



# Healthcare interactions among young immigrants in New Zealand: potential use of health information technology

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# Issue

- New Zealand census statistics on youth born overseas

14%  
(1996)



22%  
(2006)



25%  
(2013)



- Migration: opportunities and challenges
- Young people: vulnerable to unmet health needs

## ***Issue (cont.)***

- Health information technology is shown to mediate some of the adverse social and economic determinants of health among minority youth
- ‘Digital natives’

## ***Aim***

- to investigate healthcare interactions and information technology use by immigrant adolescents in New Zealand

# Method

## Youth'12 survey

- National secondary school student survey
- n= 8,500 (68% response rate)
- Self-administered questionnaire using touch screen tablets
- Students responded to a broad range of questions including:
  - Socio-demographic
  - Healthcare use and experience
  - Mobile phone and internet use



# Method (cont.)

## Participant groups:

1. Immigrant students
  - First generation immigrants (Foreign-born)
  - Second generation immigrants (NZ-born with one/both parents born overseas)
2. Non-immigrant students (Reference group)  
(NZ-born students with NZ-born parents)



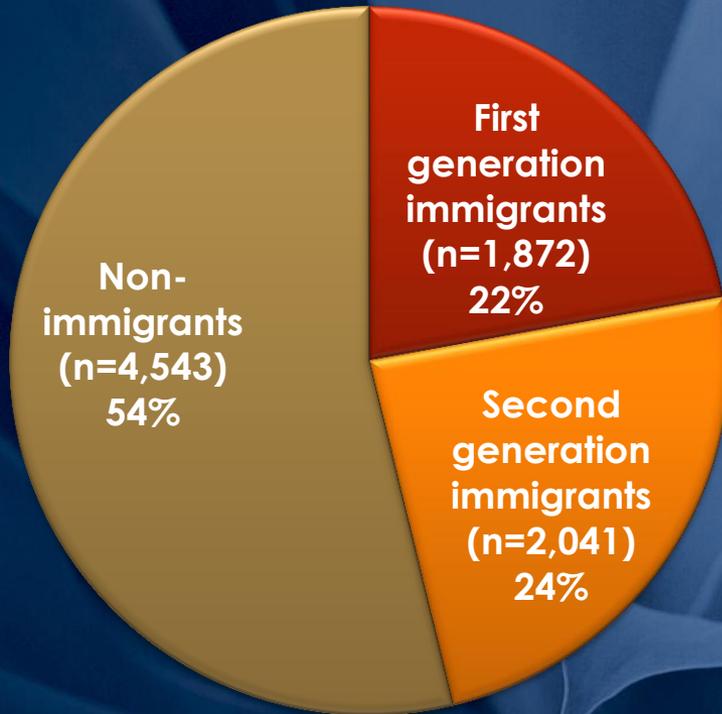
# Method (cont.)

## Analysis:

- Associations between immigrant status and healthcare experiences and technology use (Logistic regression models)
- Significant interactions by total response ethnicity were examined for
  - Pacific immigrants (ref: non-immigrant non-Pacific)
  - Asian immigrants (ref: non-immigrant non-Asian)
  - European immigrants (ref: non-immigrant non-European)



# Results



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**Demographic characteristics of study participants**

	Immigrant students		Non-immigrant students		P-value
	N	%(95%CI)	N	%(95%CI)	
<b>Age</b>					
≤13	800	44.1(37.3-50.9)	1021	55.9(49.1-62.7)	<0.001
14	819	43.5(37.1-49.9)	1071	65.5(50.1-62.9)	
15	802	46.1(39.9-52.2)	941	53.9(47.8-60.1)	
16	767	48.9(42.7-55.1)	806	51.1(44.9-57.3)	
≥17	723	51.1(43.6-58.6)	695	48.9(41.4-56.4)	
<b>Gender</b>					
Male	1809	47.0(40.0-54.1)	2042	53.0(45.9-60.0)	0.454
Female	2103	45.9(39.6-52.1)	2499	54.1(47.9-60.4)	
<b>Total response ethnicity<sup>2</sup></b>					
Maori	247	14.6(12.2-16.9)	1443	85.4(83.1-87.8)	<0.001
Pacific Island	1127	78.6(73.0-84.3)	307	21.4(15.7-27.0)	<0.001
Asian	1207	94.0(91.5-96.6)	78	6.0(3.4-8.5)	<0.001
Other	364	59.1(53.6-64.6)	254	40.9(35.4-46.4)	<0.001
European	2142	34.5(31.0-38.0)	4076	65.5(62.0-69.0)	<0.001

<sup>1</sup>Chi square test comparing all immigrants and non-immigrants

<sup>2</sup>Total exceeds 100%

**Socioeconomic characteristics of study participants**

	Immigrant students		Non-immigrant students		P-value
	N	%(95%CI)	N	%(95%CI)	
<b>NZ deprivation</b>					
Low (deciles 1-3)	1108	40.9(36.8-45.0)	1602	59.1(55.0-63.2)	<0.001
Medium (deciles 4-7)	1315	44.1(37.3-50.8)	1673	55.9(49.2-62.7)	
High (deciles 8-10)	1435	54.4(44.3-64.5)	1220	45.6(35.5-55.7)	

**Worry about not having enough money for food**

Often/ all the time	474	52.2(43.4-61.0)	439	47.8(39.0-56.6)	<0.001
Never/ occasionally	3194	45.5(39.8-51.3)	3841	54.5(48.7-60.2)	

