



Virtual Visits in British Columbia: System, Patient and Physician Perspectives

eHealth 2016: Reimagining Healthcare Delivery in Canada

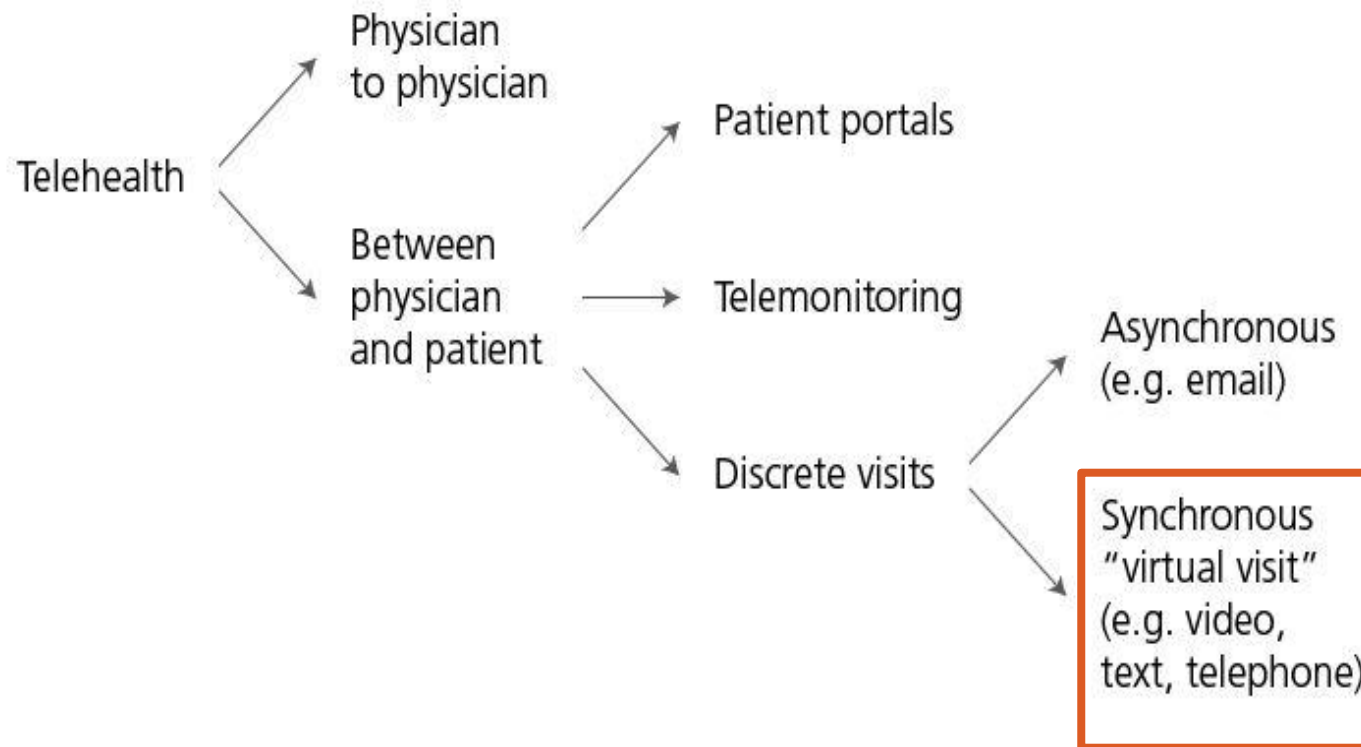
June 7, 2016

Chad Leaver, *Canada Health Infoway*
Kimberlyn McGrail, *UBC Centre for Health Policy & Services Research*
Dr. Eric Cadesky, *Family Physician, UBC, Doctors of BC*

Today's presentation

- Present results from a three-part quantitative and qualitative research program implemented in BC:
 - 2015 Patient Survey and Physician Interview Study
 - Retrospective, population-based study using comprehensive administrative data on fee-for-service primary care in BC
- Dr. Eric Cadesky: Practice value, policy and industry context, and key recommendations

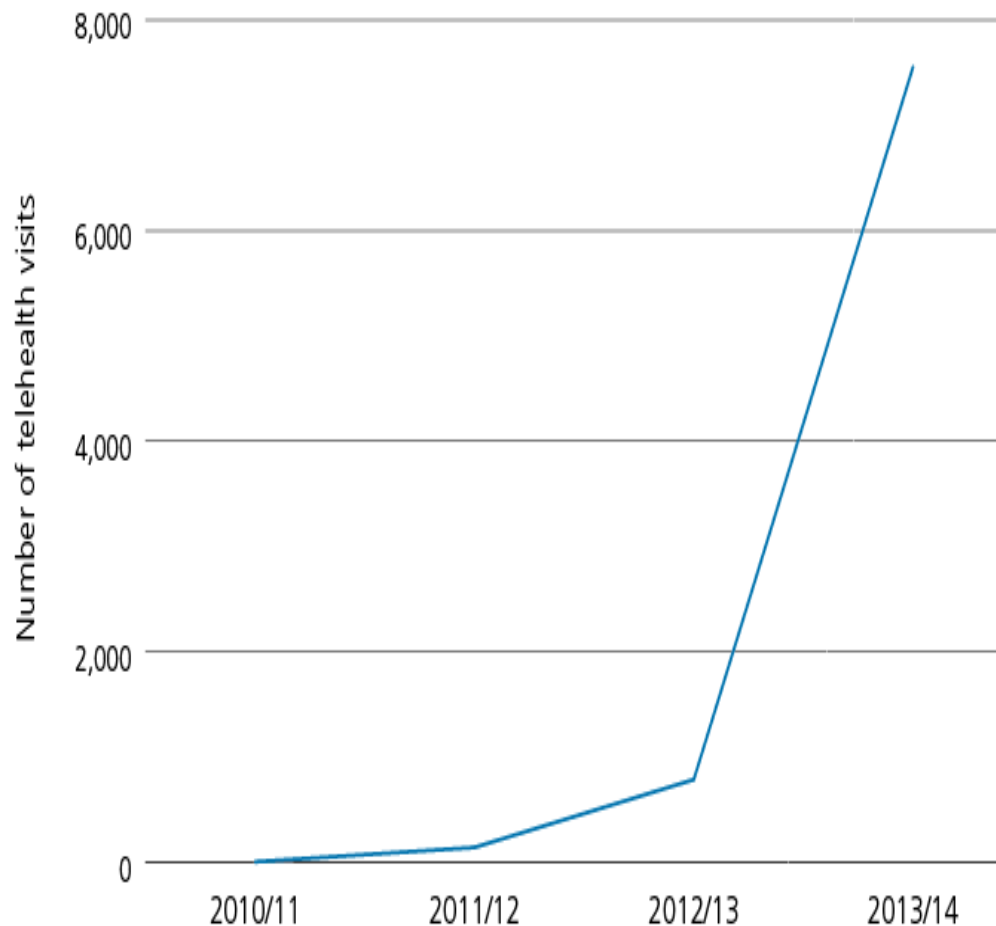
Form and function of telehealth virtual care



Background/Context

- Virtual care advancing in modern healthcare systems, and across Canada
- 2 Practice models : **In-practice** (provides virtual visits to patients they know “attached patients”); vs. **Virtual clinic providers** (provides care to new patients. “unattached patients”).
- Multiple business models depending on context

Background/Context



Health minister orders review of B.C. telemedicine program



Health Minister Terry Lake said the main goal of the telemedicine review is to ensure the service is high quality and affordable for the health system.

Research Questions: Patient/Physician Survey

Study Objectives, to determine:

1. The impact of using virtual visits for patients and resolution of patient's primary health issue (purpose of visit), associated time and financial savings, subsequent health services used, and general attitudes towards the value of virtual visit services in supporting their own health and the health of their families; and
2. The reasons, from a physician's perspective, of establishing an online/virtual practice (as a proportion of their clinical practice) and key facilitators supporting integration of e-visits in practice patterns/workflow; and the demonstrated benefits of virtual visits to patient care and care coordination.

Study Sample

Total completes	N=399
Field dates	April 17 – May 1, 2015
Survey length (average)	18 minutes

- Data results are **unweighted**.
- Total 3025 eligible service users identified, 399 completed
=13.2% Response Rate

Study Sample Comparison

- The table below compares the sample to the overall population of British Columbia cross key demographics.
 - Sample of users varies from the population across gender and age.

GENDER	Patient Survey (N=399)	*Patient Subscribers	Population Proportion
Male	28%	36%	48%
Female	71%	64%	52%
Other	1%		n/a

AGE	Patient Survey (N=399)	*Patient Subscribers	Population Proportion
18-34	33%	51%	27%
35-54	45%	30%	37%
55+	22%	7%	37%

MARITAL STATUS	Patient Survey (N=399)	*Patient Subscribers	Population Proportion
Single, never married	19%	-	27%
Married/Common law	67%	-	58%
Widowed	3%	-	6%
Divorced/Separated	9%	-	9%

Sources:

