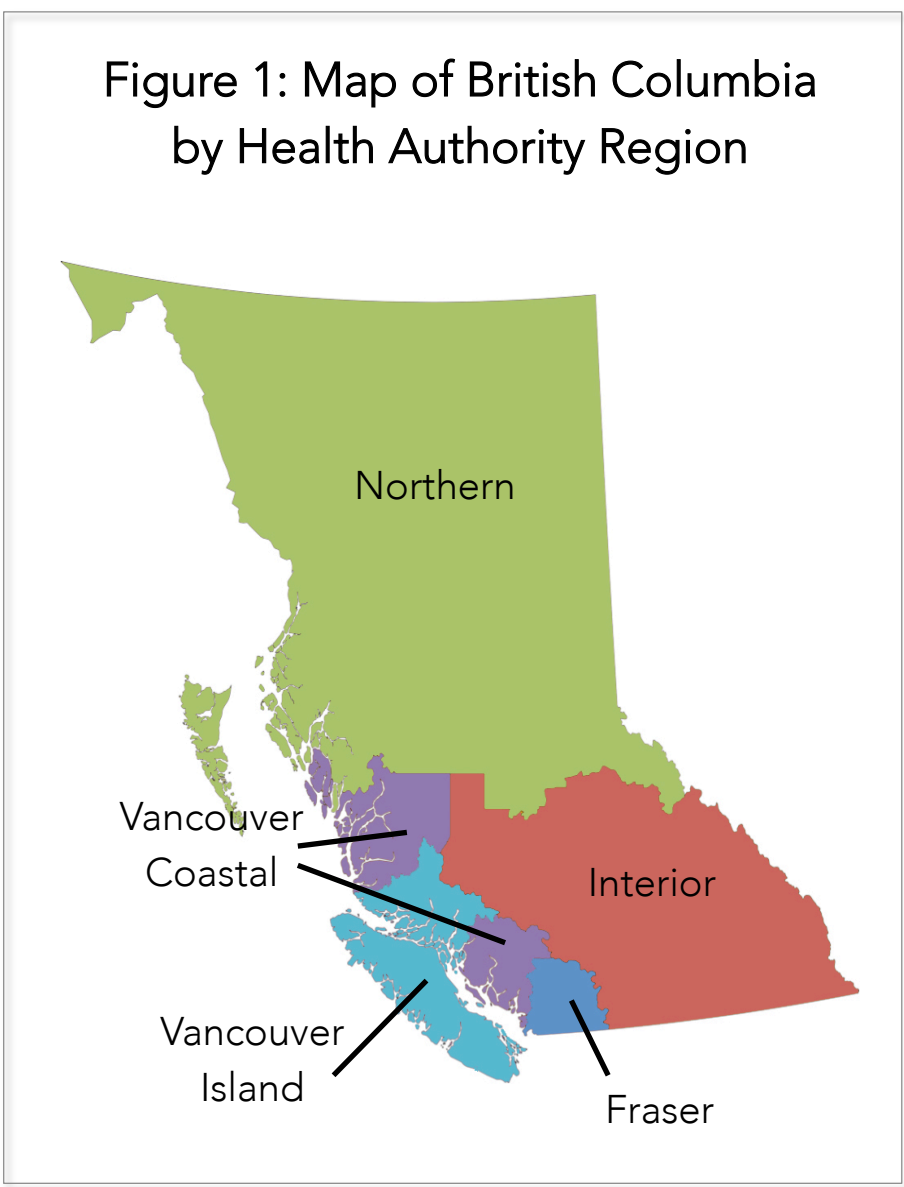


Background

- There are disparities in access to physicians who prescribe antiretrovirals (ARVs) between rural and urban settings.
- In British Columbia (B.C.), Canada, any licensed physician can prescribe ARVs, including family physicians and specialists.
- Profiles of physicians who prescribe ARVs (hereon, ARV Physicians) can help to understand education and programmatic needs to expand HIV care.