**Times moved home in past year**

> twice	293	47.4(40.2-54.7)	324	52.6(45.3-59.8)	0.510
<= twice	3607	46.3(40.2-52.3)	4215	53.7(47.7-59.8)	

### Healthcare use by immigrant status

	N(%)		OR <sup>1</sup>	(95%CI)
	Immigrant students	Non-immigrant students		
Used healthcare in previous 12 months	2951(76.6)	3634(81.2)	<b>0.80</b>	<b>(0.71-0.91)</b>

Particularly among:

- **Pacific immigrant students** cf. non-immigrant non-Pacific students
- **Asian immigrant students** cf. non-immigrant non-Asian students

Used healthcare for emotional worries in previous 12 months	687(17.8)	844(18.8)	0.86	(0.74-1.00)
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- Lower odds among **Asian immigrant students** cf. non-immigrant non-Asian students

<sup>1</sup>Adjusted for demographic characteristics (age, sex, worry often about food, moved home frequently and NZDep2006 categories)

**Healthcare use by immigrant status**

	N(%)		OR <sup>1</sup>	(95%CI)
	Immigrant students	Non-immigrant students		
<b>Healthcare services used in previous 12 months</b>				
Family doctor, medical centre/ GP clinic	2780(71.1)	3426(75.6)	0.86	(0.78-0.95)
School health clinic	785(20.1)	728(16.2)	<b>1.26</b>	<b>(1.08-1.46)</b>
After hours clinic	485(12.4)	704(15.7)	0.84	(0.73-0.97)
Hospital A&E	531(13.6)	792(17.4)	0.76	(0.67-0.87)
Family planning/ sexual health services	125(3.2)	235(5.2)	0.53	(0.41-0.69)
Pharmacy/ chemist	1036(26.5)	1408(31.1)	0.86	(0.76-0.96)

<sup>1</sup>Adjusted for demographic characteristics (age, sex, worry often about food, moved home frequently and NZDep2006 categories)

### Healthcare experience by immigrant status

	N(%)		OR <sup>1</sup>	(95%CI)
	Immigrant students	Non-immigrant students		
Received private and confidential healthcare in previous 12 months (among students using HC)	798(27.1)	1034(28.6)	0.85	(0.76-0.96)

Lower odds among:

- **Pacific immigrant students** cf. non-immigrant non-Pacific students
- **Asian immigrant students** cf. non-immigrant non-Asian students

Foregone healthcare in previous 12 months	751(19.4)	805(17.8)	1.01	(0.92-1.11)
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- Higher odds among **Pacific immigrant students** cf. non-immigrant non-Pacific students

<sup>1</sup>Adjusted for demographic characteristics (age, sex, worry often about food, moved home frequently and NZDep2006 categories)

### Internet use by immigrant status

	N(%)		OR <sup>1</sup>	(95%CI)
	Immigrant students	Non-immigrant students		
<b>Used internet daily</b>	3454(93.3)	4051(93.2)	1.09	(0.84-1.41)

- Lower odds among **Pacific immigrants** cf. non-immigrant non-Pacific students
- Higher odds among **Asian immigrants** cf. non-immigrant non-Asian students

<sup>1</sup>Adjusted for demographic characteristics (age, sex, worry often about food, moved home frequently and NZDep2006 categories)

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- Lower odds among **Pacific immigrants** cf. non-immigrant non-Pacific students
- Higher odds among **Asian immigrants** cf. non-immigrant non-Asian students

Used internet for health information	607(15.6)	653(14.4)	1.09	(0.97-1.23)
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Higher odds among:

- **European immigrant students** cf. non-immigrant non-European students
- **Asian immigrant students** cf. non-immigrant non-Asian students

<sup>1</sup>Adjusted for demographic characteristics (age, sex, worry often about food, moved home frequently and NZDep2006 categories)

## Access to mobile phones by immigrant status

	N(%)		OR <sup>1</sup>	(95%CI)
	Immigrant students	Non-immigrant students		
<b>Mobile phone use</b>	618(16.3)	426(9.3)	<b>0.53</b>	<b>(0.45-0.63)</b>

Particularly among:

- **Pacific immigrant students** cf. non-immigrant non-Pacific students
- **Asian immigrant students** cf. non-immigrant non-Asian students

<sup>1</sup>Adjusted for demographic characteristics (age, sex, worry often about food, moved home frequently and NZDep2006 categories)

# Conclusions

- ▶ Compared with non-immigrants, adolescent immigrants in NZ have lower odds of:
    - ▶ using health services
    - ▶ receiving private and confidential healthcare
    - ▶ access to mobile phones
- } Varied by ethnicity

## **Conclusions (cont.)**

- **Pacific immigrant students** (cf. to non-immigrant non-Pacific students):
  - Higher odds of foregone healthcare
  - Lower odds of using the internet and mobile phones
- **Asian immigrant students** (cf. non-immigrant non-Asian students):
  - Higher odds of internet use, including for health information
  - Lower odds mobile phone use



# **Recommendation**

- When developing health information technology to address unmet health needs of young people in Aotearoa/ New Zealand
  - **Immigrant status**
  - **Ethnicity**

# Thank You

The Youth'12 project was funded by the Ministries of Youth Development, Social Development, Health, Education and Justice, the Department of Labour, the Families Commission and the Health Promotion Agency (HPA)

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**For more detailed information please see our website**

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