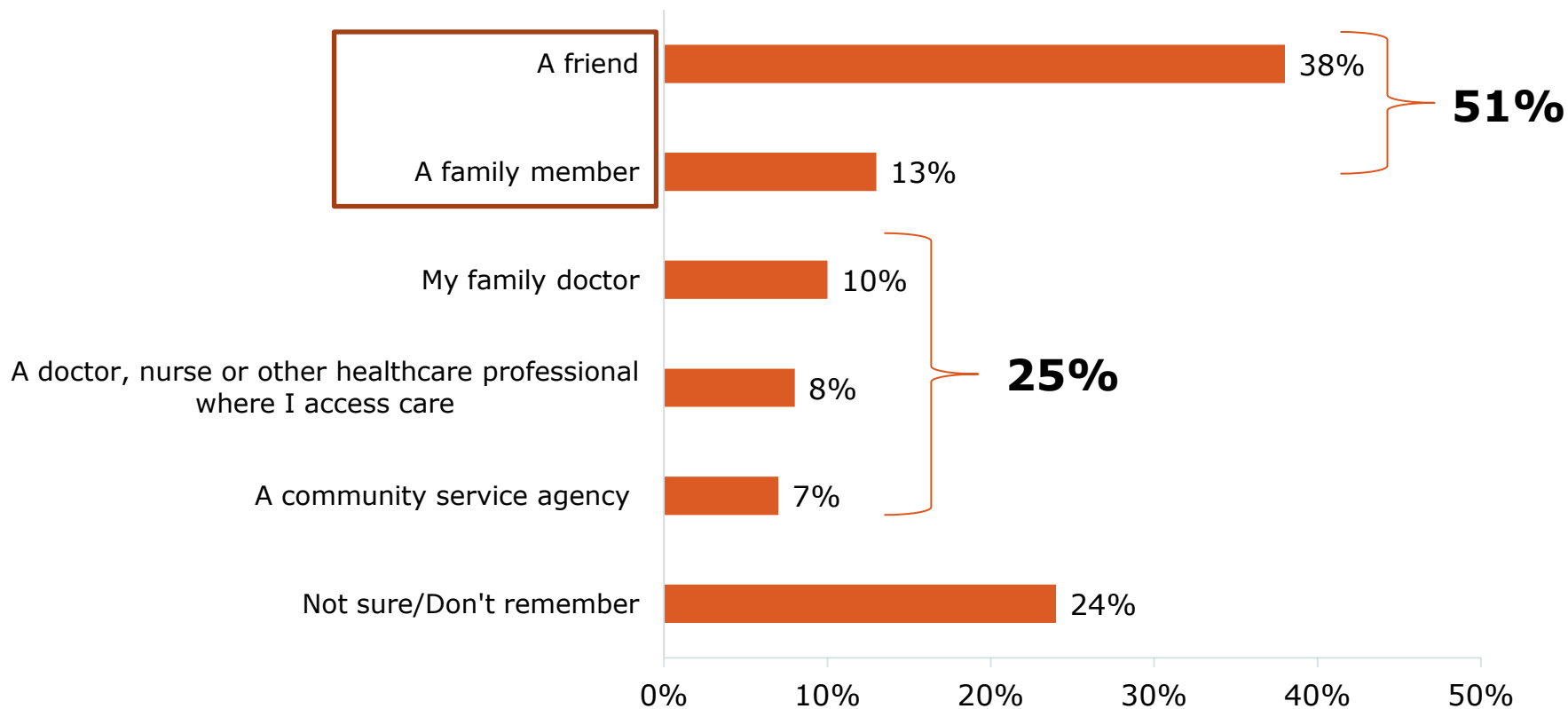
Statistics Canada – Census Profile: British Columbia <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E>

* Medeo Patient Subscribers (Note: 11% of patient subscribers in database have identified as <18 years of age)

Sample Description Summary

- **75%** have a family physician, regular place of care (Ave: 9.4yrs)
- **88%** with FP report that their FPs knowledge of their medical history is fair, good or very good.
- **58%** report having a chronic health condition(s)
- In past year, **60%** had in-person visit with FP, **40%** with a specialist
- **25%** visited the ER (not admitted)
- **20%** accessed other virtual services (online visit with other provider, HealthLinkBC, called a doctor)

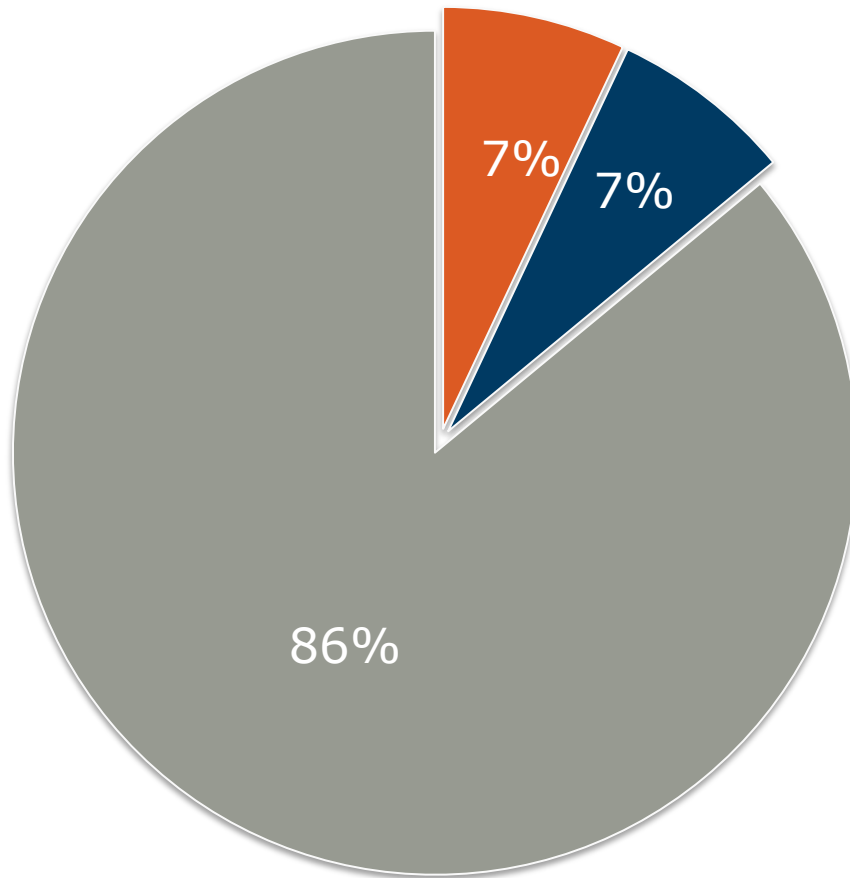
Awareness of Virtual Visits



S3. How did you first hear about using Medeo to see a doctor online?

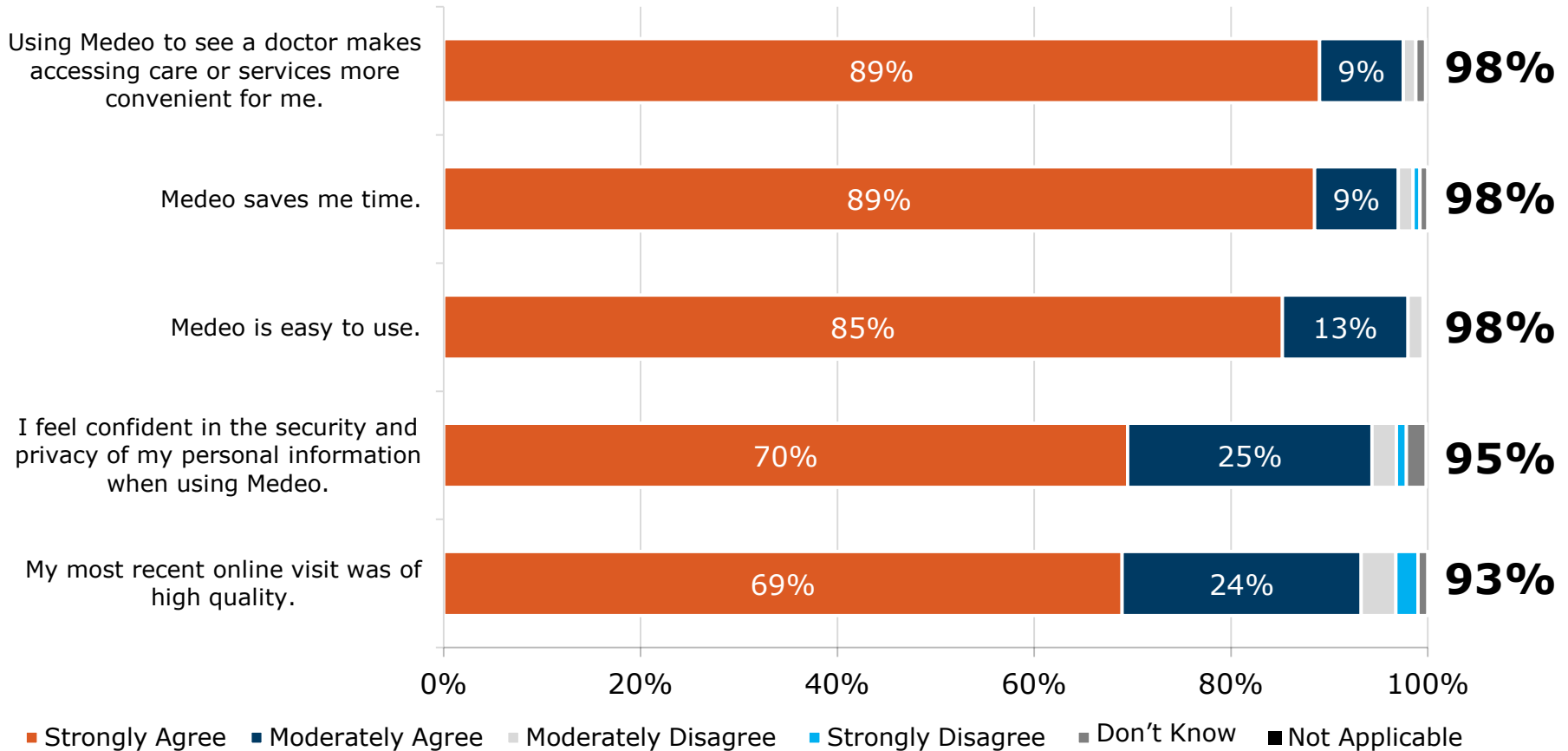
Base: All respondents (n=399)

