Integrating the care of mental and chronic physical conditions: why it makes sense

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Perspectives on integrative care..

- What are the key messages of this report?
- How do they reflect the extant situation in low- and middle-income countries?

The World Mental Health (WMH) Surveys

- A series of community-based epidemiological studies conducted in >20 countries across the world
- Provide data on nationally or regionally representative samples using identical ascertainment tools in face-to-face interviews
- Assess a broad range of mental and physical conditions in adults
- Allow for comparisons between countries at different development levels

Key message: Mental disorders often co-occur with chronic physical disorders…

Adjusted odds ratio for mental disorders for persons with chronic pain conditions in the prior 12 months in the WMH Surveys

	Arthritis	**Spinal pain**	**Headache**
Mood Disorders			
MDD	1.9(1.7-2.1)	2.3(2.1-2.5)	2.8(2.5-3.1)
Dysthymia	2.4(2.0-2.7)	2.8(2.5-3.2)	3.2(2.8-3.8)
Anxiety Disorders			
GAD	2.3(1.9-2.6)	2.7(2.4-3.1)	3.3(2.9-3.8)
Agoraphobia or panic disorder	2.2(1.9-2.5)	2.1(1.9-2.4)	2.7(2.8-3.1)
Social phobia	1.8(1.6-2.1)	1.9(1.7-2.2)	2.3(2.0-2.6)
PTSD	1.9(1.6-2.2)	2.6(2.2-3.0)	3.1(2.7-3.6)
Substance Use Disorders			
Alcohol abuse/depend	1.5(1.2-1.9)	1.6(1.4-1.9)	1.4(1.1-1.6)
Drug abuse/depend.	1.8(1.2-2.6)	1.8(1.4-2.4)	2.3(1.7-3.2)

Gureje (2009)

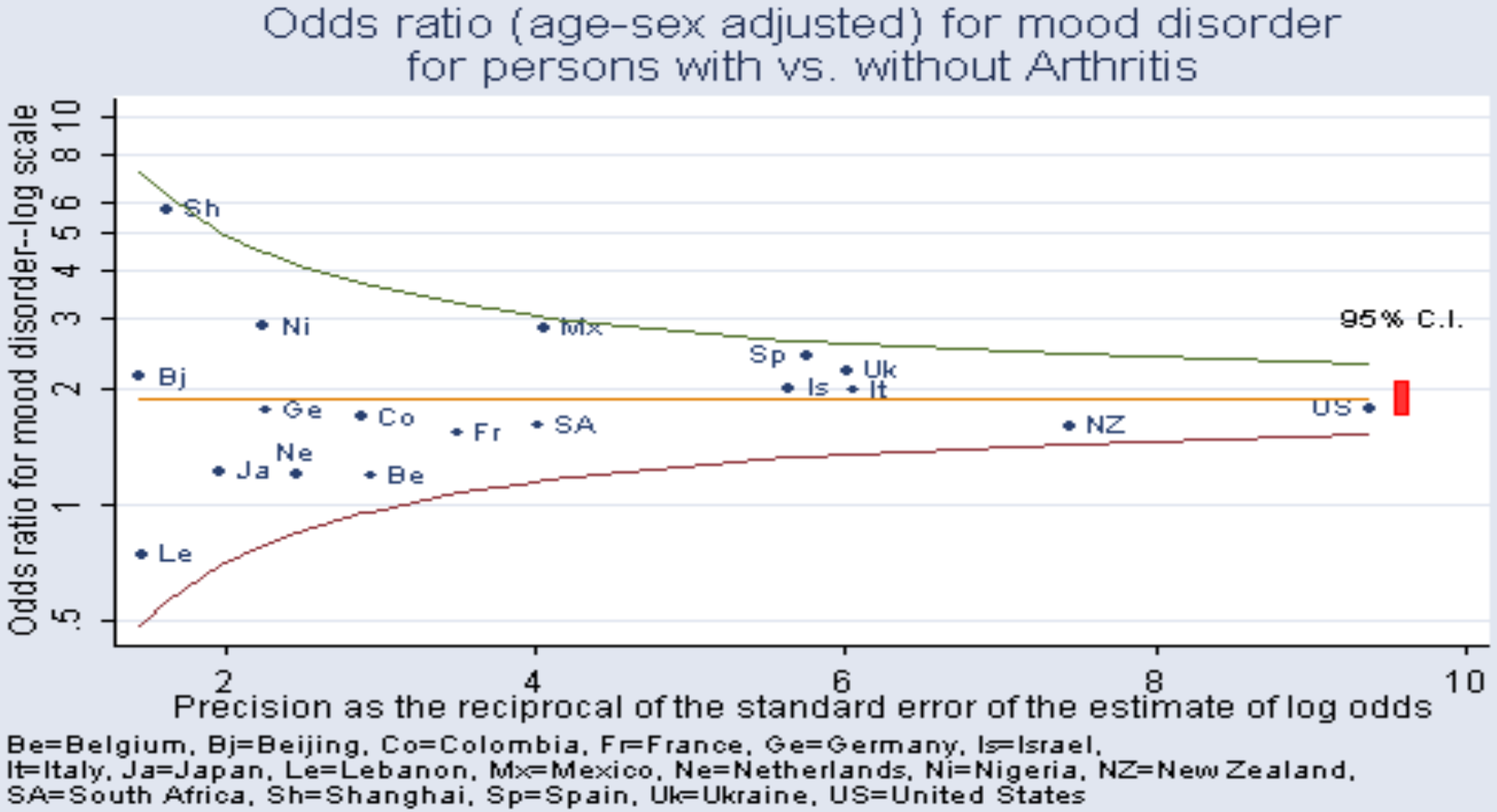
Adjusted odds ratios for mental disorders among persons with physical conditions in the prior 12 months in the WMH Surveys

