



# WONCA 2024

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# Health Outcomes in Patients Receiving Continuity of Care from Family Physicians Compared to Those Managed by Various Primary Care Physicians

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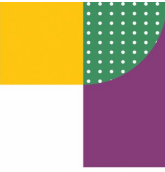
# Disclosures

I have no financial disclosure and no conflicts of interest related to the presented content of this speech.



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# Background

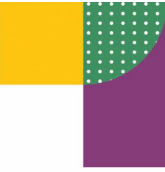
- Continuity of care (CoC) in which patients receive long term follow-up from the same family physicians has been shown to result in better health outcomes for patient with non-communicable diseases (NCD)
  - improved preventive care
  - reduced number of A&E visit, hospitalization, disease complications, mortality rate and healthcare cost
- SingHealth Polyclinics (SHP) have adopted Family Physician Clinic (FPC) for more than 10 years, where senior family physicians run the clinic and provide continuity of care to the patients



# Aim

- To compare the health outcomes of patients with NCD (Hypertension) receiving continuity of care by family physicians in FPC with those who were managed by various primary care physicians in General Clinic (GC) in SHP



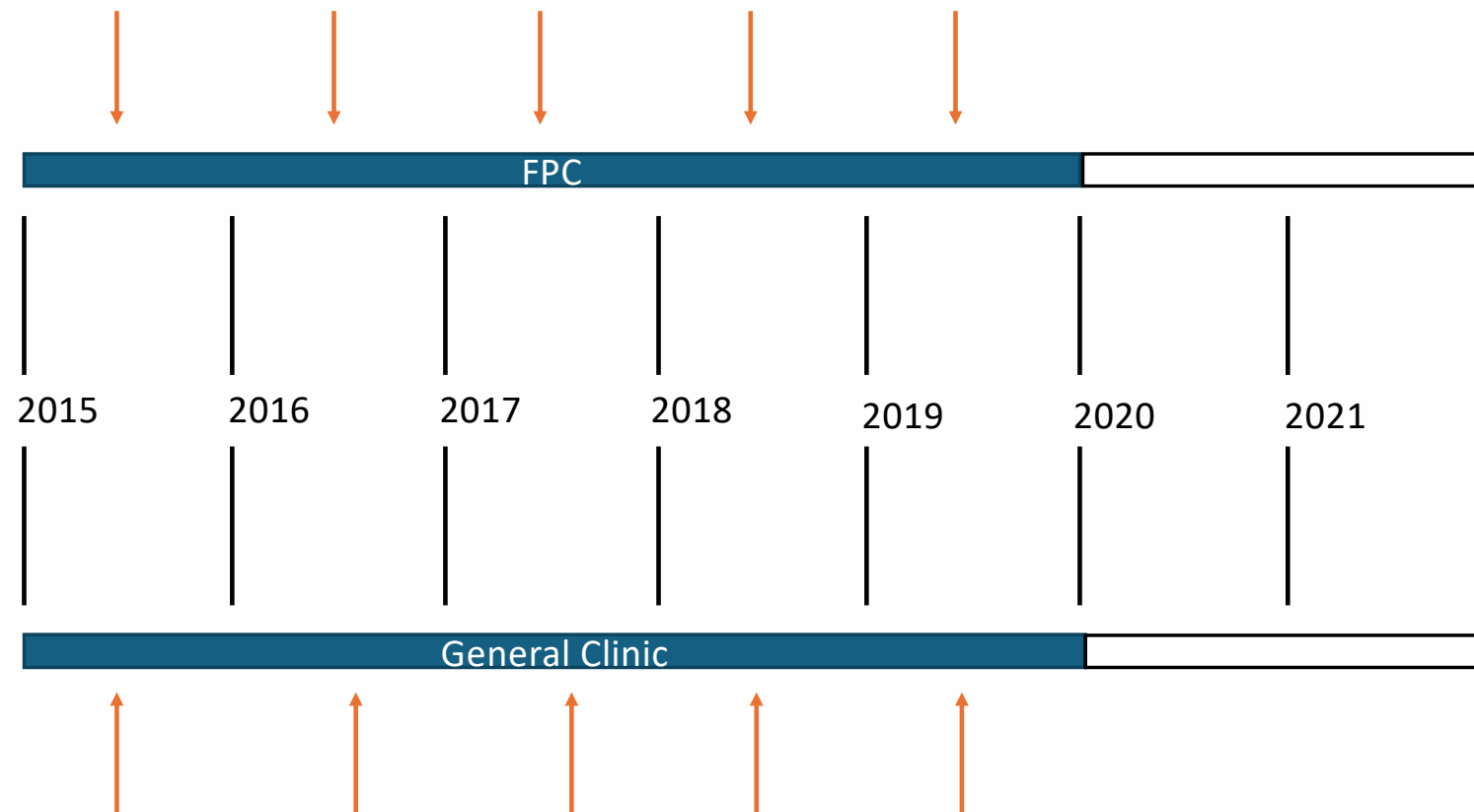


# Method

- Retrospective cohort study using electronic health records data
- Adult patients with hypertension and other NCD who visited FPC in 7 SHP clinics at least once per year from 1 January 2015 to 31 December 2019 (n=3,260)
- Compared with their propensity score matching GC cohort
  - matched for Age, Gender, Race, index BP/LDL-C/Creatinine, presence of co-morbidities (DM, Hyperlipidemia) and CVD complications (IHD, stroke, TIA, PVD)
- Comparing Continuity of Care Index (COCI), final clinical parameters, incidence of new CVD complications, uptake of vaccinations and other health processes between the two cohorts, over a follow-up period of up to 31 December 2021.