Virtual Visits by Regular vs New-Care provider



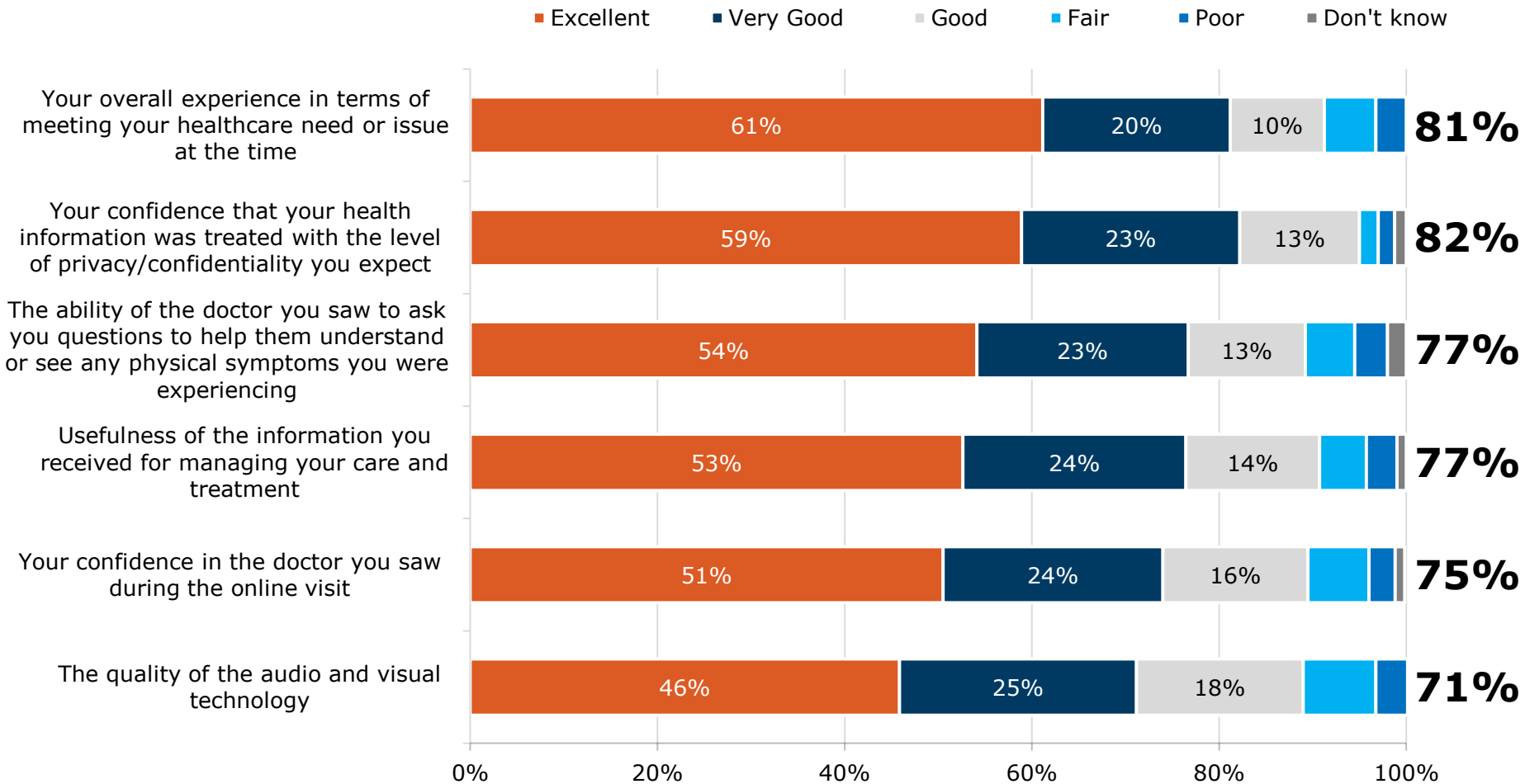
- Regular PC Provider
- Mix of regular + new providers
- New provider

Attitudes on Virtual Visit Experience



Q8. How would you describe the Medeo system that allows you visit a doctor online?
Base: All respondents (n=399)

Attitudes on Virtual Visit Experience



Q10. Again, thinking about your most recent online visit with a family doctor/GP, on a scale of poor to excellent, how would you rate...

Base: All respondents (n=399)

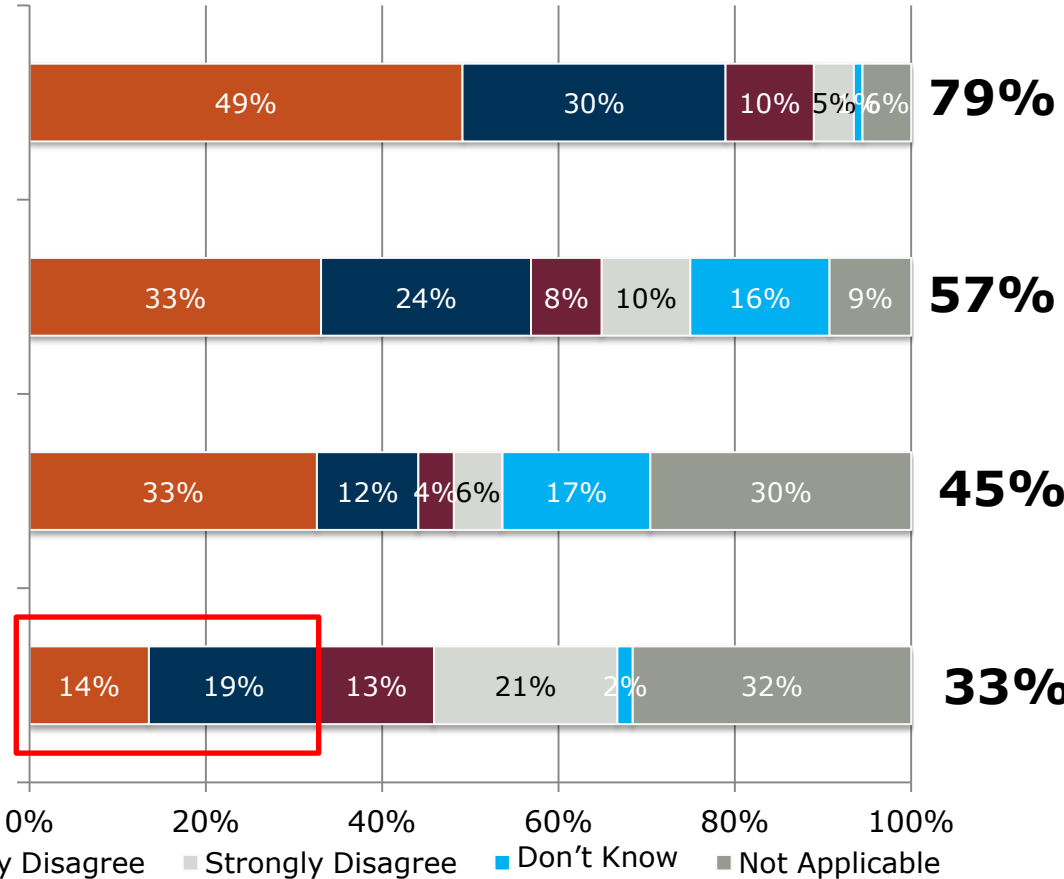
Attitudes on Virtual Visit Experience

My most recent online visit was as thorough as an in-person visit I have with my regular doctor or place of care.

In my most recent online visit, the doctor knew my recent medical history.

In my most recent online visit, the doctor had access to my recent tests or exam results.

There were limitations to my most recent online visit because I was not able to receive a physical exam.



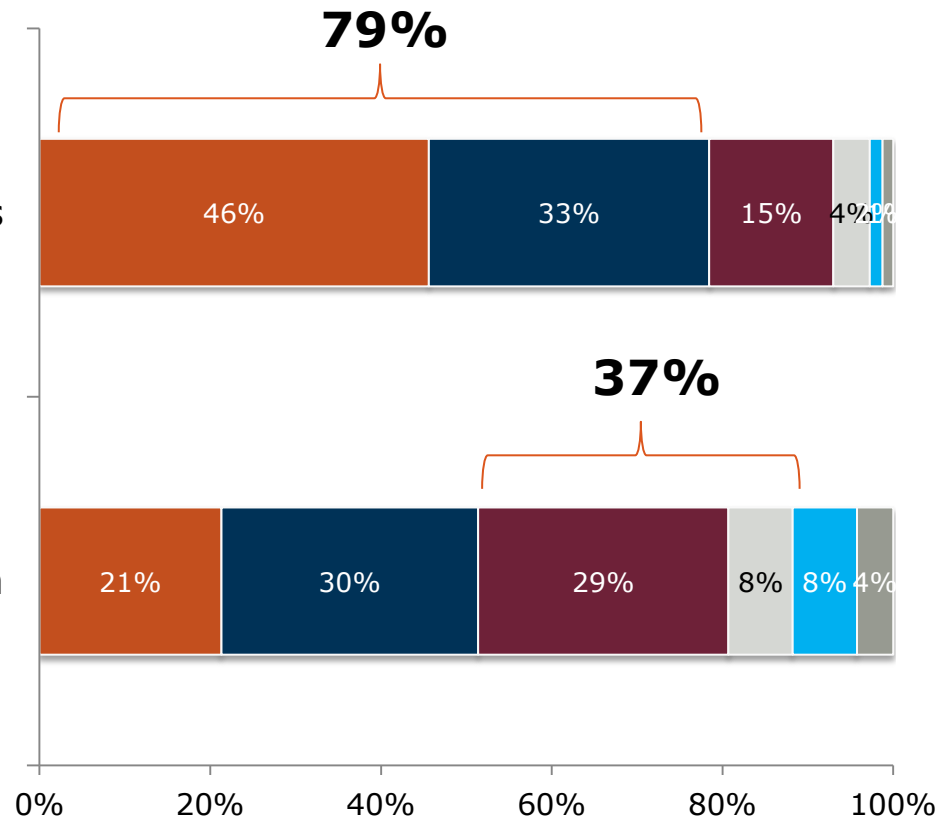
Q8. How would you describe the Medeo system that allows you visit a doctor online?

Base: All respondents (n=399)

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Attitudes on Virtual Visit Experience

The quality of care I receive from an online visit with a doctor is the same as in an in-person visit.