	Asthma	Diabetes	Heart Diseases	Obesity
Mood Disorders				
MDD	1.6(1.4-1.8)	1.4(1.2-1.6)	2.1(1.8-2.4)	1.1(1.1-1.2)
Dysthymia	1.7(1.4-2.1)	1.3(1.0-1.7)	2.4(2.0-3.0)	1.1(1.0-1.2)
Anxiety Disorders				
GAD	1.7(1.4-2.1)	1.6(1.3-2.0)	2.1(1.7-2.5)	1.1(1.0-1.2)
Agoraphobia or panic disorder	1.7(1.4-2.0)	1.5(1.1-1.9)	2.7(2.2-3.3)	1.3(1.1-1.4)
Social phobia	1.3(1.1-1.5)	1.3(1.0-1.6)	1.9(1.5-2.5)	1.0(0.9-1.2)
PTSD	1.8(1.4-2.3)	1.3(1.0-1.8)	2.3(1.8-2.9)	1.3(1.2-1.5)
Substance Use Disorders				
Alcohol abuse/depend	1.7(1.4-2.1)	1.1(0.9-1.6)	1.4(1.0-1.9)	1.1(1.0-1.2)
Drug abuse/depend.	1.9(1.4-2.6)	1.8(0.9-3.6)	2.7(1.5-4.9)	1.0(0.9-1.2)

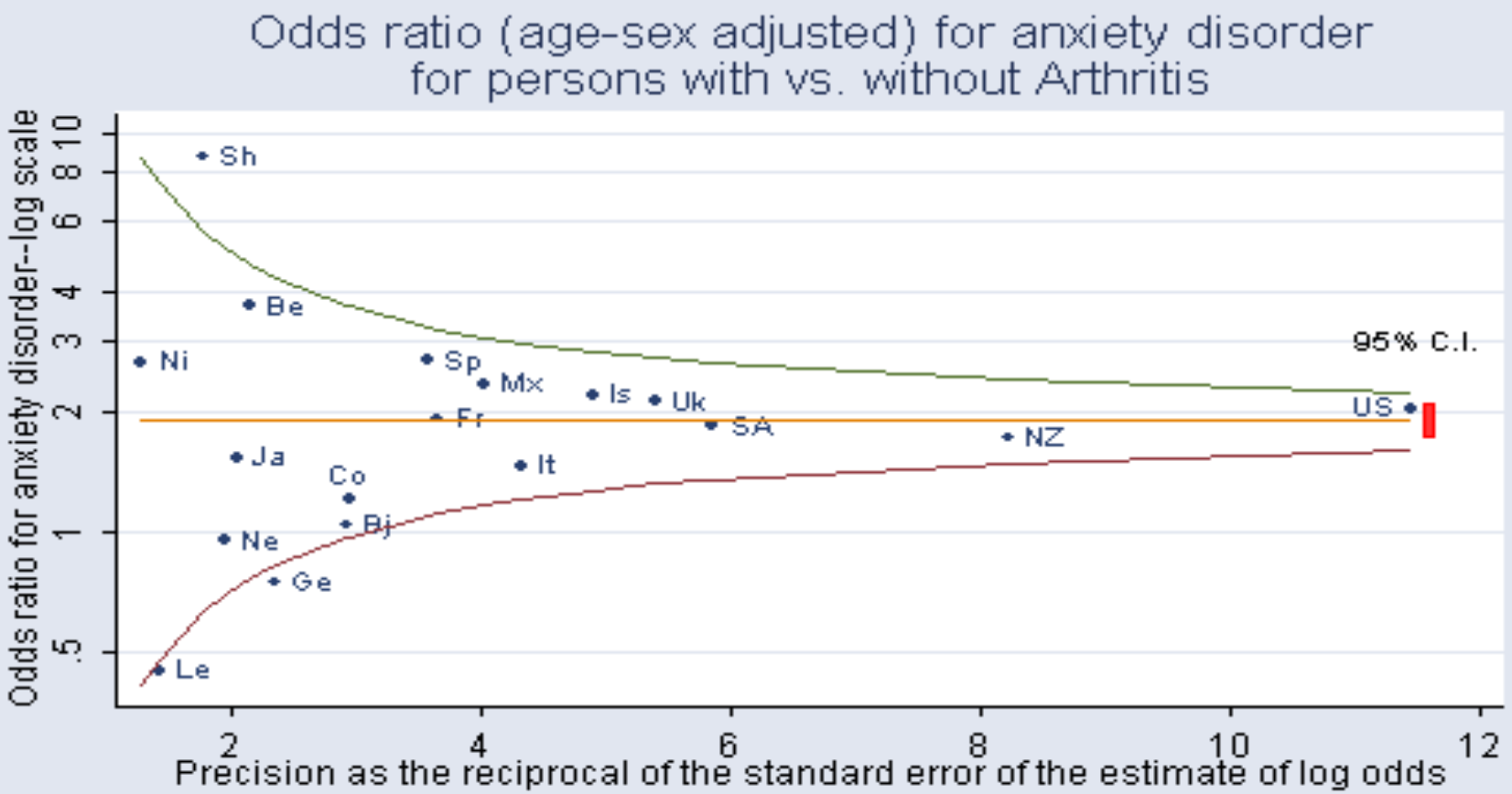
Gureje (2009)

