## Supplemental file (online only)

Summary of challenges and strategies in implementing the Collaborative Care Model for mental health services using the World Health Organization Health Systems Framework

Categories/Challenge	Strategies
Leadership/governance	
Health system leadership deprioritizing mental health	Correct misconceptions about burden of disease and treatment efficacy  Integrate mental health services in priority areas like HIV/AIDS, maternal and child health and humanitarian responses.
Lack of regulatory environment to support high quality mental health care	Support legal and other avenues to ensure parity of mental health care with other services.  Build mental health quality standards into the healthcare system
New roles for psychiatrists in CoCM	Leadership of professional societies and health medical training institutions supports this new role
Health care financing	
Low budget allocation for MH	Emphasize high economic returns on mental health services  Emphasize improved outcomes in comorbidities such as HIV, TB, maternal and child health, and diabetes.
User fees limit access to care for the most vulnerable patients	Support universal health care or other insurance mechanisms to avoid point-of-care fees
Health Workforce	
Lack of healthcare workforce to work as on-site CMs	Train existing health workers with transferable skills and support standardized training for counselors and care managers.
Psychiatrists not available for consultation and supervision	Recruit part-time, visiting and off-site psychiatrists, with particular emphasis on academic clinicians.

Lack of training for Psychiatrists in CoCM	Develop specialized training for LMIC-based psychiatrists on CoCM. Early career psychiatrists may be more interested in CoCM vs traditional model.
PCP absenteeism and turnover	Preferentially train and support non-physician clinicians, who are more likely to be retained.  Emphasize overall health systems strengthening and team culture, which outlast individual health workers
Substantial variation in prior mental health	Provide standardized training for PCPs after
training among PCPs, and lack of any mental	graduation but also support standard mental
health training in some medical schools.	health curricula in medical and other health professional schools
PCPs are concerned about being overburdened	Share certain tasks (e.g. hour-long psychosocial
with new clinical tasks.	assessment) with BHPs.
	Emphasize that CoCM replaces non-evidence-
	based care that is currently being delivered to
	mental health patients already in their clinic.
Medical products and technologies	
Stock-outs of essential psychotropic medications	Strengthen overall supply-chain and inventory management
Lack of diagnostic tools to rule-out other illnesses	Strengthen overall diagnostic capacity
Information and Research	
Lack of Medical Records to track patients in CoCM	Strengthen overall record-keeping
Lack of communication systems for tele- consultation	Strengthen overall communication infrastructure
Cross-culturally valid scales and tools	Utilize research from social sciences
Service Delivery	
Poor follow-up among patients	Utilize community health workers to facilitate follow-up
Lack of continuity of care with the same provider	BHPs, community health workers and psychiatrists
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because of urgent care model in clinics	provide continuity of care
Lack of availability of intensive treatment services	Partner with referral centers and assist patients
like inpatient and day-hospitals	and families in navigating the system in urban
	centers
Additional Challenges (not captured by the WHO	
framework)	
Lack of social services to support patients while	Partner with non-health organizations that provide
they receive concurrent mental healthcare	support for victims of domestic violence, child
services	abuse and food insecurity.
	Advocate for social services alongside health
	services.
Persistent stigma in the community, among	Deliberately address stigma across the spectrum,
patients and healthcare providers	while simultaneously providing high-quality,
	effective treatment, which helps reduce stigma.

CoCM: Collaborative Care Model PCP: Primary Care Provider

CM: Care Manager

WHO: World Health Organization