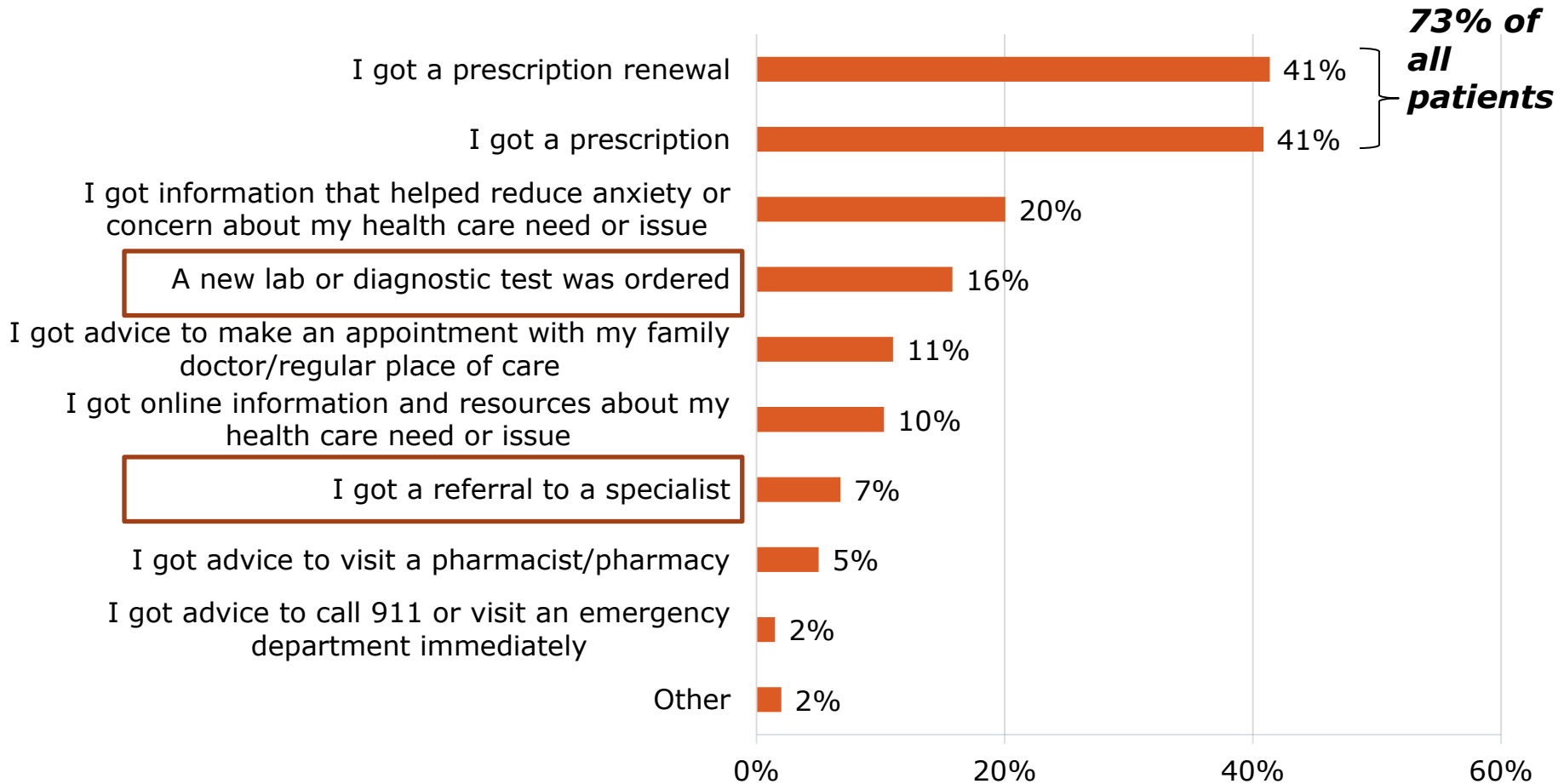
■ Strongly Agree ■ Moderately Agree ■ Moderately Disagree ■ Strongly Disagree ■ Don't Know ■ Not Applicable

Q8. How would you describe the Medeo system that allows you visit a doctor online?

Base: All respondents (n=399)

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Outcomes of Most Recent Virtual Visit

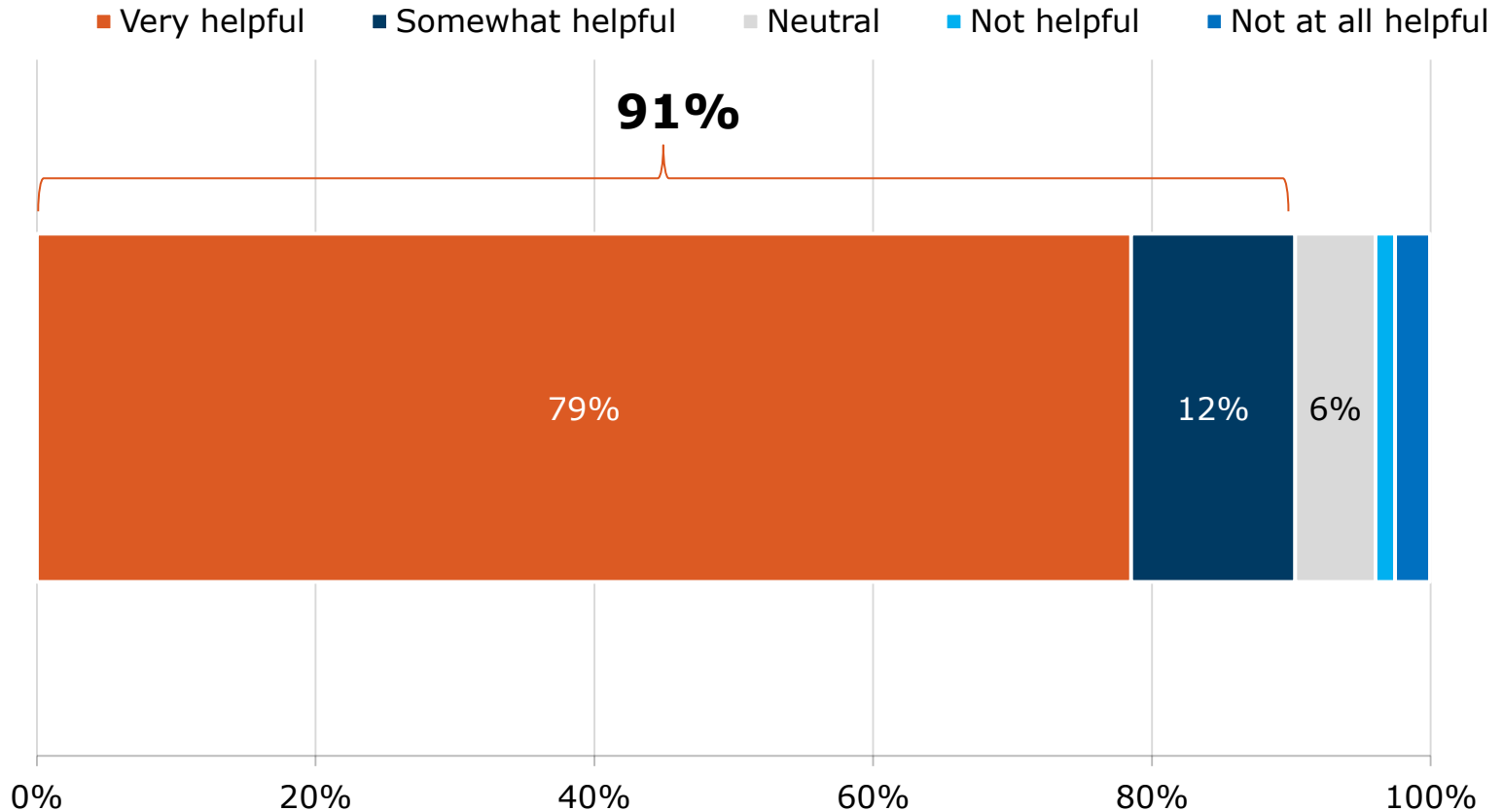


Q11a. What was the outcome of your most recent online visit?

Base: All respondents (n=399)

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Impact of Most Recent Virtual Visit



Q11b. To what degree did the online visit help you with the health issue for which you needed the appointment?

Base: All respondents (n=399)

What patients would have done if they had not been able to see a doctor online?



13% Would not have sought care at the time

48%

Walk-in clinic

My Doc/Clinic

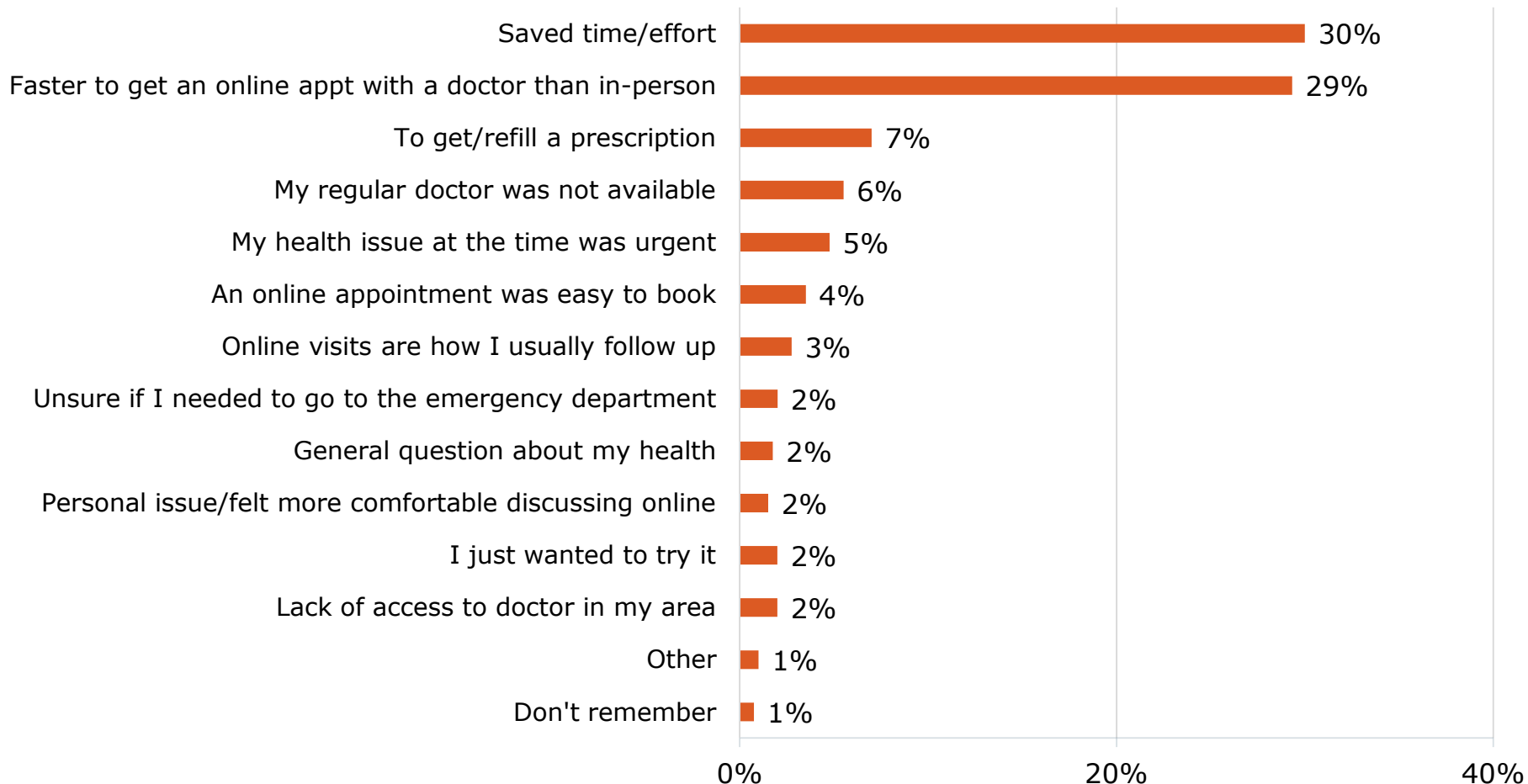
20%

11%

Emergency

Saving time and quicker access most common reason for online visit

Responses shown if 2% or greater.