How consistent are these results across the participating countries, developed and developing?

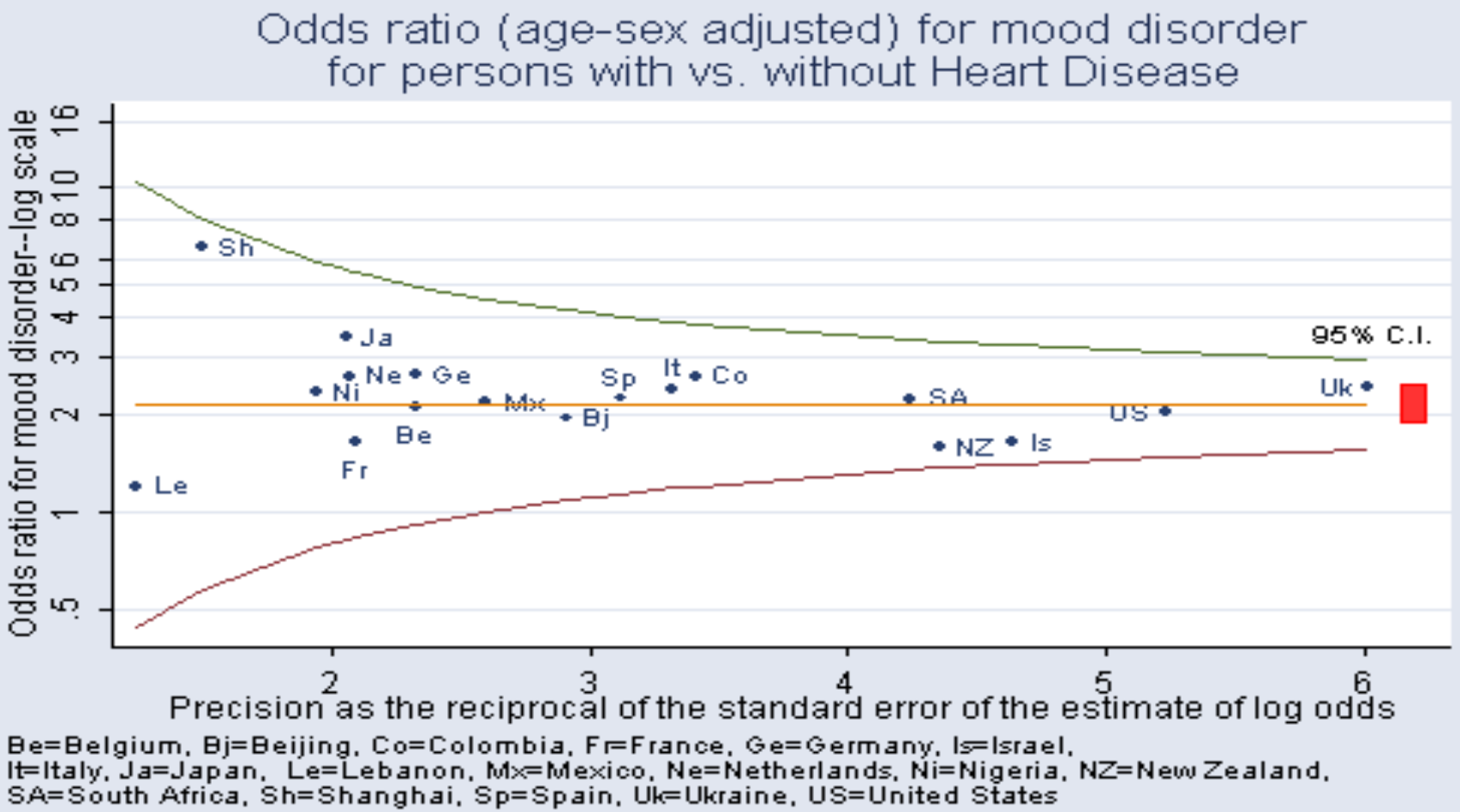
Estimates of the odds ratios for any mood disorder for persons with versus without arthritis



