



Analyzing Contraceptive Access and Use

Studies have identified positive relationships between geographic proximity to family planning services and contraceptive use, but have not accounted for the effect of contraceptive supply reliability or the diminishing influence of facility access with increasing distance.

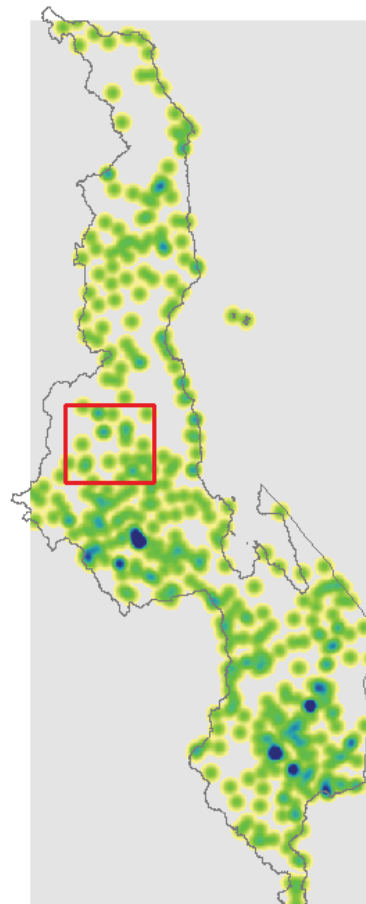
In an activity conducted in conjunction with MEASURE Evaluation and the USAID | DELIVER projects, geographic information systems were used to link women's use of injectable contraceptives and demand for birth spacing with contraceptive logistics data from family planning service delivery points across Malawi. JSI and partners examined the associations between access to injectable services—measured by distance alone and by distance combined with supply reliability—and injectable use and family planning demand among rural and urban populations.

The study found that access to services was an important predictor of injectable use among rural women. The probability of injectable use among rural women with the most access by both measures was 7-8 percentage points higher than among rural dwellers with the least access. While among urban women, use of injectables was not influenced by access; however, demand for family planning was higher among those with better access as measured by distance and supply.

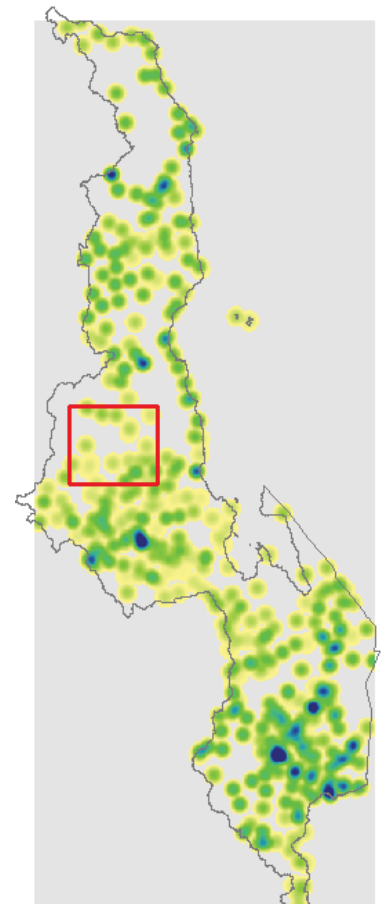
JSI's mapping exercise clearly showed that product availability in the local service environment plays a critical role in women's demand for and use of contraceptive methods. Use of kernel density estimation in creating facility service environments provides a refined approach to linking women with services and accounts for both distance to facilities and supply reliability.

Kernel Density Estimation (KDE) is a technique used to distribute a value associated with a discrete point across a plane or continuous surface.

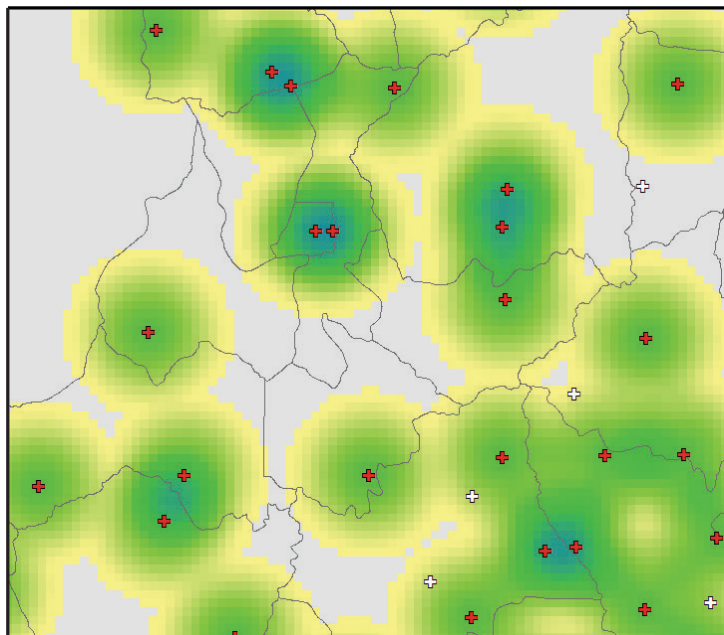
KDE Surface:
Distance Only



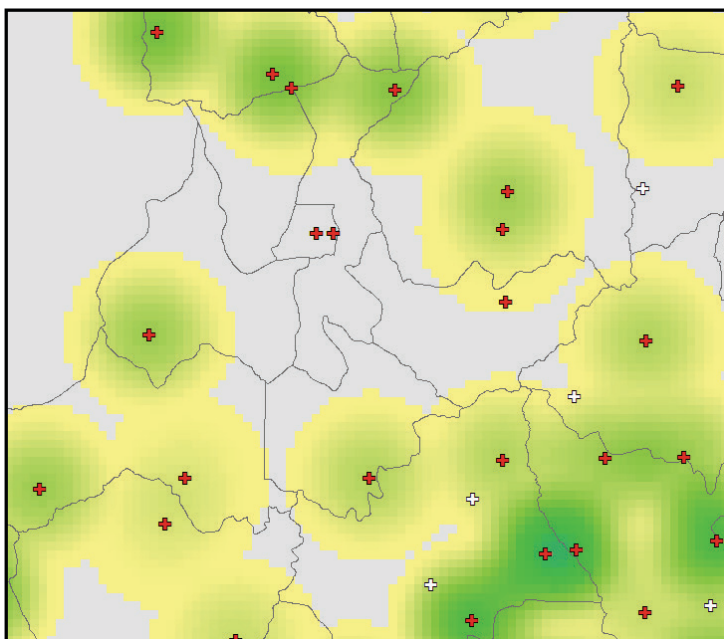
KDE Surface:
Distance + Supply



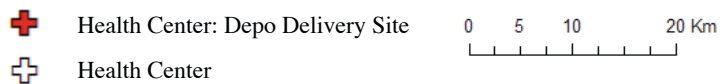
Kernel Density Estimation: Access



KDE Surface: 10Km radius around all Depo Service Delivery Sites.



KDE Surface: 10Km radius around Depo sites using weighted variable representing Depo-Provera supply.



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