Q6. Regardless of your health concern at the time, what was the **main** reason for your most recent online visit?

Base: All respondents (n=399)

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Patient Value



57% avoided an in-person visit with a doctor or their regular place of care because of the online visit.

- 98% Saving travel time (49% :30min-2+hrs) **\$19**
- 87% Avoided a work absence (89% 1-2+hrs)
- 39% Saving caregiving arrangements (86% 1-2+hrs) **\$33**

Physician Interviews – Theme Summary



View virtual visits as **complementary to primary care practice, but not a replacement** in-person visits as the core relationship



Virtual visits are **comparable in encounter time** to in-person visits; some limitations with assessment, yet capacities to support patient engagement at the fore.



The future of e-visits is growth, both among patients and physicians



UBC CENTRE FOR
HEALTH SERVICES AND POLICY RESEARCH

Assessment of virtual visits in British Columbia 2010-2014

Meeting with Canada Health Infoway and
BC Ministry of Health

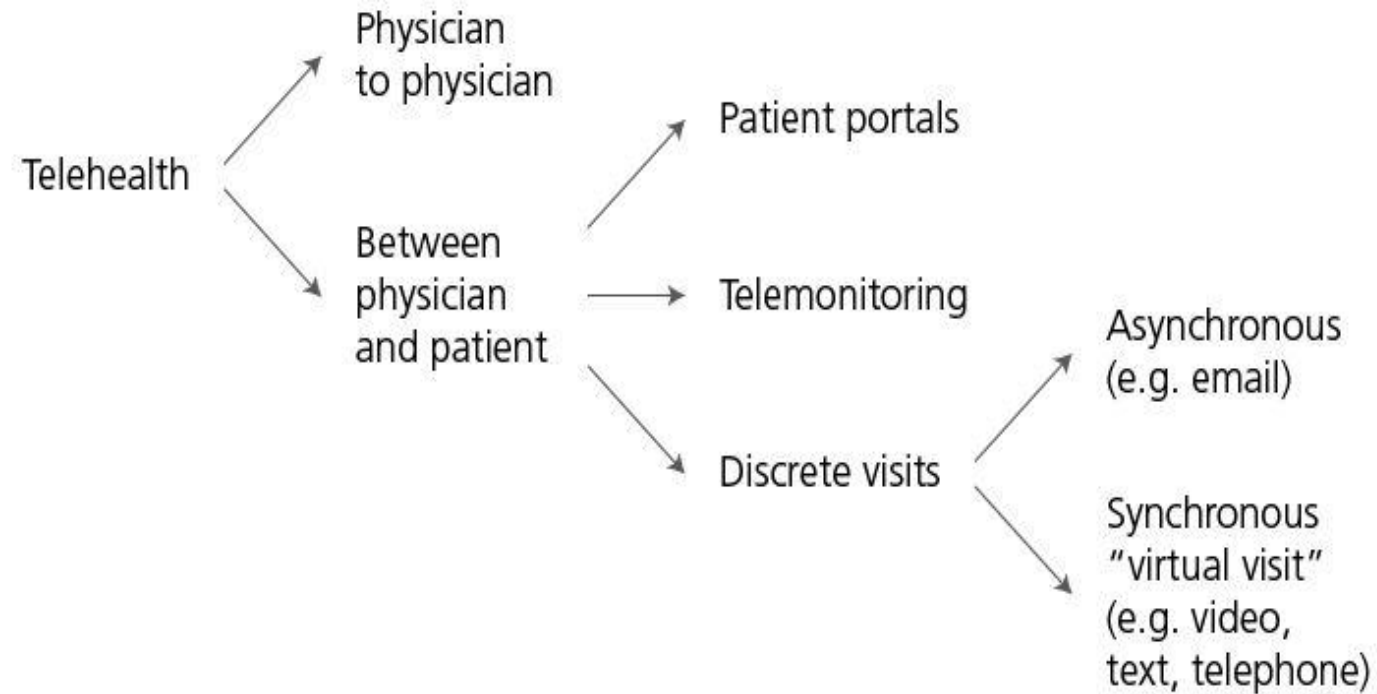
June 7, 2016



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

Form and function of telehealth

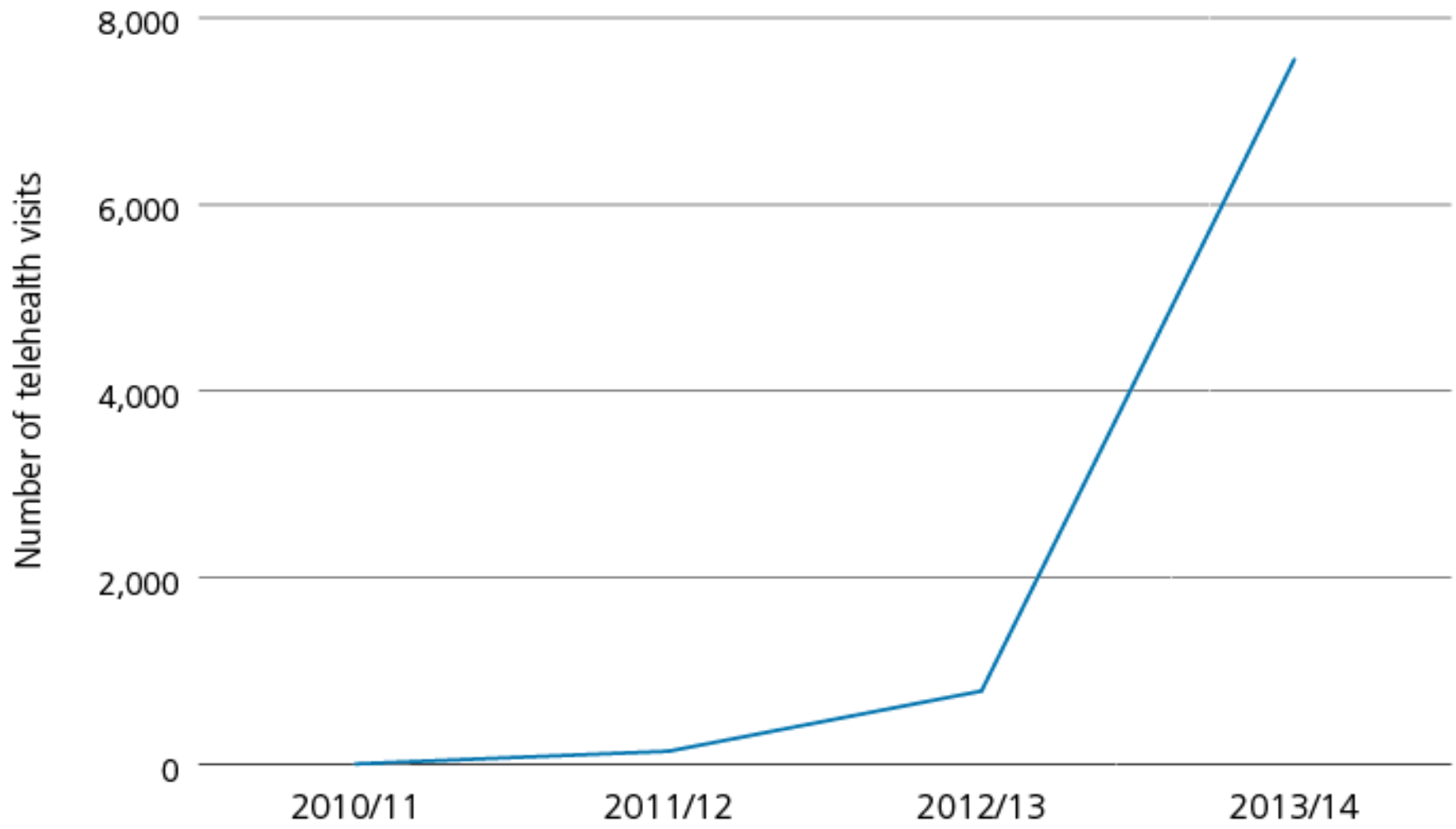


Are "virtual visits" via video a substitute or add-on for existing service?

What do we know about the effects of telehealth / virtual visits?

- Could reduce effects of geography, regular office hours
- Reduce time costs for patients
- Tend to be used for more minor conditions
- In US literature, prescribing is common
- Little information on longer-term effects, effects on other health care services use

Trend in the number of primary care telehealth visits in British Columbia, Canada by year