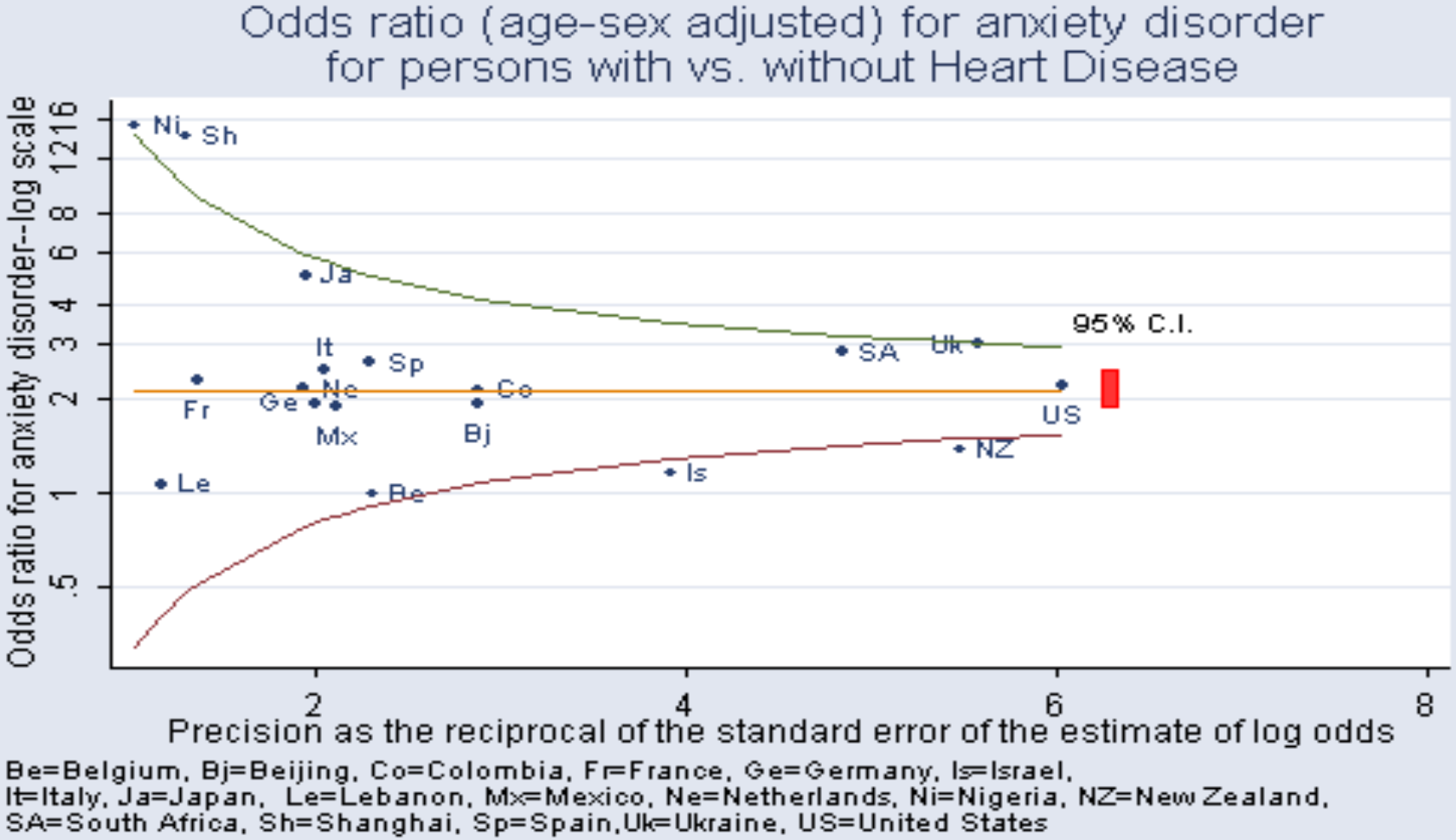
Estimates of the odds ratios for any anxiety disorder for persons with versus without arthritis



