

Table 1) boundary matrix of the estimation of the health and sanitation indicators in Kohgiluyeh and Boyer-Ahmad

Indicators	Geometric mean (g)
Rural health and sanitation centers	0.0239
Urban health and sanitation centers	0.0282
Total number of health and sanitation centers	0.0227
Urban health centers	0.0481
Maternity facilities	0.1079
Active health centers	0.0212
Medical laboratory	0.0515
Pharmacy	0.1183
Nuclear medicine institute	0.0379
Rehabilitation centers	0.0781
Urban urgency centers	0.1408
Road urgency centers	0.0315
Number of doctors	0.0550
Number of paramedics	0.0474
Number of general practitioners	0.0405
Number of dentists	0.0490
Number of pharmacists	0.0789
Number of specialists	0.0784
Number of nurses	0.0689
Number of paramedics	0.0499
Number of midwives	0.0483

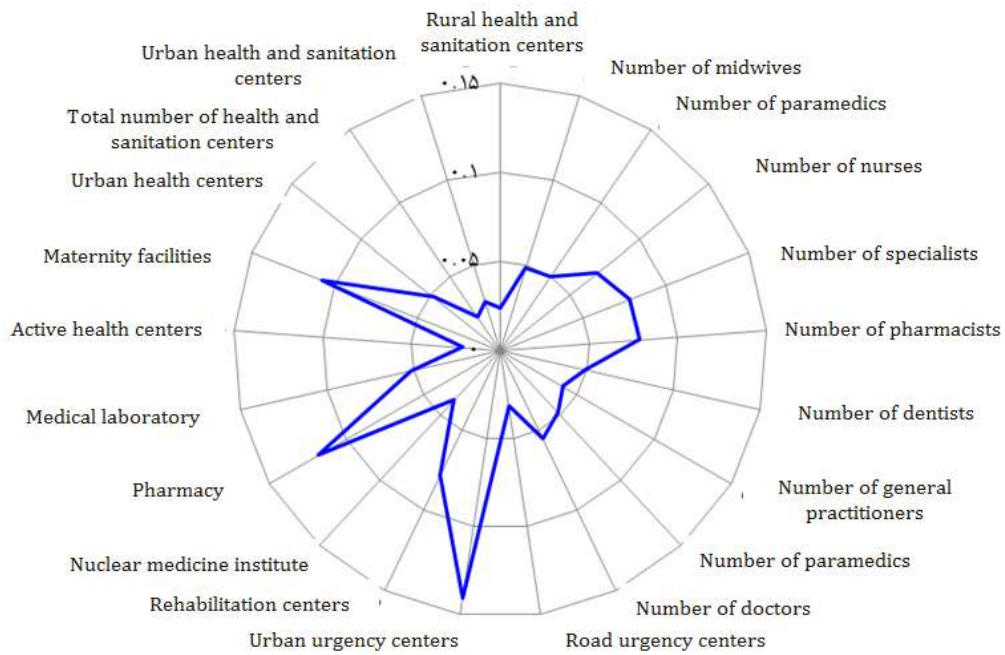


Figure 2) boundary matrix of the estimation of the health and sanitation indicators in Kohgiluyeh and Boyer-Ahmad

Table 2) matrix of distance from estimation area boundaries in Kohgiluyeh and Boyer-Ahmad in 2018

indicators	Boyer-Ahmad	Kohgiluyeh	Gachsaran	Dena	Bahmai	Basht	Choram	Lendeh
Rural health and sanitation centers	0.0132	0.0033	-0.0016	-0.0021	-0.0004	-0.0041	-0.0029	-0.0053
Urban health and sanitation centers	0.0173	0.0108	0.0043	-0.0055	-0.0055	-0.0055	-0.0022	-0.0055
Total number of health and sanitation centers	0.0129	0.0048	-0.0001	-0.0001	-0.0017	-0.0041	-0.0025	-0.0049
Urban health centers	0.0296	0.0113	0.0181	-0.0092	-0.0092	-0.0092	-0.0070	-0.0092
Maternity facilities	0.0388	0.0143	-0.0345	-0.0143	-0.0101	-0.0101	-0.0143	-0.0101
Active health centers	0.0126	0.0078	-0.0023	-0.0016	-0.0017	-0.0026	-0.0029	-0.0043
Medical laboratory	0.0297	0.0128	-0.0111	-0.0075	-0.0041	-0.0109	-0.0075	-0.0109
Pharmacy	0.0845	0.0065	0.0195	-0.0143	-0.0169	-0.0169	-0.0169	-0.0169
Nuclear medicine institute	0.0233	0.0094	0.0122	-0.0045	-0.0073	-0.0073	-0.0073	-0.0073
Rehabilitation centers	0.0500	0.0002	0.0251	-0.0105	-0.0105	-0.0105	-0.0105	-0.0140
Urban urgency centers	0.0929	0.0540	0.0150	-0.0240	-0.0240	-0.0240	-0.0240	-0.0240
Road urgency centers	0.0163	0.0003	0.0056	-0.0003	-0.0023	-0.0023	-0.005	-0.0076
Number of doctors	0.0381	0.0051	0.0030	-0.0040	-0.0078	-0.0078	-0.0063	-0.0085
Number of paramedics	0.0320	0.0048	0.0062	-0.0055	-0.0060	-0.0067	-0.0065	-0.0077
Number of general practitioners	0.0273	0.0054	-0.0021	-0.004	-0.0060	-0.0063	-0.0027	-0.0066
Number of dentists	0.0310	0.0043	0.0026	-0.0007	-0.0057	-0.0057	-0.0074	-0.0090
Number of pharmacists	0.0568	0.0016	0.0059	-0.0068	-0.0111	-0.0068	-0.0111	-0.0111
Number of specialists	0.0557	0.0071	0.0121	-0.0103	-0.0114	-0.0114	-0.0114	-0.0114
Number of nurses	0.0490	0.0063	0.0105	-0.0096	-0.0096	-0.0093	-0.0104	-0.0103
Number of paramedics	0.0305	0.0041	0.0146	-0.0058	-0.0075	-0.0086	-0.0058	-0.0097
Number of midwives	0.0312	0.0099	0.0081	-0.0063	-0.0067	-0.0080	-0.0078	-0.0085

Table 3) (Q) matrix and ranking of kohgiluye and Boyer-Ahmad cities in 2018

	City	Q	Level
1	Boyer-Ahmad	0.733	Privileged
2	Kohgiluye	0.184	Almost privileged
3	Gachsaran	0.133	
4	Dena	-0.110	Deprived
5	Choram	-0.144	
6	Bahmai	-0.165	Very deprived
7	Basht	-0.178	
8	Lendeh	-0.203	