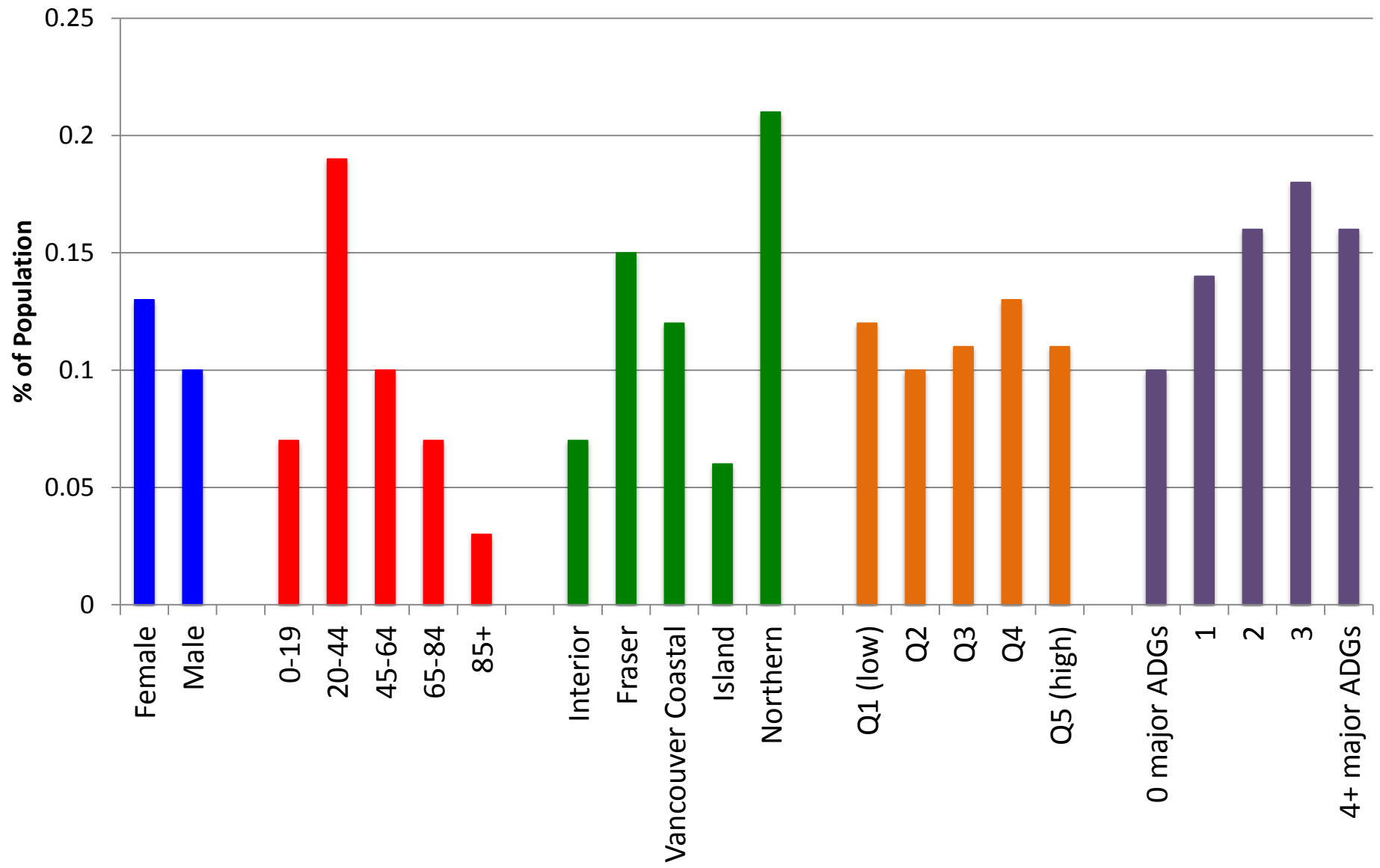
Research questions

- Are telehealth (virtual visit) services in BC substitutes for or complements to existing patterns of primary health care?
- What are the demographic characteristics of patients utilizing virtual visits and the clinicians providing this service in the province of BC?

Methods

- Administrative data on physician payments, pharmaceutical use, demographics (physicians and patients)
- Include all patients, all primary care physicians
- Time series matching virtual visit and regular visit users
- Years 2010/11 – 2013/14

Who uses virtual visits in BC?

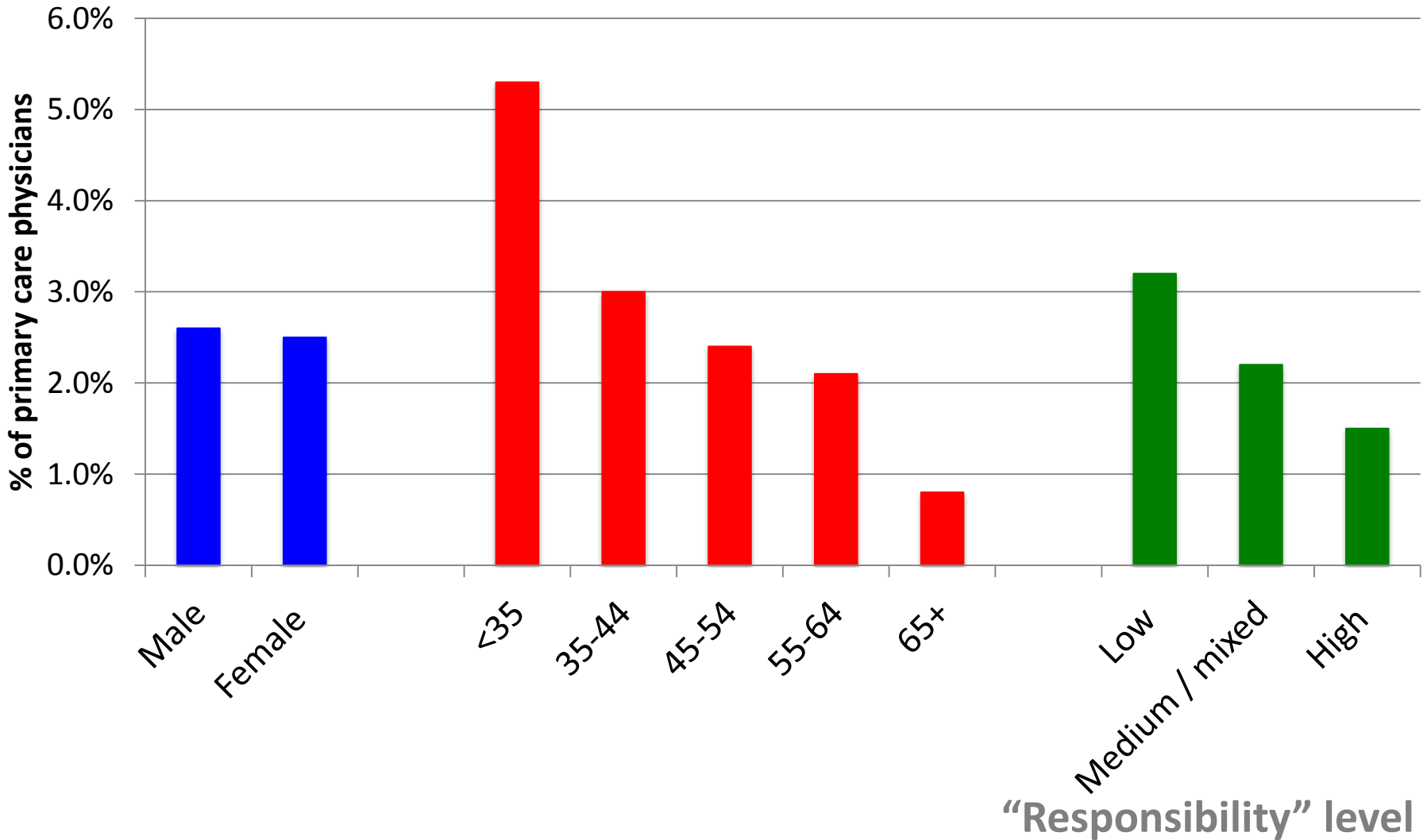


What are the reasons for virtual and regular visits?

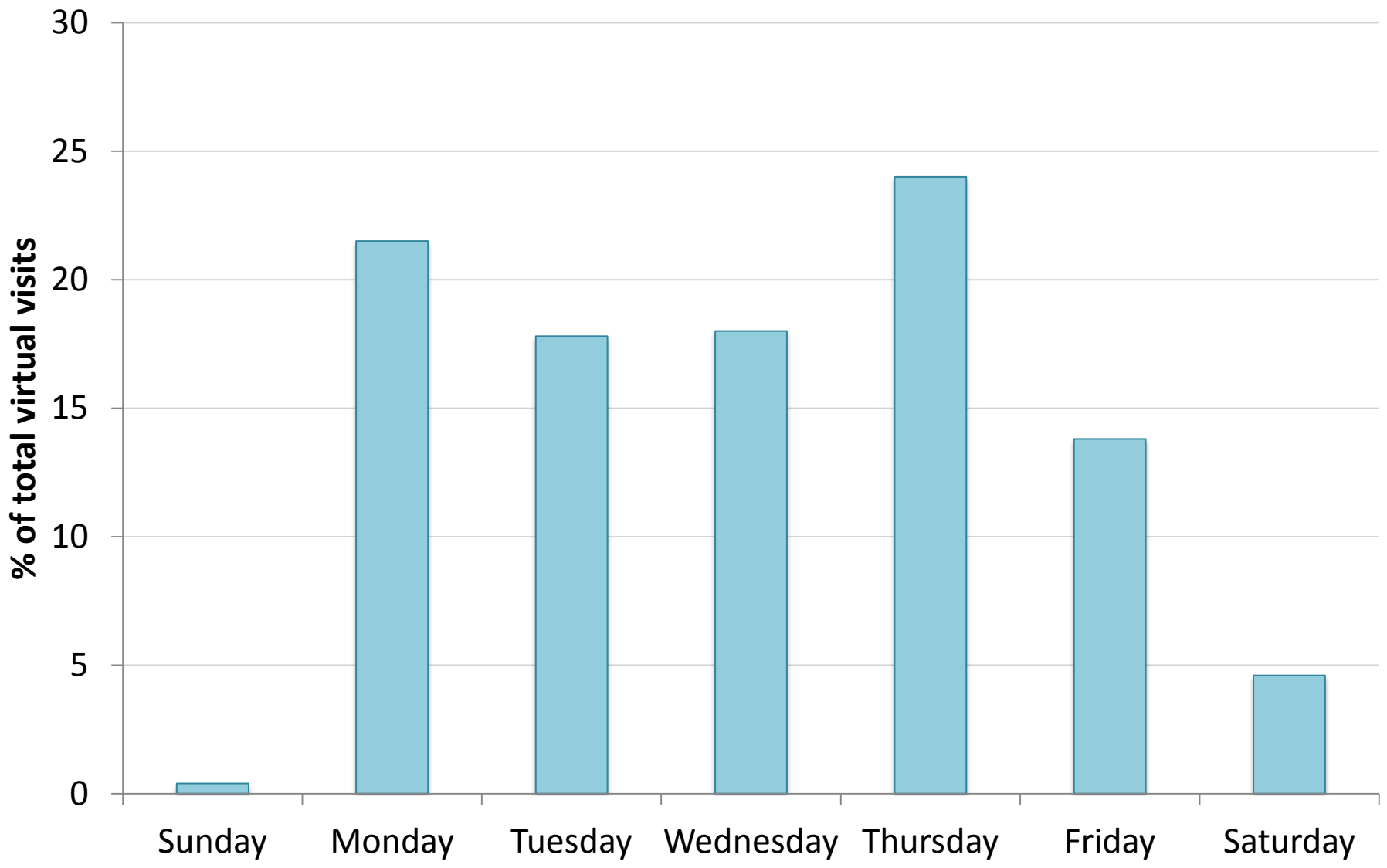
Presenting Condition	Virtual visit users		Regular visit (matched control)	
	N	%	N	%
Symptoms, signs, and ill-defined conditions	1299	15.3	4914	19.9
Mental disorders	1262	14.9	2103	8.5
Supplementary factors influencing health status and contact with health services (i.e. not disease or injury)	1002	11.8	618	2.5
Diseases of the respiratory system	852	10.0	3337	13.5
Diseases of the musculoskeletal system and connective tissue	540	6.4	1932	7.8
Diseases of nervous system and sense organs	525	6.2	1600	6.5
Endocrine, nutritional and metabolic diseases and immunity disorders	507	6.0	1387	5.6
Infections and parasitic diseases	467	5.5	1317	5.3
Diseases of the circulatory system	381	4.5	1418	5.7
Diseases of the genitourinary system	376	4.4	1662	6.7

Difference between groups is statistically significant (chi-square <0.0001)

Who are the physicians billing and not billing virtual visits?