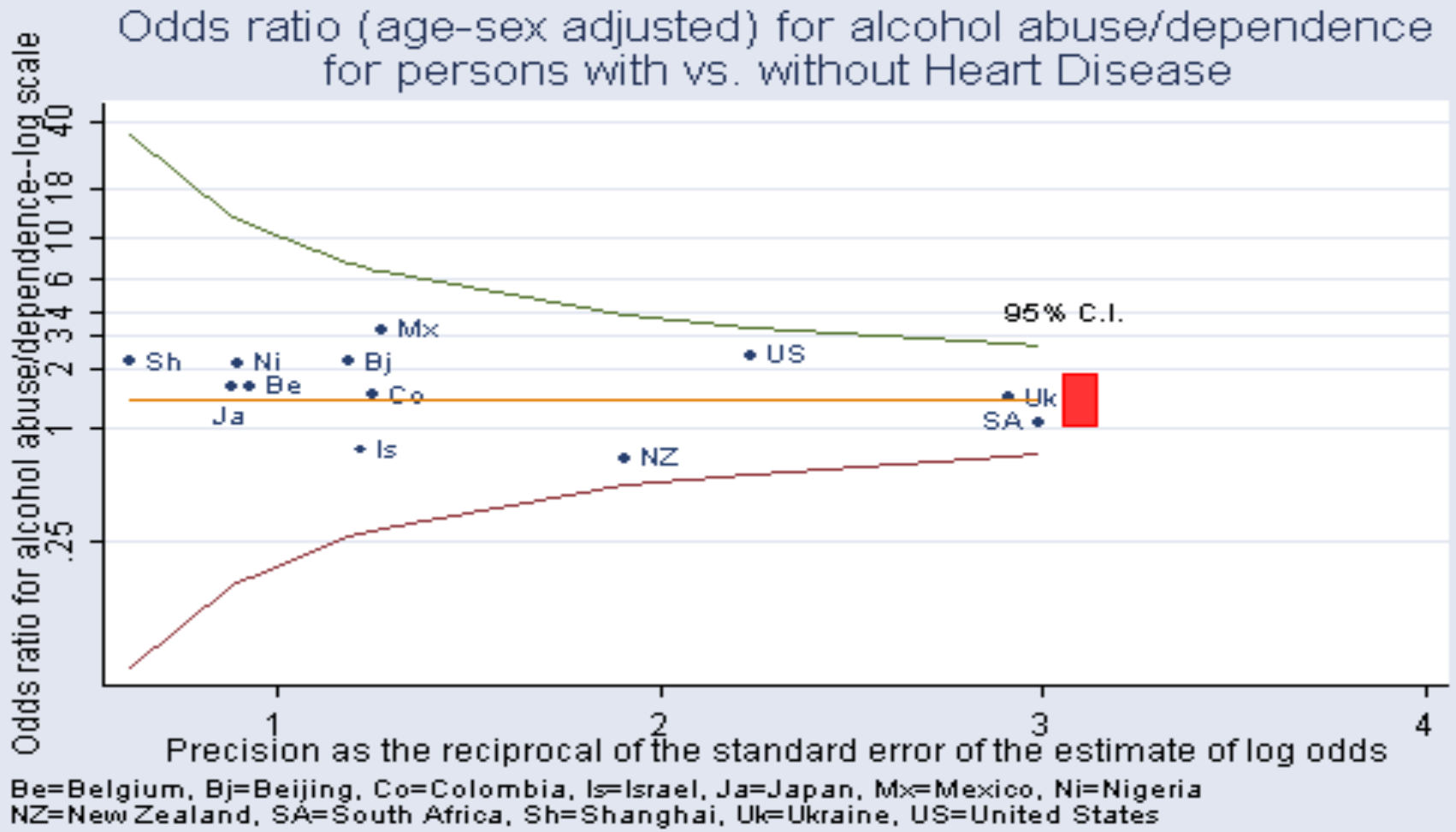
Estimates of the odds ratios for any mood disorder for persons with versus without heart disease



Estimates of the odds ratios for any anxiety disorder for persons with versus without heart disease



Estimates of the odds ratios for alcohol abuse/ dependence for persons with versus without heart



The nature of the comorbidity

- The presence of chronic physical conditions is associated with elevated likelihood of comorbid mental disorders
- Mood and anxiety disorders are the more commonly co-occurring conditions but there is evidence also for elevated occurrence of alcohol use disorders
  - Indeed, same is likely to apply with most other disorders were we to study them
- There is no evidence of specificity between particular physical conditions and particular mental disorders
- The associations are broadly similar across diverse countries and cultures

Bidirectional link between mental and physical disorders

- Longitudinal studies support the possibility that mental disorders are as likely to precede physical disorders as the reverse is likely to happen

