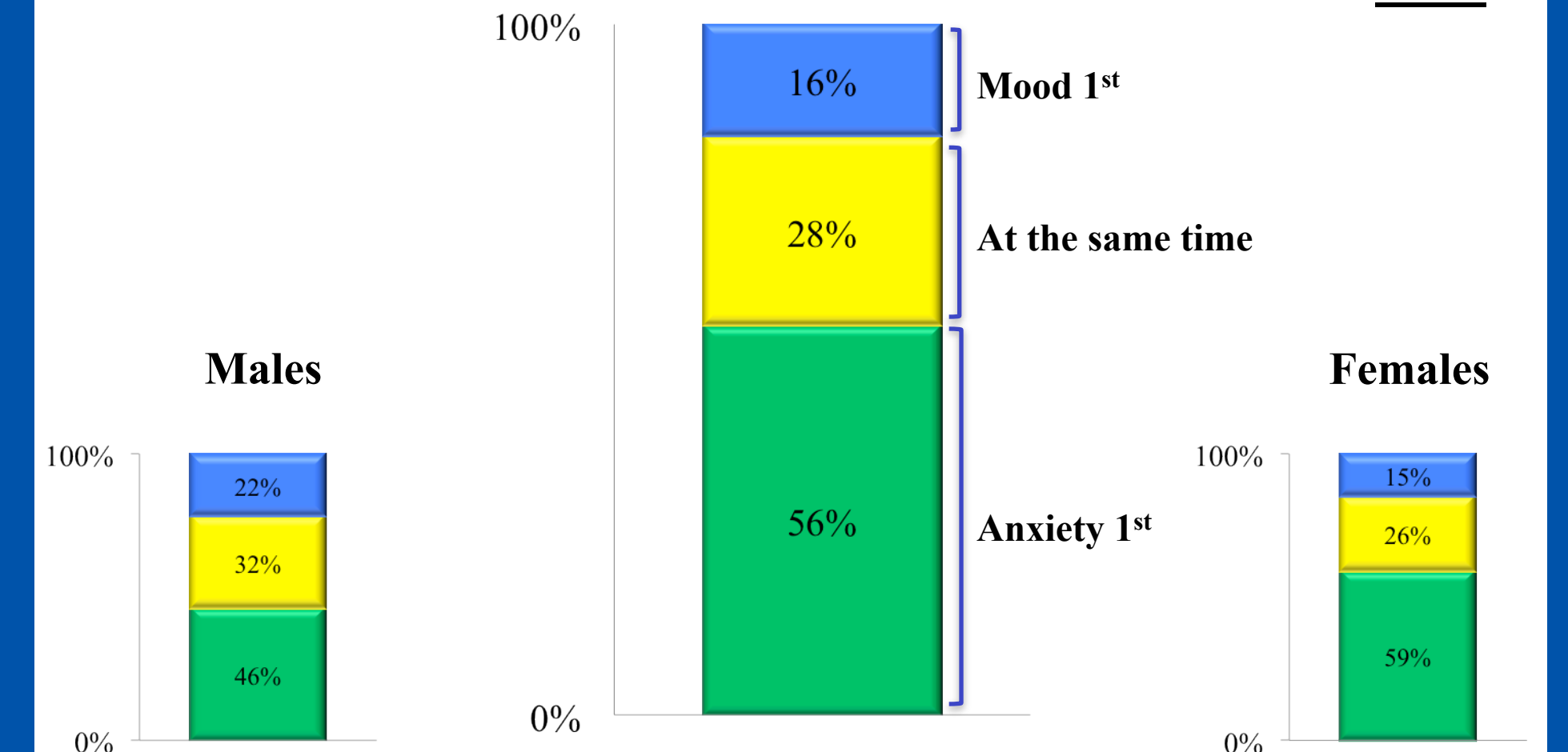
When people have anxiety and substance use disorders which comes first?

