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Supplementary Material

Association between Continuity of Primary Care and Chronic Conditions among Patients in Guangdong Province, China

Sultana Mubarika Rahman Chowdhury[1], Mengping Zhou[2], Kuang Li[3] and Nan Hu[1,4,*]

[1]Department of Biostatistics, Florida International University Robert Stempel College of Public Health and Social Work, Miami, Florida 33199, USA
[2]Department of Medical Epidemiology and Biostatistics, Karolinska Institute, Stockholm, Sweden
[3]Department of Health Administration, Sun Yat-sen University, Guangzhou, China
[4]Department of Family and Preventive Medicine, University of Utah School of Medicine, Salt Lake City 84112, USA

Table S1. ASPC scale.

Variable Name	Variable Label	Item	Code Label	Value Label
Q12	Years of relationship	How long have you been seeing the primary care physician/team	1 2 3 4 2.5	Less than 1 year 1-3 years 3-5 years More than 5 years Not sure/Don't know
Q13	Seeing the same physician for care	You saw the same primary care physician each time for care or consultation	1 2 3 4 2.5	Never Sometimes Usually Always Not sure/Don't know
Q14	Seeing the same physician for new prescriptionsn or refill	You always saw the same primary care physician for a new prescription or refill.	1 2 3 4 2.5	Never Sometimes Usually Always Not sure/Don't know
Q15	Knowledge of your medical history	The primary care physician/team got accumulated knowledge about your medical history	1 2 3 4 2.5	Doesn't know Knows a little Knows well Knows a lot Not sure/Don't know
Q16	Knowledge of the health of your families	The primary care physician/team got accumulated knowledge about the health of your families	1 2 3 4 2.5	Doesn't know Knows a little Knows well Knows a lot Not sure/Don't know
Q17	Asking about the health matters of your families	You can inquire the physician about the health problems of your family members	1 2 3 4 2.5	Never Sometimes Usually Always Not sure/Don't know
Q18	Active contact with patients	The primary care physician/team always took the initiative to contact you without your request.	1 2 3 4 2.5	Never Sometimes Usually Always Not sure/Don't know

Stage 1

Probability proportional to size (PPS) sampling with out replacement was used to sample 10 cities in Guangdong province considering population composition and primary care resources.

Stage 2

From these 10 cities 16 healthcare organization were samples using probability proportional to size of population

Stage 3

Patients who left primary care practitioner's room were invited to take the survey voluntarily by convenience sampling in the waiting are.

A total of 1185 participants were recruited to attend the survey.
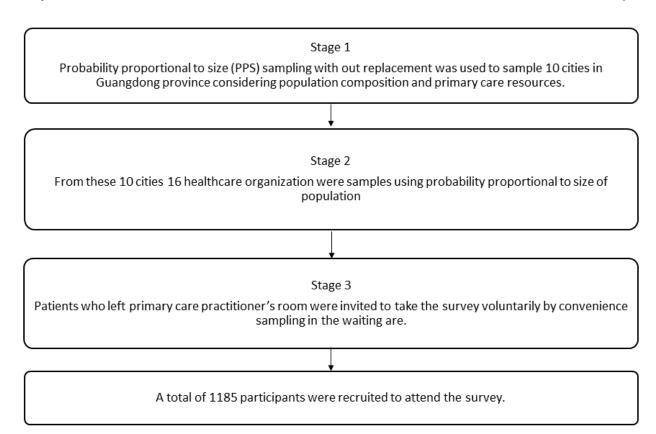
Fig. (S1). Flow chart.

Table S2. Logistic regression results (binary chronic condition) (dependent variable = continuity with pcp for 1 year and more).