Examples of studies demonstrating bidirectionality

- A study conducted in primary care in 15 countries (Gureje et al. 2001):
  - 12-month risk of:
    - Incident depression among subjects with persistent pain at baseline: Adjusted OR 2.33 (95% CI 1.51 – 3.59)
    - Incident persistent pain among subjects with depression at baseline: Adjusted OR 2.18 (95% CI 1.42 – 3.34)
- A study conducted in 6 US counties (Golden et al. 2008)
  - 3 year risk of:
    - Incident depression among subjects with diabetes at baseline: Adjusted OR: 1.54 (95% CI 1.13 – 2.09)
    - Incident diabetes among subjects with depression at baseline: Adjusted OR 1.10 (95% CI 1.02 – 1.19)

Key message: mental and chronic physical disorders often **"share many underlying causes…."**

Example: Evidence for a shared distal origin…

- Provided by studies linking adverse childhood experience (ACE) with a broad range of mental disorders as well as physical disorders

Bivariate association between childhood adversities and mental and substance use disorders (Oladeji et al. 2010)

Adversity	**Mood disorders OR (95% CI)**	**Anxiety disorders OR (95% CI)**	**Alcohol use disorders (95% CI)**
Physical abuse	2.3(1.4-3.7)*	1.3(0.6-2.7)	4.5(2.2-9.4)*
Sexual abuse	3.2(0.6-18.3)	1.3(0.2-9.5)	NA
Paternal anxiety disorders	2.1(0.9-5.1)	1.1(0.3-3.9)	11.1(2.1-59.2)*
Paternal depression	2.1(1.1-4.3)*	1.0(0.3-3.1)	4.8(2.3-10.2)*
Maternal anxiety disorder	3.8(1.8-8.1)*	3.2(1.0-10.4)*	5.2(2.1-13.1)*
Maternal depression	3.7(1.8-7.5)*	1.4(0.7-2.7)	3.5(1.8-6.7)*
Household conflict	1.9(1.1-3.1)*	1.0(0.6-1.9)	2.0(1.2-3.4)*
Irregular meals/hunger	3.4(1.7-6.8)*	2.5(0.9-7.0)	4.6(1.9-11.0)*

*$p < 0.05$

Effects of childhood adversity on risk of ***adult-onset of asthma*** (21 years and over), with and without adjustment for depression/anxiety disorders

	Hazard ratios (95% CI) for adult-onset asthma (adjusted for age, sex, current smoking, country)	
	Without adjustment for current (12-month) depressive/ anxiety disorder	**With adjustment for current (12-month) depressive/ anxiety disorder**
1 childhood adversity	1.2(1.0 -1.6)*	1.2(1.0 -1.5*)
2 childhood adversities	1.5 (1.1 - 2.1)*	1.4 (1.0 – 2.0)*
3+ childhood adversities	1.7 (1.1 - 2.6)*	1.5 (1.0 - 2.2)*

Scott et al. 2007

ACE important not just for disorders, but also for risk factors…

- *Compared to those who had experienced none, persons who had experienced four or more* categories of childhood adverse exposure had
  - 4 - 12-fold increased risk for:
    - smoking, poor self-rated health, risky sex behaviour, and sexually transmitted disease;
  - 1.4- to 1.6-fold increased risk for:
    - physical inactivity and severe obesity.

Felitti et al. 1998

Key message: mental and chronic physical disorders often **"share many ..... overarching consequences"**

Yes, but mental disorders are worse...

Profile of disability due to physical and mental disorders in the World Mental Health Survey countries

Conditions		Proportion rated as severely disabled	
		High-income	Low- and middle-income
		%(se)	%(se)
Physical disorders	Arthritis	23.3 (1.5)	22.8 (3.0)
	Asthma	8.2 (1.4)	26.9 (5.4)
	Cancer	16.6 (3.2)	23.9 (10.3)
	Diabetes	13.6 (3.4)	23.7 (6.1)
	High blood pressure	5.3 (0.9)	23.8 (2.6)
Mental disorders	Bipolar disorder	68.3 (2.6)	52.1 (4.9)
	Depression	65.8 (1.6)	52.0 (1.8)
	GAD	56.3 (1.9)	42.0 (4.2)
	Panic disorder	48.4 (2.6)	38.8 (4.7)
	PTSD	54.8 (2.8)	41.2 (7.3)

And effect of co-occurrence is synergistic, not additive…

Odds of WHODAS disability score ≥90th percentile

	Physical condition only	**Mental Disorder only**	**Mental disorder + physical condition**	**Synergy Index (SI)[3]**
Physical condition	***OR (95% CI)***	***OR (95% CI)***	***OR (95% CI)***	***OR (95% CI)***
Diabetes	1.8(1.5,2.1)*	3.8(3.5,4.2)*	8.8(6.9,11.1)*	2.2(1.6,2.9)*
Respiratory disease	2.0(1.7,2.3)*	3.9(3.6,4.3)*	6.1(5.0,7.4)*	1.3(1.0,1.7)*
Headache	2.4(2.1,2.7)*	3.8(3.5,4.2)*	6.6(5.8,7.6)*	1.3(1.1,1.6)*
Heart Disease	2.7(2.3,3.2)*	4.0(3.7,4.3)*	6.9(5.7,8.4)*	1.2(1.0,1.6)
Arthritis	2.5(2.2,2.8)*	4.0(3.5,4.4)*	8.1(7.0,9.3)*	1.6(1.3,1.9)*
Back or neck pain	3.4(3.0,3.8)*	4.0(3.6,4.5)*	9.2(8.1,10.4)	1.5(1.3,1.8)*

