

Results for eight exponential random graph models (M₁-M₈) of networks of HIV and family planning organizations in two sub-cities of Addis Ababa, Ethiopia in May 2011.

	Kirkos		Kolfe Keranyo	
	MLE (s.e.)	Z-score	MLE (s.e.)	Z-score
M ₁ : Uniform homophily, based on organization type	0.521 (0.213) *	-11.963	0.416 (0.219)	1.902
M ₂ : Differential homophily, based on organization type				
<i>FBO</i>	0.847 (0.423) *	2.002	n/a	n/a
<i>Government HC</i>	0.084	0.076	16.989 (629.897)	0.027
<i>Government Hospital</i>	--	--	n/a	n/a
<i>Government HP</i>	--	--	-0.304 (1.101)	-0.276
<i>NGO</i>	0.490 (0.226) *	2.169	0.116 (0.445)	0.261
<i>Other</i>	--	--	16.208 (738.503)	0.022
<i>Private Clinic</i>	n/a	n/a	0.237 (0.265)	0.895
M ₃ : Assortative mixing, based on organization type				
<i>FBO → FBO</i>	1.273 (0.729)	1.745	n/a	n/a
<i>Government HC → FBO</i>	0.041 (0.967)	0.042	n/a	n/a
<i>Government Hospital → FBO</i>	--	--	17.635 (2399.545)	0.007
<i>Government HP → FBO</i>	--	--	0.376 (1.248)	0.301
<i>NGO → FBO</i>	0.594 (0.674)	0.881	1.069 (0.852)	1.256
<i>Other → FBO</i>	--	--	n/a	n/a
<i>Private Clinic → FBO</i>	1.427 (0.865)	1.650	n/a	n/a
<i>FBO Government HC</i>	1.165 (0.806)	1.445	0.376 (1.248)	0.301
<i>Government HC → Government HC</i>	0.511 (1.254)	0.407	18.752 (1712.238)	0.011
<i>Government Hospital → Government HC</i>	--	--	18.229 (1863.921)	0.010
<i>Government HP → Government HC</i>	--	--	0.376 (.747)	0.503
<i>NGO → Government HC</i>	0.511 (0.738)	0.692	0.617 (0.541)	1.142
<i>Other → Government HC</i>	--	--	-0.540 (1.122)	-0.482
<i>Private Clinic → Government HC</i>	n/a	n/a	0.936 (0.439) *	2.134
<i>FBO → Government Hospital</i>	--	--	17.635 (2399.545)	0.007
<i>Government HC → Government Hospital</i>	--	--	18.229 (1863.921)	0.010
<i>Government Hospital → Government Hospital</i>	--	--	n/a	n/a
<i>Government HP → Government Hospital</i>	--	--	1.762 (1.248)	1.412
<i>NGO → Government Hospital</i>	--	--	2.679 (1.122) *	2.388
<i>Other → Government Hospital</i>	--	--	17.972 (2007.458)	0.009
<i>Private Clinic Government Hospital</i>	--	--	19.188 (1648.956)	0.012
<i>FBO → Government HP</i>	--	--	0.376 (1.248)	0.301
<i>Government HC → Government HP</i>	--	--	1.292 (0.713)	1.812