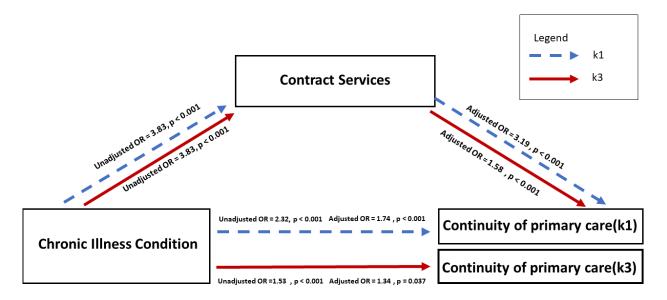| -	Model 1			Model 2			Model 3			Model 4		
	OR	P	95% CI	OR	P	95% CI	OR	P	95% CI	OR	P	95% CI
Chronic Condition	-	-	-	-	-	-	-	-	-	-	-	-
No	Ref	ref	ref	ref	ref	ref	ref	ref	ref	ref	ref	ref
Yes	2.32	<0.000	1.78-3.04	1.73	<0.000	1.27-2.34	2.15	<0.001	1.47-3.14	1.77	0.007	1.17-2.69
Gender	-	-	-	-	-	-	-	-	-	-	-	-
Male	-	-	-	ref	ref	ref	-	-	-	ref	ref	ref
Female	-	-	-	1.26	0.109	0.94-1.69	-	-	-	1.27	0.110	0.94-1.69
Age	-	-	-	-	-	-	-	-	-	-	-	-
≤ 60 years	-	-	-	ref	ref	ref	-	-	-	ref	ref	ref
≥60 years	-	-	-	1.18	0.386	0.81-1.71	-	-	-	1.17	0.407	0.80-1.71
Residency Status	-	-	-	-	-	-	-	-	-	-	-	-
Local	-	-	-	ref	ref	ref	ref	ref	ref	ref	ref	ref
Migrant	-	-	-	0.42	<0.000	0.30-0.58	0.36	<0.001	0.25-0.52	0.43	<0.000	0.29-0.63
Insurance	-	-	-	-	-	-	-	-	-	-	-	-
No	-	-	-	ref	ref	ref	-	-	-	ref	ref	ref
Yes	-	-	-	1.29	0.260	0.82-1.03	-	-	-	1.29	0.262	0.83-2.02
SES	-	-	-	-	-	-	-	-	-	-	-	-
Low	-	-	-	ref	ref	ref	-	-	-	ref	ref	ref
Median	-	-	-	0.61	0.004	0.44-0.86	-	-	-	0.62	0.004	0.44-0.86
High	-	-	-	0.47	0.004	0.29-0.79	-	-	-	0.48	0.004	0.29-0.79
Chronic condition ×Residency Status	-	-	-	-	-	-	0.79	0.409	0.45-1.39	0.58	0.854	0.53-1.69
-	-	-	-	-	-	-	-	-	-	-	-	-

Table S3. Logistic regression results (trichotomized chronic condition) (Dependent variable = continuity with PCP for 1 year and more).

-	Model 1 (Unadjusted)			Model 2 (Adjusted Model)			Model 3 (Adjusted Model including Effect Modifier of Residency Status)			Model 4 (Adjusted Model including Effect Modifier)		
-	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI
Chronic Condition Categorical	-	-	-	-	-	-	-	-	-	-	-	-
No	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
One	2.03	<0.001	1.49-2.75	1.72	0.001	1.23-2.39	2.05	0.002	1.31-3.20	1.74	0.021	1.09-1.80
More than One	3.00	<0.001	2.01-4.49	1.75	0.017	1.11-2.78	2.30	0.001	1.40-3.79	1.82	0.031	1.05-3.12
Gender	-	-	-	-	-	-	-	-	-	-	-	-
Male	-	-	-	Ref	Ref	Ref	-	-	-	Ref	Ref	Ref
Female	-	-	-	1.27	0.111	0.95-1.69	-	-	-	1.26	0.113	0.95-1.69
Age	-	-	-	-	-	-	-	-	-	-	-	-
≤ 60 Years	-	-	-	Ref	Ref	Ref	-	-	-	Ref	Ref	Ref
≥ 60 YEARS	-	-	-	1.78	0.408	0.80-1.72	-	-	-	1.17	0.419	0.80-1.72
Residency Status	-	-	-	-	-	-	-	-	-	-	-	-
Local	-	-	-	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Migrant	-	-	-	0.42	0.000	0.31-0.58	0.36	<0.001	0.25-0.52	0.43	<0.001	0.29-0.63
Insurance	-	-	-	-	-	-	-	-	-	-	-	-
No	-	-	-	Ref	Ref	Ref	-	-	-	Ref	Ref	Ref
Yes	-	-	-	1.29	0.260	0.83-2.03	-	-	-	1.29	0.261	0.83-2.03
SES	-	-	-	-	-	-	-	-	-	-	-	-
Low	-	-	-	Ref	Ref	Ref	-	-	-	Ref	Ref	Ref
Median	-	-	-	0.62	0.004	0.44-0.86	-	-	-	0.62	0.004	0.44-0.86
High	-	-	-	0.48	0.004	0.29-0.79	-	-	-	0.48	0.004	0.29-0.79
CI*Residency Status	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	0.81	0.512	0.43-1.52	0.97	0.934	0.51-1.87
-	-	-	-	-	-	-	0.82	0.674	0.31-1.09	0.89	0.809	0.34-2.31