Also…

- … comorbid physical condition impairs response of mental disorders to treatment
  - Example: One of the strongest predictors of poor treatment response among patients with depression is chronic and disabling pain (Thielke et al. 2007)

Paradoxically, even though mental disorders are more disabling, they are less likely to be treated…

12-month prevalence of treatment in high-income and low- and middle-income World Mental Health survey countries

Conditions		High-income %(se)	Low- and middle-income %(se)
Physical disorders	Arthritis	50.9 (1.8)	46.6 (4.1)
	Asthma	51.0 (3.7)	61.4 (5.4)
	Cancer	51.8 (5.2)	59.6 (10.2)
	Diabetes	94.4 (1.2)	76.6 (5.7)
	High blood pressure	90.2 (1.4)	69.8 (2.7)
Mental disorders	Bipolar disorder	29.1 (2.0)	13.4 (3.4)
	Depression	29.3 (1.1)	8.1 (1.1)
	GAD	31.6 (1.8)	7.2 (1.9)
	Panic disorder	33.1 (2.2)	9.4 (2.4)
	PTSD	29.5 (1.9)	8.1 (3.2)

Key message: The principles and practices for the successful scale-up and integration of mental disorders and other noncommunicable diseases are essentially the same as those already being used for HIV/AIDS in many low- and middle-income countries

Some of the principles..

- Proactive case finding
- Monitoring, and follow-up
- Person-centred care practices
- Self-management support
- Multidisciplinary team care
- Continuity of care across different providers, settings, and system levels.

Key message: “The main challenge in the future is not so much to further demonstrate the utility of chronic disease management models, but rather to bring them to scale”

Is that really so? Do we now have all the evidence we need?

Perhaps, not…

- Everyone agrees that primary care should form the main point of an integrative care…

A functional primary health care..

- …..is crucial to any attempt to deliver good health everywhere, especially in LMIC
- Its service will be:
  - First contact
  - Continuous
  - Comprehensive
  - Coordinated

Service use by respondents in different countries in the WMH surveys

	Mental health specialty %	s.e	General medical		Human Services		CAM	
Nigeria	8.3	3.6	66.6	10.0	30.9	10.1	1.1	1.1
China	18	5.9	68.5	7.1	7.4	3.7	21.2	7.2
South Africa	16.3	2.2	66.4	2.5	24	1.9	23.8	2.1
Mexico	53.6	4.2	33.1	4.0	6.2	2.0	20	3.4
Germany	48.5	4.8	51.7	5.1	12.2	4.5	7.4	2.5
Japan	42.5	5.5	50.2	8.2	15.0	6.7	11.1	4.7
New Zealand	37.6	1.8	66.5	1.8	11.5	1.1	19	1.7
USA	48.8	1.7	51.8	1.3	18.8	1.1	15.6	1.0

But integration is not without its difficulties in LMIC…

- Including but not limited to:
  - The best way to engage a service that is often already overburdened to deliver person-centered care
  - How to provide supervision and specialist support
    - Especially in the context of secondary care that is not itself trained to deliver mental health care
  - How to provide continuity of care within a multidisciplinary framework
    - With the reality of extremely low human resources in mental health care

So....

- In spite of emerging evidence from LMIC that primary care can be an effective way to scale up mental health service, there is still a great need for evidence on how to
  - Strengthen primary care system to incorporate mental health service delivery to existing physical health programmes (CDs, NCDs, reproductive health, etc)
  - Use cost-effective interventions

For example…

- Even in the context of mhGAP-Intervention Guidelines which provide information on how non-specialists can become better able to treat mental health conditions there remains questions about:
  - What is the best tool for aiding such workers in the recognition of the disorders (e.g. which screening tool (or tools) to use?)
  - Who provides the training?
    - Especially in settings where there either few or no specialists?
    - Will a cascade model of training work (e.g retain quality?
  - What is the best way to access support and supervision by providers in far-flung primary care facilities
    - E.g. what is the viability and feasibility of using readily available modern technology (e.g. mobile phone) to link providers with potential supervisors?