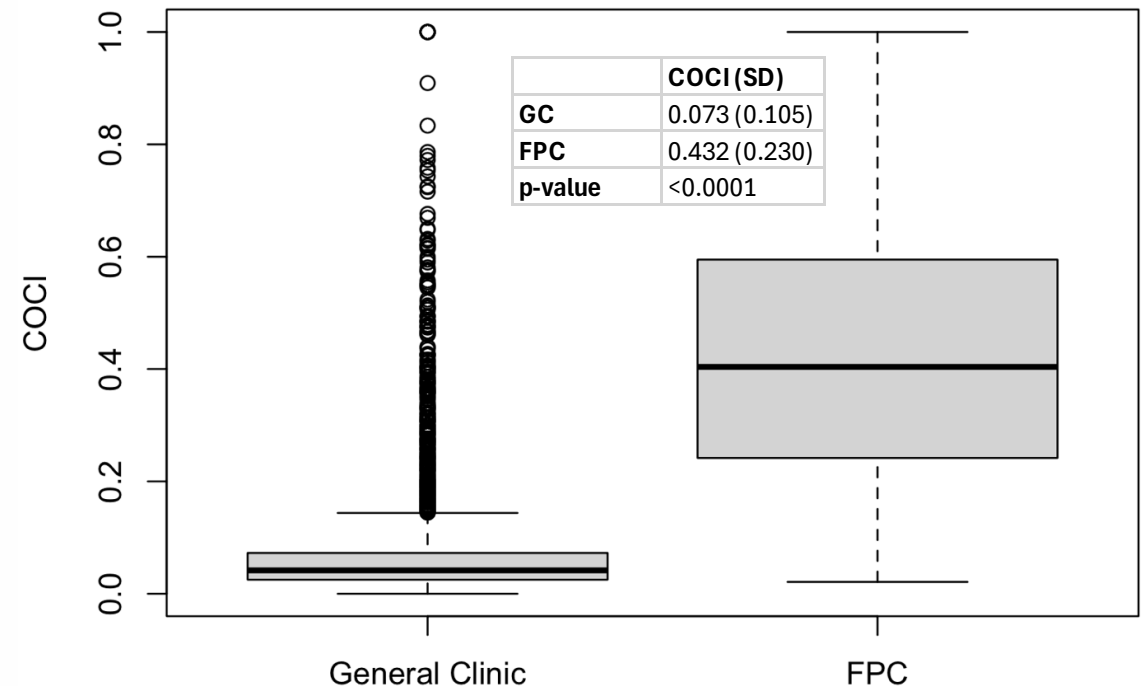
# Method



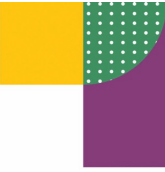


# Results (Baseline Characteristics and COCI)

	FPC		GC	
	n=	SD or proportion	3260	SD or proportion
Age	3260	64.7 9.95	3260	64.9 10.42
<b>Gender</b>				
Male	1462	44.9%	1436	44.1%
Female	1798	55.2%	1824	56.0%
<b>Race</b>				
Chinese	2508	76.9%	2477	76.0%
Malay	312	9.6%	330	10.1%
Indian	280	8.6%	283	8.7%
Others	160	4.9%	170	5.2%
<b>Co-morbidities</b>				
DM	2095	64.3%	2089	64.1%
Hyperlipidemia	2991	91.8%	2981	91.4%
IHD	469	14.4%	472	14.5%
TIA	59	1.8%	59	1.8%
Stroke	180	5.5%	168	5.2%
PVD	25	0.8%	26	0.8%
<b>Clinical parameters</b>				
SBP (mmHg)	131.7	15.08	131.3	15.40
DBP (mmHg)	70.0	9.35	69.7	9.92
LDL-C (mmol/l)	2.38	0.73	2.37	0.68
Creatinine (umol/l)	77.0	32.57	75.8	31.40
HbA1c (%)	7.48	1.47	6.96	1.06







# Results (Clinical Parameters)

		FPC		GC		p-value
		mean	SD	mean	SD	
SBP (mmHg)	initial	131.7	15.1	131.3	15.4	0.118
	final	134.4	17.1	135.1	15.9	
DBP (mmHg)	initial	70.0	9.35	69.7	9.92	<b>0.0005</b>
	final	<b>68.9</b>	8.92	<b>69.7</b>	9.17	
		mean	SD	mean	SD	
LDL-C (mmol/l)	initial	2.38	0.73	2.37	0.68	<b>0.0006</b>
	final	<b>2.09</b>	0.7	<b>2.16</b>	0.67	
<b>DM patients</b>						
		mean	SD	mean	SD	
HbA1c (%)	initial	7.48	1.47	6.96	1.06	<b>&lt;0.0001</b>
	final	7.21	1.24	6.96	1.04	
	difference	<b>−0.12</b>	1.4	<b>0.09</b>	1.14	

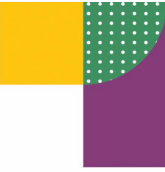