Table S4. Logistic regression results (trichotomized chronic condition) (Dependent variable = continuity with PCP for 1 year and more).

-	Model 1 (Unadjusted)			Model 2 (Adjusted Model)			Model 3 (Adjusted Model including Effect Modifier of Residency Status)			Model 4 (Adjusted Model including Effect Modifier)		
-	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI
Chronic Condition Categorical	-	-	-	-	-	-	-	-	-	-	-	-
No	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
One	2.03	<0.001	1.49-2.75	1.72	0.001	1.23-2.39	2.05	0.002	1.31-3.20	1.74	0.021	1.09-1.80
More than One	3.00	<0.001	2.01-4.49	1.75	0.017	1.11-2.78	2.30	0.001	1.40-3.79	1.82	0.031	1.05-3.12
Gender	-	-	-	-	-	-	-	-	-	-	-	-
Male	-	-	-	Ref	Ref	Ref	-	-	-	Ref	Ref	Ref
Female	-	-	-	1.27	0.111	0.95-1.69	-	-	-	1.26	0.113	0.95-1.69
Age	-	-	-	-	-	-	-	-	-	-	-	-
≤ 60 Years	-	-	-	Ref	Ref	Ref	-	-	-	Ref	Ref	Ref
≥ 60 Years	-	-	-	1.78	0.408	0.80-1.72	-	-	-	1.17	0.419	0.80-1.72
Residency Status	-	-	-	-	-	-	-	-	-	-	-	-
Local	-	-	-	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Migrant	-	-	-	0.42	0.000	0.31-0.58	0.36	<0.001	0.25-0.52	0.43	<0.001	0.29-0.63
Insurance	-	-	-	-	-	-	-	-	-	-	-	-

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-	Model 1 (Unadjusted)			Model 2 (Adjusted Model)			Model 3 (Adjusted Model including Effect Modifier of Residency Status)			Model 4 (Adjusted Model including Effect Modifier)		
-	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI	Odds Ratio	Pvalue	95% CI
No	-	-	-	Ref	Ref	Ref	-	-	-	Ref	Ref	Ref
Yes	-	-	-	1.29	0.260	0.83-2.03	-	-	-	1.29	0.261	0.83-2.03
Ses	-	-	-	-	-	-	-	-	-	-	-	-
Low	-	-	-	Ref	Ref	Ref	-	-	-	Ref	Ref	Ref
Median	-	-	-	0.62	0.004	0.44-0.86	-	-	-	0.62	0.004	0.44-0.86
High	-	-	-	0.48	0.004	0.29-0.79	-	-	-	0.48	0.004	0.29-0.79
CI*Residency Status	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	0.81	0.512	0.43-1.52	0.97	0.934	0.51-1.87
-	-	-	-	-	-	-	0.82	0.674	0.31-1.09	0.89	0.809	0.34-2.31

Fig. (S2). Mediation effect of contract service on association between chronic condition and continuity of care.
Mediation effect of Contract services.

Note: Patient – primary care provider contract services is an important element which can interrupt the association between chronic condition and continuity of primary care. Hence a mediation effect analysis of the contact services was carried out to further assess its effect on the chronic condtion and continuity of primary care with the PCP. Introduting contract services as the mediating variable between chronic illness and output variable of both continuity for 1 year or more and continuity for 3 years or more significantly effected the intermediate relationship. The unadjested odds of having continuity of care from more than a year with the PCP was 2.32 times higher for the participants with chronic illness compared to those without, however after introducing contract services to the model the odds ratio reduced to 1.74. Likewise, odds ratio of continuty of primary care for 3 or more years was 1.53 times higher for the participants with chronic conditions which reduces to 1.34 after adjusting for contract services.