When are virtual visits provided?



What happens with referrals, virtual vs. regular visits (2013/14)?

	Virtual visits		Traditional visits	
	N	(%)	N	(%)
Total visits	7,286		18,239,389	
General practice	112	1.5	268,315	1.5
Medical specialists	126	1.7	331,059	1.8
Surgical specialists	78	1.1	441,656	2.4
Imaging	139	1.9	1,383,187	7.6
Laboratory test	752	10.3	3022746	16.6
Prescription	3602	49.4	9009628	49.4

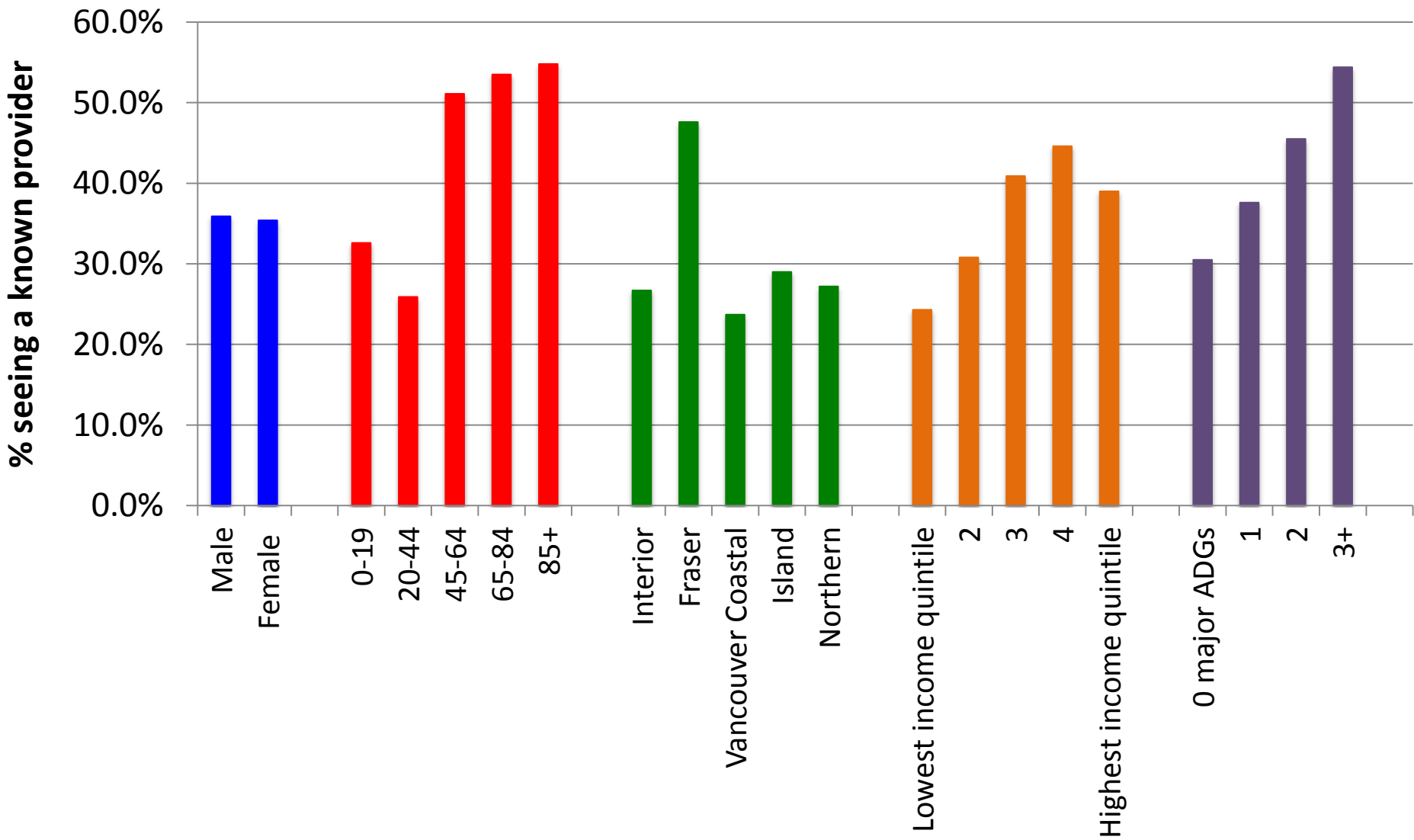
Do virtual visit patients and providers know each other?



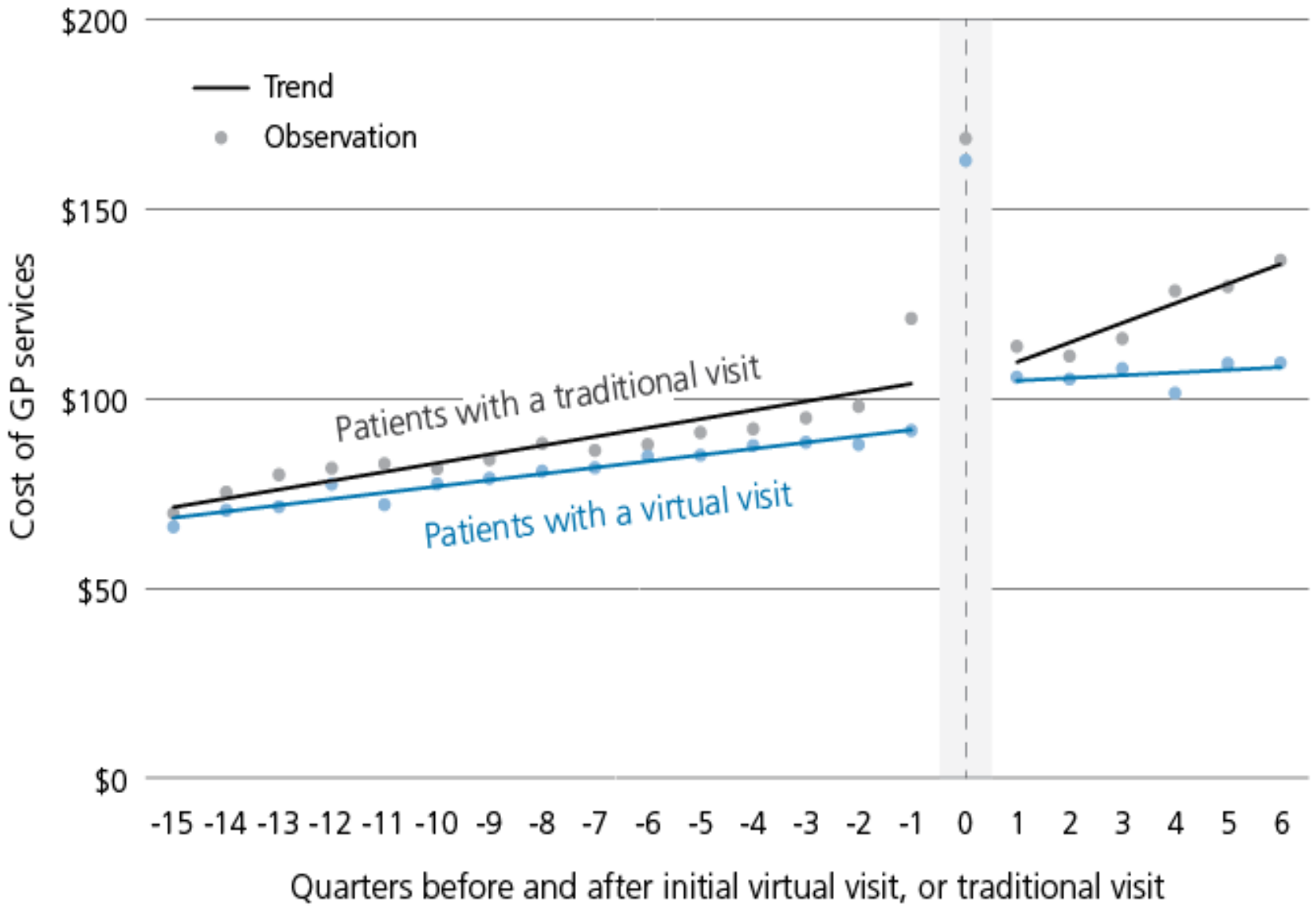
Half of virtual visits are with a known provider.

Half are not.

Who is seeing a known provider?



Do virtual visits affect overall health care services use?



Main messages - I

- The use of remote visit technology is growing rapidly. In British Columbia that growth has been particularly pronounced in primary care.
- Virtual visits offer the potential for increased and easier access for patients and more flexibility in work arrangements for physicians.
- People aged 20-44 and those who have at least one major health condition are more likely to use virtual visits.
- There is higher use in some very specific areas of the province but no distinct geographic pattern (e.g. rural vs. urban)
- Younger physicians, especially those under age 35, are most likely to provide virtual visits, as are those who run “low responsibility” (walk-in type) practices.

Main messages - II

- Just over a third of patients have a virtual visit with a physician they have seen in a regular office setting. This likelihood increases with age and with number of major health conditions. Those in the lowest (neighbourhood) socioeconomic group are least likely to see a known provider.
- Time series analysis suggests virtual visits may result in lower primary care costs overall, but this conclusion is tentative given limited follow-up time available for these analyses.
- There is no simple conclusion about the effect of virtual visits on existing patterns of health care services use.
- Virtual visits may be one means by which the health system can be more patient-centred.