Males: Anxiety 1st 64%, At the same time 6%, SUD 1st 30%
Females: Anxiety 1st 70%, At the same time 7%, SUD 1st 23%
(center): Anxiety 1st 67%, At the same time 7%, SUD 1st 26%
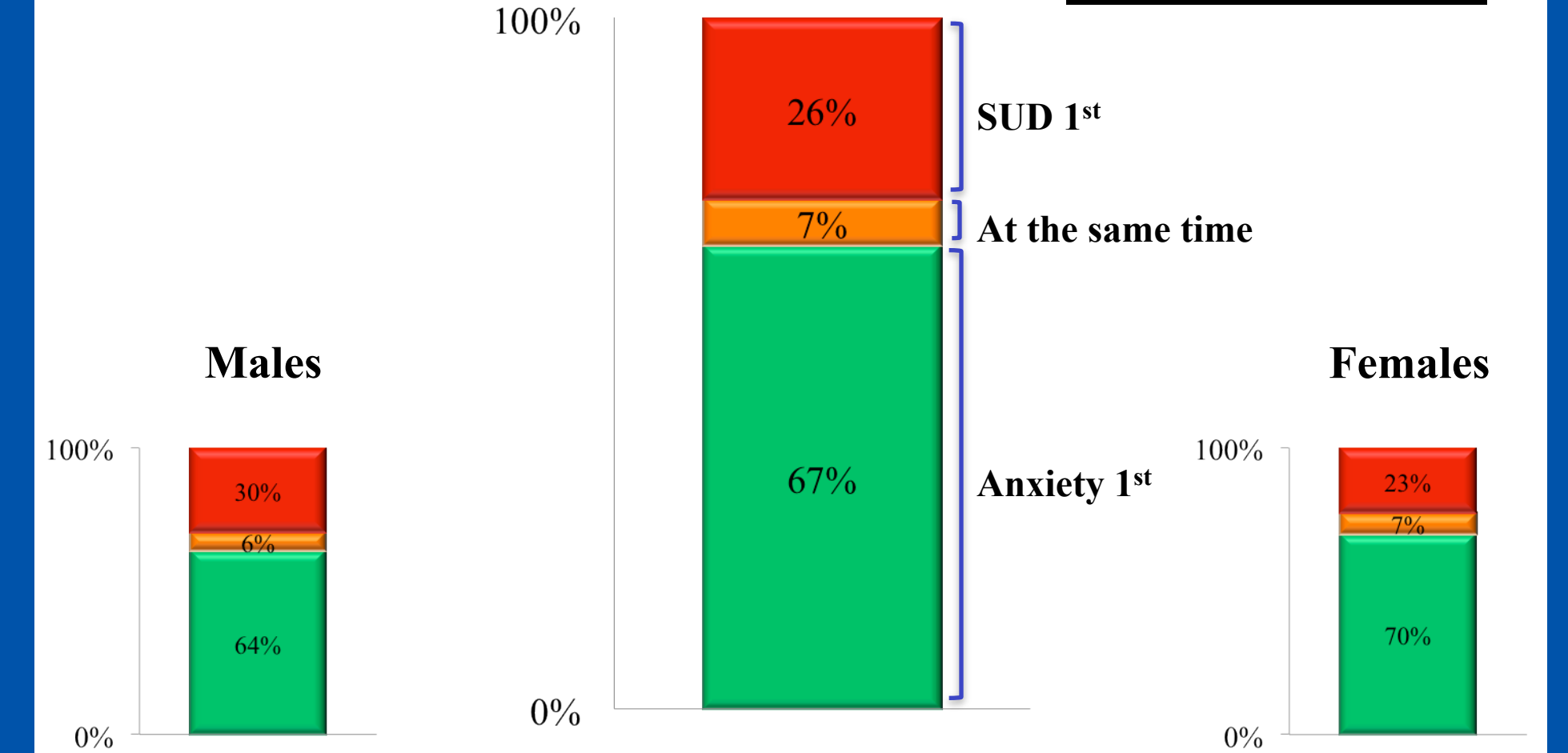
When people have mood and substance use disorders which comes first?

