




		Strengths	Challenges
	Data Availability	Basic cell phone penetration is high in most developing countries and therefore large amounts of CDR data is generated and recorded for billing purposes by the MNO.	Some populations of interest (displaced populations) may not use mobile phone service
	Spatial and Temporal Resolution	The spatial resolution of CDR data is generally equivalent to the catchment zone of the nearest cell tower (e.g. 1km +). The temporal resolution is driven by the amount of call/text events per day.	NA
	ICT Infrastructure	Volume and quality of MNO data depends on the technologies and policies used by the MNO.	NA
	Data Privacy and Security	MNOs utilize safeguards to de-identify, aggregate, and securely provision data for policy analysis.	Safeguards and privacy preserving methods are needed to anonymize and aggregate the data to prevent re-identification and to ensure responsible use of the data, which is particularly important in areas of high fragility, conflict, and violence.
	Data Accessibility	NA	While CDR data is collected by MNOs, it may not be readily accessible or archived. Specialized high performance computing and data management software needs to be provisioned on the MNO network to extract, process, and archive CDR data for analysis. Further, data sharing arrangements and the correct infrastructure needs to be in place on MNO networks to enable consistent access and responsible use of the data.

	Data Quality	NA	CDR data quality is compromised by inconsistent usage patterns, such as multiple SIM cards used by one user, or multiple users using one SIM card. Technical issues can introduce noise in the data. Also, subscribers who do not use the phone or populations that reside outside service areas will not be represented in the data.
	Technical Capacity	NA	Data engineering and data science skills are needed to install and maintain high performance computing software on the MNO network to manage, process, and analyze the CDR data for policy insights.
	Cost-Effectiveness	MNO data is an always on, cost-efficient, and flexible data source for policy applications once the initial investments in data infrastructure and sharing arrangements are in place.	Significant upfront costs are involved with provisioning the data infrastructure and legal arrangements needed to set up and maintain data pipelines to extract, process, and analyze CDR data for policy insights.

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