# Results (New CVD Complications, Vaccinations, Care Processes)

	FPC	GC	OR	CI	p-value
Total patients	3260	3260			
<b>New CVD complications</b>					
IHD	180	138	<b>1.32</b>	1.05-1.66	<b>0.016</b>
TIA	49	32	1.53	0.99-2.43	0.057
Stroke	86	68	1.27	0.92-1.76	0.142
PVD	45	36	1.25	0.81-1.96	0.314

	FPC	GC	OR	CI	p-value
Total patients	3260	3260			
<b>Immunisation</b>					
Influenza	967	416	<b>2.88</b>	2.54-3.28	<b>&lt;0.0001</b>
Pneumococcal	386	297	<b>1.34</b>	1.14- 1.57	<b>0.0003</b>
Total DM patients	2095	2089			
<b>DM care processes</b>					
DFS	1348	1185	<b>1.38</b>	1.22-1.56	<b>&lt;0.0001</b>
DRP	548	619	<b>0.84</b>	0.73-0.96	<b>0.012</b>





# Conclusion

- Patients with hypertension in FPC received higher CoC and lower final DBP, LDL-C, increased influenza and pneumococcal vaccination uptake
- The DM subgroup also showed better glycaemic control and DFS uptake
- However, no improvement in new CVD complications observed in this study





# Limitations

- BP readings are done in clinic, and may not reflect true BP control of patients
- Depends on diagnosis coding by clinicians
- Unable to retrieve complete diagnosis and complications if patients were seen in other healthcare institutions
- Unable to retrieve psychosocial information of patients





# Acknowledgements

- Clinical A/Prof Tan Ngiap Chuan
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# Thank you



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