Males: Mood 1st 21%, At the same time 8%, SUD 1st 71%
Females: Mood 1st 52%, At the same time 10%, SUD 1st 38%
(center): Mood 1st 32%, At the same time 9%, SUD 1st 59%
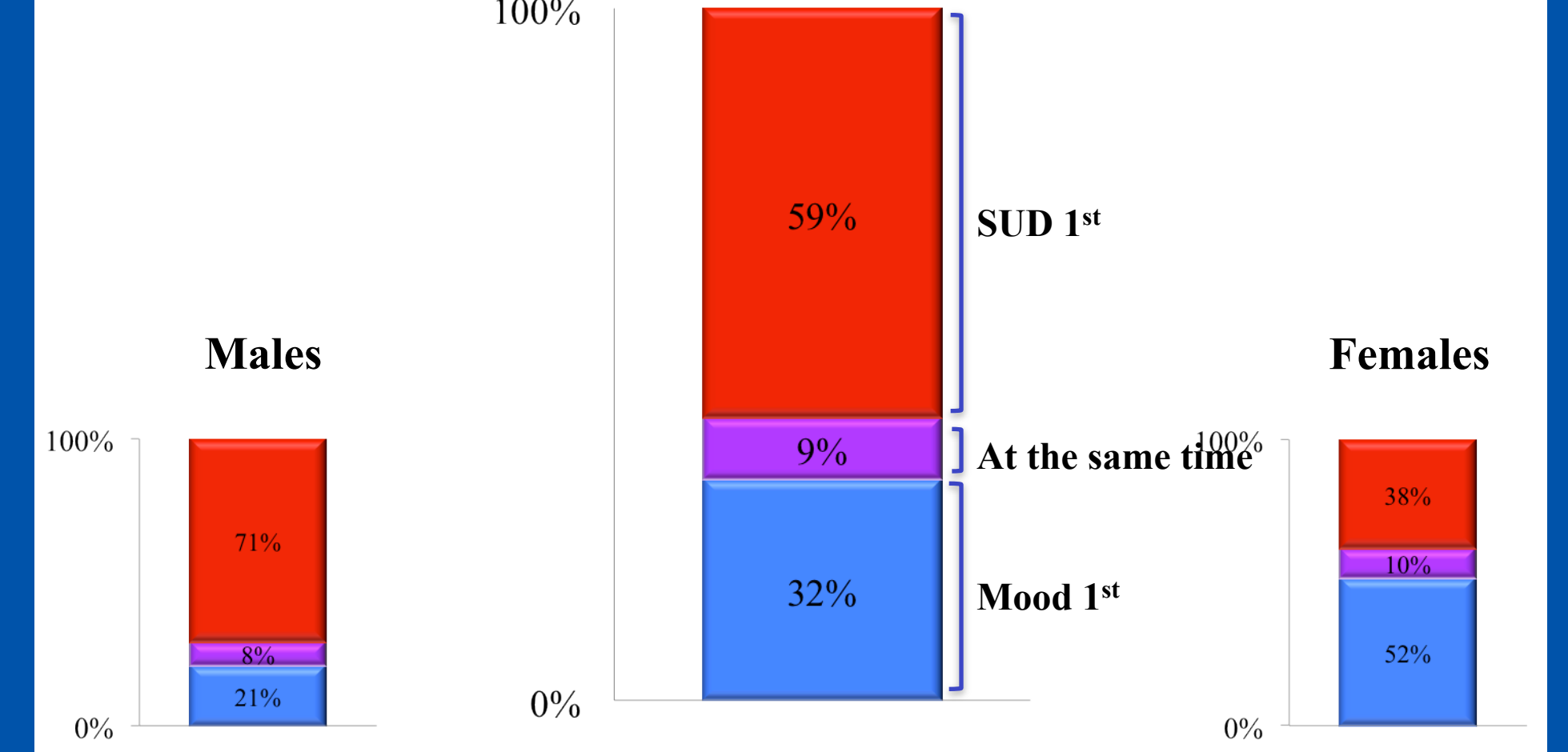
Conclusion

- Comorbidity is more common than chance
- Higher prevalence of comorbidity in females explained by:
  - Higher prevalence of both mood and anxiety disorders in females, AND
  - Higher prevalence of comorbidity of mood and anxiety disorders
- Anxiety disorders are typically primary when they are comorbid, but there are important sex differences in sequencing of comorbidity
- These findings have implications for:
  - Prevention - tells us who and when to target
  - Etiology – tells us about potentially common vulnerabilities to both individual and comorbid forms of disorder
  - Nosology – reveals ways of structuring mental disorders in our classification systems