**Introduction**: An earthquake affected Iquique city, northern Chile in 2014. Vulnerable local communities and immigrants were affected by this extreme event and healthcare services were damaged. Iquique has a growing immigrant population (15% of city population) and we currently have scarce understanding on how access to healthcare was affected among deprived immigrants after this event.

**Objective**: To characterize the access to healthcare services after the earthquake among deprived immigrants.

**Methodology**: We identified deprived immigrant’s allocation at census block level (Census 2012), considering the following variables: i) disability, ii) low level of education, iii) unemployment. For measuring the spatial access to healthcare we used two indicators (GIS): i) distance to corresponding facility (before event), ii) distance to closest available facility (after event).
**Results:** After the earthquake two primary healthcare centers were closed: i) Videla (northern of Iquique) and ii) Guzman (center). These areas also concentrated deprived immigrants. After the earthquake, in the first case (Videla) the average distance to closest facility reached 2 kilometers (originally it was 1 kilometer), while the second case (Guzman) did it in 0.4 kilometers (0.8-1.2). Furthermore, in the first case the maximum distance was duplicated (2-4 kilometers) meanwhile maximum distance remained for the second case.

**Conclusions:** Even when the earthquake damaged both centers, the service located in the north was highly affected, reducing the spatial accessibility of the most deprived immigrants. This result suggests the importance of developing territorial and health strategies in order to mitigate the impact of natural disasters among the most vulnerable population.