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NGO → Government HP	--	--	-0.540 (0.677)	-0.798
Other → Government HP	--	--	n/a	n/a
Private Clinic → Government HP	--	--	-2.298 (1.045) *	-2.198
FBO → NGO	0.423 (0.681)	0.620	-0.540 (1.122)	-0.482
Government HC → NGO	0.119 (0.775)	0.153	-1.010 (0.788)	-1.282
Government Hospital → NGO	--	--	0.376 (0.899)	0.418
Government HP → NGO	--	--	-0.540 (0.677)	-0.798
NGO → NGO	0.916 (0.636)	1.441	-0.120 (0.495)	-0.243
Other → NGO	--	--	n/a	n/a
Private Clinic → NGO	0.000 (0.864)	0.000	-2.298 (0.759) **	-3.029
FBO → Other	--	--	n/a	n/a
Government HC → Other	--	--	-0.540 (1.122)	-0.482
Government Hospital → Other	--	--	1.069 (1.435)	0.745
Government HP → Other	--	--	n/a	n/a
NGO → Other	--	--	-1.329 (1.072)	-1.239
Other → Other	--	--	17.972 (2007.458)	0.009
Private Clinic → Other	--	--	1.475 (0.516) **	2.855
FBO → Private Clinic	-0.278 (1.210)	-0.229	n/a	n/a
Government HC → Private Clinic	0.511 (1.254)	0.407	-1.570 (0.771) *	-2.037
Government Hospital → Private Clinic	--	--	0.222 (0.731)	0.303
Government HP → Private Clinic	--	--	-1.128 (0.655)	-1.723
NGO → Private Clinic	n/a	n/a	-1.570 (0.571) **	-2.748
Other → Private Clinic	--	--	-0.029 (0.570)	-0.052
Private Clinic → Private Clinic	n/a	n/a	n/a	n/a
M ₄ : Assortative mixing, based on HIV/FP service provision				
Both → Both	-0.156 (0.417)	-0.374	-0.466 (0.469)	-0.963
FP → Both	--	--	-0.228 (0.483)	-0.337
HIV → Both	-0.437 (0.285)	-1.534	-0.647 (0.677)	-1.226
<i>Both</i> → <i>FP</i>	--	--	-2.325 (1.128) *	-2.062
FP → FP	--	--	n/a	n/a
HIV → FP	--	--	-0.767 (1.212)	-0.633
<i>Both</i> → <i>HIV</i>	-0.501 (0.290)	-1.726	-1.116 (0.546) *	-2.043
FP → HIV	--	--	-0.767 (1.212)	-0.633
HIV → HIV	n/a	n/a	n/a	n/a
M ₅ : Node covariance, based on client-to-staff ratio	1.277 ⁻⁴ (7.406 ⁻⁵)	0.172	-8.686⁻⁵ (3.542⁻⁵) *	-2.452
M ₆ : Node covariance, based on client-to-clinical staff ratio	-1.659 ⁻⁴ (7.180 ⁻⁵)	-0.231	-4.740⁻⁵ (2.009⁻⁵) *	-2.359

M ₇ : Node covariance, based on client-to-non-clinical staff ratio	-9.580 ⁻⁵ (1.063 ⁻⁵)	-0.901	-2.472⁻⁵ (1.035⁻⁵) *	-2.388
M ₈ : Edge covariance, based on driving distance	5.500 ⁻⁵ (3.790 ⁻⁵)	1.452	-1.650 ⁻⁵ (2.520 ⁻⁵)	-0.656

Statistical significance codes: '***' ≤ 0.001; '**' ≤ 0.01; '*' ≤ 0.05.

Condensed Summary of ERGM Analysis Results for Network Models (M₁-M₈)

	Kirkos		Kolfe Keranyo	
	MLE (s.e.)	Z-score	MLE (s.e.)	Z-score
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M ₃ : Assortative mixing, based on <i>organization type</i>				
<i>Private Clinic</i> → <i>Government HC</i>	n/a	n/a	0.936 (0.439) *	2.134
<i>NGO</i> → <i>Government Hospital</i>	--		2.679 (1.122) *	2.388
<i>Private Clinic</i> → <i>Government HP</i>	--		-2.298 (1.045) *	-2.198
<i>Private Clinic</i> → <i>NGO</i>	0.000 (0.864)	0.000	-2.298 (0.759) **	-3.029
<i>Private Clinic</i> → <i>Other</i>	--		1.475 (0.516) **	2.855
<i>Government HC</i> → <i>Private Clinic</i>	0.511 (1.254)	0.407	-1.570 (0.771) *	-2.037
<i>NGO</i> → <i>Private Clinic</i>	n/a	n/a	-1.570 (0.571) **	-2.748
M ₄ : Assortative mixing, based on <i>HIV/FP service provision</i>				
<i>Both</i> → <i>FP</i>	--	--	-2.325 (1.128) *	-2.062
<i>Both</i> → <i>HIV</i>	-0.501 (0.290)	-1.726	-1.116 (0.546) *	-2.043
M ₅ : Node covariance, based on <i>client-to-staff ratio</i>	1.277 ⁻⁴ (7.406 ⁻⁵)	0.172	-8.686 ⁻⁵ (3.542 ⁻⁵) *	-2.452
M ₆ : Node covariance, based on <i>client-to-clinical staff ratio</i>	-1.659 ⁻⁴ (7.180 ⁻⁵)	-0.231	-4.740 ⁻⁵ (2.009 ⁻⁵) *	-2.359
M ₇ : Node covariance, based on <i>client-to-non-clinical staff ratio</i>	-9.580 ⁻⁵ (1.063 ⁻⁵)	-0.901	-2.472 ⁻⁵ (1.035 ⁻⁵) *	-2.388
M ₈ : Edge covariance, based on <i>driving distance</i>	5.500 ⁻⁵ (3.790 ⁻⁵)	1.452	-1.650 ⁻⁵ (2.520 ⁻⁵)	-0.656

Non-significant results were excluded from this table.

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.'

"n/a" represents those measure