The project EXPONATE

1. To develop an intervention package that aids the recognition and treatment of perinatal depression in primary maternal care
2. Test the effectiveness and cost-effectiveness of the intervention package in a cluster randomized controlled trial
3. Make the package ready for scaling up services for perinatal depression in Sub-Saharan Africa

Research Question

- Is a stepped-care intervention program for perinatal depression delivered by ***midwives***, in which medical and specialist support is provided with the use of readily available technology more effective and cost-effective than care as usual at improving the clinical outcome of mothers and their infants?

A stepped care model…

- ….seeks to maximize the efficiency of the health service by deploying available resources strictly according to needs. In this model, those who have more severe or complex problems are offered greater resources (e.g. consultation to a physician or a specialist) in order to receive more intense interventions than those with less severe problems.

Treatment gap

- Serious cases receiving no treatment in the prior 12 months
  - **Developed countries - 35.5 to 50.3 %**
  - **LMIC - 76.3 to 85.4 %**
    - **South Africa : 74%**
    - **Nigeria : 79%**
      - **Among treated cases, only 10% received minimally adequate treatment**

WHO World Mental Health Survey Consortium, JAMA 2004

The story is more complicated…

- Proportion treated in the *specialist* mental health sector
  - South Africa
    - Serious 0%
    - Moderate 0%
    - Mild 9.5%
  - Nigeria
    - Serious 16.2%
    - Moderate 4.2%
    - Mild 15.5%

What the figures show…

- Disturbingly high rate of unmet need
  - Even among those with serious illness
- Inefficient use of scarce MH resources
  - Persons with low need receive disproportionate specialist attention
- Most people with mental health conditions are treated by non-specialists, even those with serious disorders
  - But we know non-specialists in general or primary care settings often have poor training in MH
    - For example: in Nigeria only about 10% of treated cases received what can be described as minimally adequate treatment

Modern technology to support clinical care…

- Contextual factors:
  - Scarcity of specialists (even of doctors)
    - For example: Nigeria has less than one psychiatrist to one million people and, in well-served areas, one general practitioner supervising a group of between 8 and 15 primary care clinics
  - Rapid growth of mobile telephony

- How to deploy modern technology in the scaling up of mental health service is not an academic exercise…but needs to be empirically tested for its feasibility and effectiveness

Other challenges of integration..

- Integration will not occur without health reform in LMIC
  - Political will is required
    - How do we generate the necessary political will through engagement and advocacy?
      - How do we build the necessary skills for advocacy?
      - What is the best or at least an effective strategy for reduction of stigma of mentally ill persons?

Major drivers of change…

- Barriers to improvement in service…
  - ..”many national mental health leaders have insufficient public-health skills…(hindering) rapid progress in service development….Only a few international training and exchange opportunities exist to strengthen public mental health skills of leaders.”
  - ..”advocacy for people with mental disorders needs to be substantially improved and expanded.”

Saraceno et al. Lancet 2007

What can be achieved by advocacy and partnership...

- ...the example of HIV
  - Advocacy and partnerships have brought about
    - Better access to treatment
    - Reduced stigma
    - Increased policy attention
    - Higher funding for service and research

All of these speak to the need to develop *knowledgeable* and effective advocacy groups in LMIC

Mental Health Leadership and Advocacy Programme (mhLAP)

- A programme established at the University of Ibadan, Nigeria in 2010
  - Funded by the Australian Aid Agency through the CBM for 5 years
  - Focus: Ghana, Liberia, Nigeria, Sierra Leone, The Gambia
- Designed to:
  - Train mental health leaders
    - Annual 2-week course in public mental health, service development, human rights, advocacy and policy making
  - Develop and support mental health advocacy groups
    - Stakeholders Councils created in each country
      - They develop and implement country-level advocacy goals focusing on identified areas of need


DIRECTORY
MENTAL HEALTH LEADERSHIP AND ADVOCACY PROGRAMME (mhLAP)
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What has mhLAP achieved..1?

- Some process indicators
  - Trained more than 40 MH leaders (including service providers, service users, policy makers, NGO executives)
  - Functional Stakeholders Councils established in the 5 countries
    - Mobilizing important opinion leaders in each country
  - Actively engaged with senior policy makers

What has mhLAP achieved..2?

- Some outcome indicators
  - Ghana:
    - Actively involved in the formulation of the new MH legislation
  - Sierra Leone:
    - Involved in the development of a new policy and the MH strategic plan
  - Nigeria
    - At least one state in Nigeria committed to improved supply of psychotropic medications
      - Motivated by a Director of Primary Care Services who attended the course

Finally..

- An integrated care may possibly allow us to provide holistic care and avoid some of the more harmful consequences of Cartesian mind-body dualism:
  - Under-recognition and treatment of
    - Mental disorders among persons presenting with physical disorders
    - Physical disorders among persons presenting with mental disorders

“Shedding the chains of Descartes”

- “No philosophical concept has been so widely influential in our field or as potentially pernicious in its effects as that of Cartesian dualism”

  - Kenneth Kendler, 2006

Thank you for listening!