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Pathway to Clinical Diabetes Services in COVID-19 Era: What Has Changed and What Are the Implications?

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BACKGROUND: The known barriers to delivering clinical NCD services in lower-middle-income countries (LMICs) have been exacerbated with the onset of COVID-19. Health facility-instituted COVID-19 control measures could compromise the pathway for seeking care and impact chronic disease care that needs to be examined for future policy direction.

AIM: This paper examines the changes COVID-19 has brought to diabetes service delivery in LMICs, using Ghana as a case study, and raises questions on the implication of such changes on the individual- and population-level diabetes treatment outcomes by exploring service provider perspectives. Ghana first recorded COVID-19 cases in March 2020, and from April, the government started implementing lockdown measures as well as closing hospitals' outpatient services, including diabetes clinics and other NCDs services.

METHOD: We conducted eighteen semi-structured personal interviews with healthcare providers in primary, secondary and tertiary facilities within the Ghana Health Service. The topic guide was developed from a literature review conducted for this study and addressed issues such as COVID-19 and service organisation, staffing, referrals, patient concerns, data management and insurance. The interviews were conducted between November 2020 and February 2021, when outpatient services, including diabetes clinics, resumed operations. The analysis was performed using inductive and deductive methods in NVivo 1.4.1.

RESULTS AND DISCUSSION: The study found that suboptimal patient appointments and reminder systems result in overcrowded diabetes clinics, further increasing the risk of COVID19 epidemic in hospitals. Tackling overcrowded diabetes clinics is urgently needed with the potential for patients and providers becoming infected with COVID-19. Engineering controls, e.g. fans instead of air conditioners to improve air circulation and ventilation, can help minimize transmission in hospital buildings. COVID-19 controls, e.g., extended time intervals between reviews, fewer appointments per clinic day, and shorter consultation durations, limit opportunities for clinicians to intervene in patients' conditions and consequently lead to poor treatment

outcomes. Health systems need to investigate the cost effectiveness of such controls to support policy decisions.

National health insurance and drug policies limit health facilities and diabetes patients access to medicines in the COVID-19 era. Restrictions on the procurement and sales of insured medicines to patients contributed to the shortage of diabetes medication. Granted permission to procure medicines on the open market, a limit on the profit margin to put on medicine cost can result in a loss for health facilities.

Known diabetes service delivery challenges, e.g. few trained providers, high treatment cost, and drug shortage, were aggravated, particularly in ambulatory care, during the pandemic. The UK and Italy adapted Facebook chatting, video tele-consultation and government websites for delivering diabetes care during the COVID-19 pandemic. However, we are aware that resource constraints may limit the implementation of similar strategies in LMICs.

Our study suggests that COVID-19 presents additional challenges and worsens existing barriers to diabetes service delivery for clinicians and people living with diabetes. These challenges could have negative implications for population-level diabetes treatment outcome, interfering with the sustainable development goals. Further research remains to assess the effect of COVID-19-related structural changes on treatment adherence and outcomes in practice.