Table 1: List of fee items includes in analyses, frequency of billing, and total dollars paid, all years combined

Fee item	Fee item description	Frequency	Total Dollars
13016	Telehealth GP out-of-office Consultation	34	\$3,525
13017	Telehealth GP out-of-office Visit	5755	\$219,770
13018	Telehealth GP out-of-office Indiv Counselling (>20 min)	313	\$2,264
12021	Telehealth GP out-of-office Group Counselling 1 st hr	14	\$1,194
13022	Telehealth GP out-of-office Group Counselling addn 1/2hr	2	\$128
13036	Telehealth GP in-office Consultation	8	\$563
13037	Telehealth GP in-office Visit	2211	\$68,294
13038	Telehealth GP in-office Indiv Counselling (>20 min)	149	\$8,556
13041	Telehealth GP in-office Group Counselling 1 st hr	8	\$678
13042*	Telehealth GP in-office Group Counselling 2 nd hr	0	\$0

* There were no 13042 fee item occurrences

Figure 3: Time series analysis of health care interventions

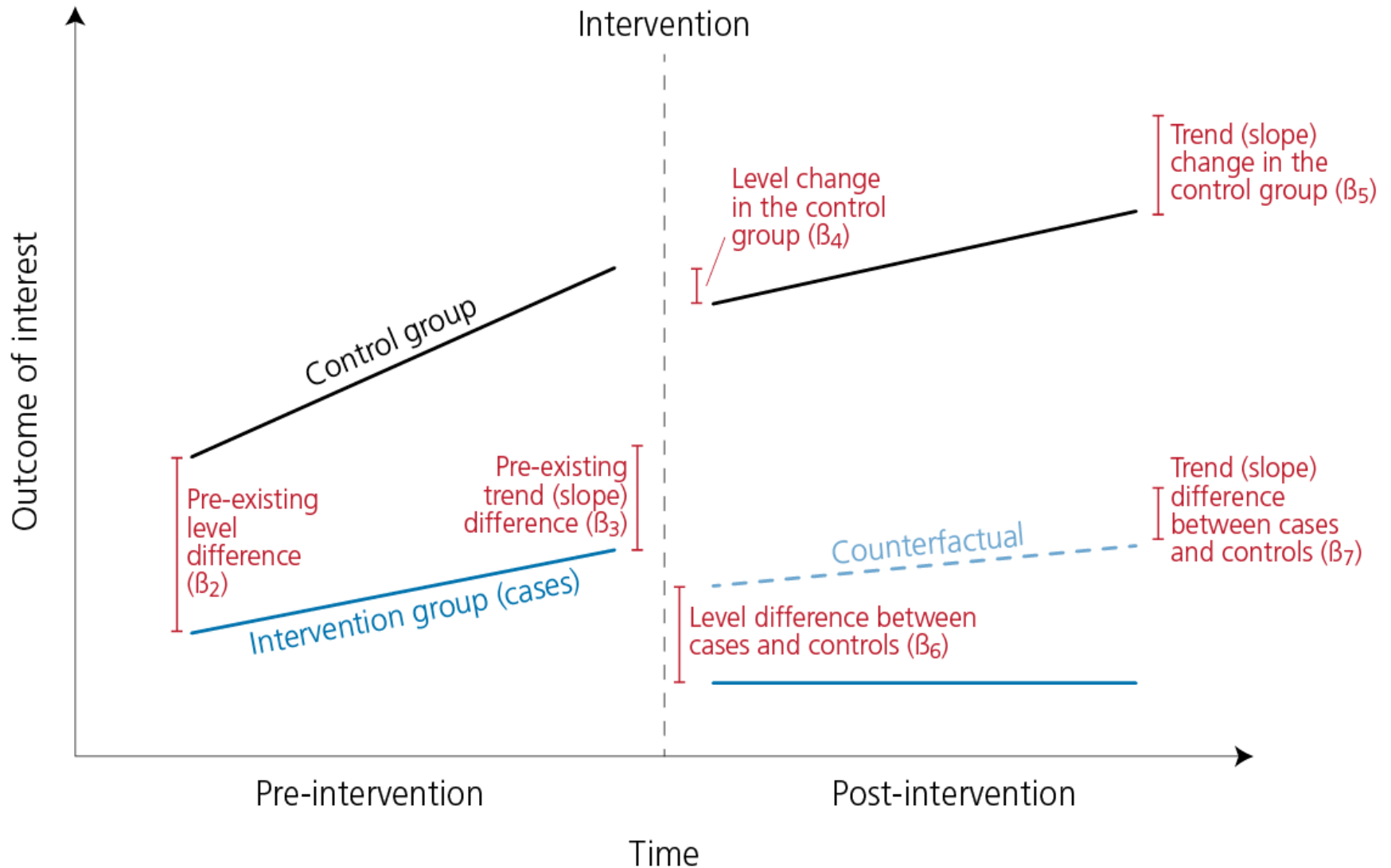


Table 10: Top 20 presenting conditions for virtual visits stratified by seen before by that physician or not seen before (ICD 9 overall)

Presenting Condition	Not seen before		Seen before	
	N	%	N	%
Essential hypertension	85	2.4	89	4.6
Symptoms involving nervous and musculoskeletal systems	75	2.1	72	3.7
Depressive disorder, not elsewhere classified	51	1.5	75	3.9
Contraception	118	3.4	1	0.1
Anxiety/depression	44	1.3	70	3.6
Diabetes Mellitus	48	1.4	59	3.1
Contraceptive advice	88	2.5	17	0.9
General symptoms	48	1.4	56	2.9
Anxiety States	72	2.1	13	0.7
Asthma	44	1.3	38	2.0

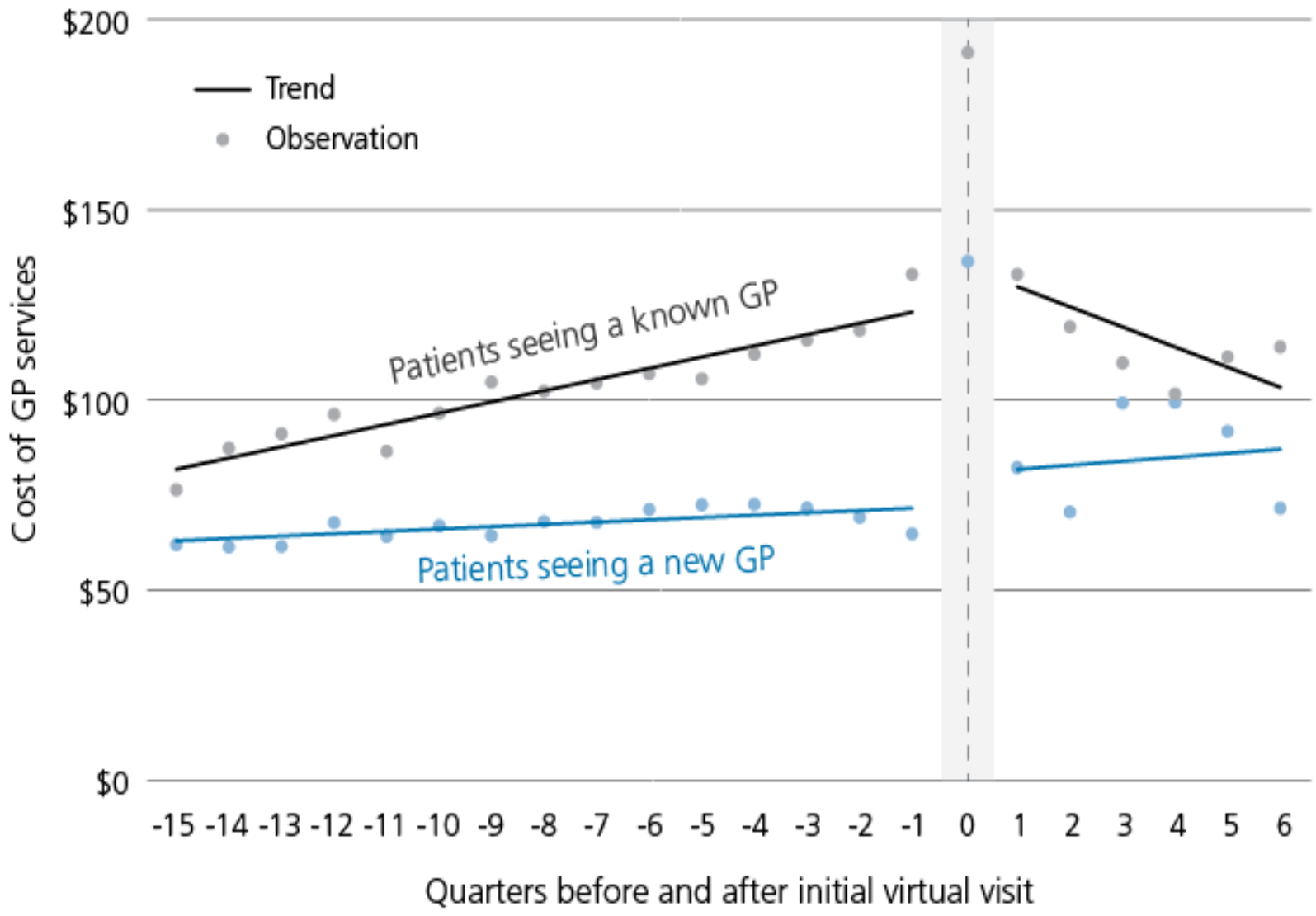
Difference between groups is statistically significant (chi-square <0.0001)

Table 10: Top 20 presenting conditions for virtual visits stratified by seen before by that physician or not seen before (ICD 9 overall)

Presenting Condition	Not seen before		Seen before	
	N	%	N	%
Acute sinusitis	44	1.3	37	1.9
Symptoms involving skin and other integumentary tissue	65	1.9	16	0.8
Depression	68	1.9	3	0.2
Dermatitis, eczematous	60	1.7	7	0.4
Symptoms involving digestive system	38	1.1	23	1.2
Acquired hypothyroidism	37	1.1	21	1.1
General counselling and advice	21	0.6	37	1.9
Dizziness, vertigo, insomnia	45	1.3	12	0.6
Disorders of lipid metabolism	7	0.2	47	2.4
Other acne	42	1.2	8	0.4

Difference between groups is statistically significant (chi-square <0.0001)

Figure 4: Spending on GP services by quarter, before and after an initial virtual visit, for patients seeing a known GP vs. patients seeing a new GP



Dr. Eric Cadesky



Questions/Discussion