Method

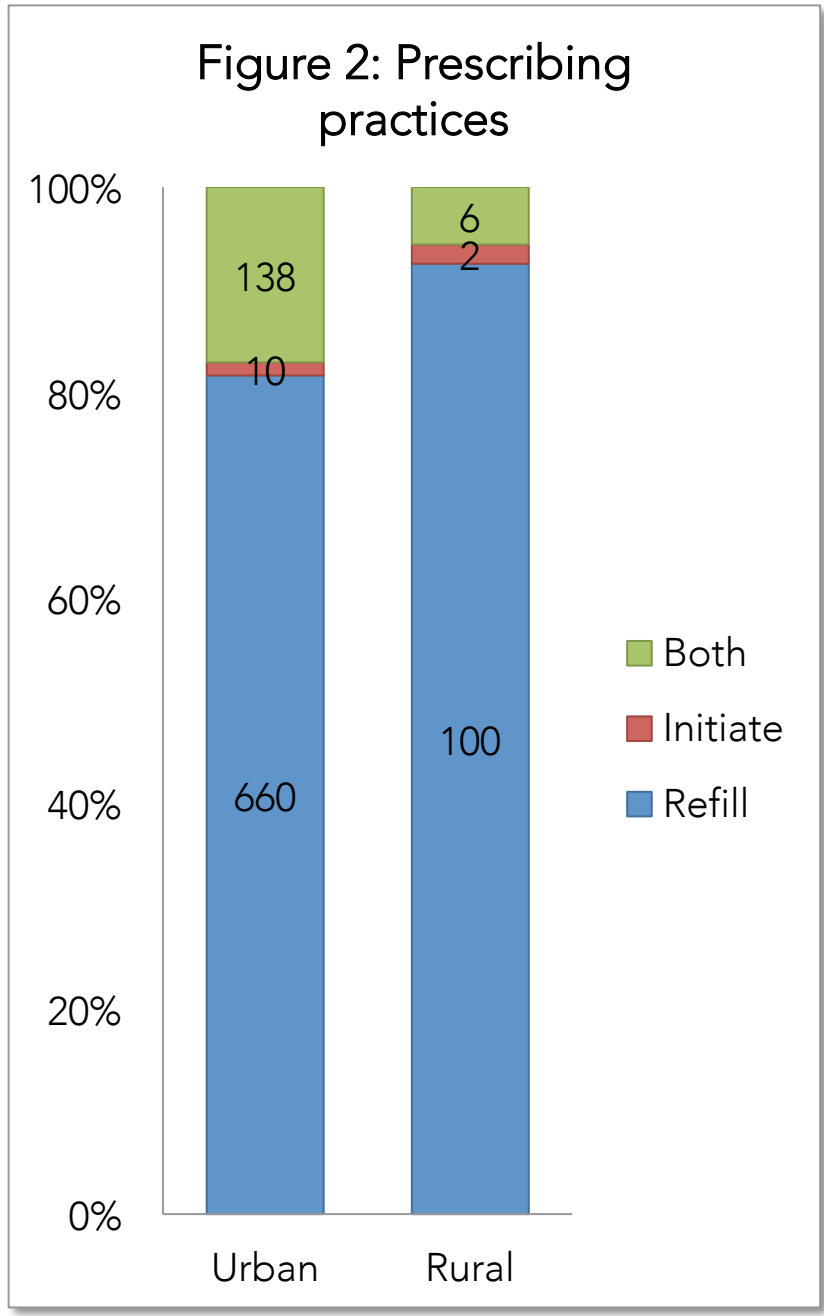
- Physician ARV prescription data were collected from the HIV/AIDS Drug Treatment Program (DTP) between January 1, 2014 and December 31, 2014. The DTP is a centralized system that provides access to ARVs free-of-charge to all HIV-positive individuals residing in B.C. Only the data of physicians who prescribed ARVs in 2014 were collected.
- Data regarding physician specialty and location were collected from the B.C. College of Physicians and Surgeons.
- We compared characteristics of ARV Physicians in rural and urban areas. We used Canada Post's definitions of rural and urban based on the physicians' postal codes. *Urban* is defined as "generally serviced by letter carrier or community mailboxes." *Rural* is defined as "serviced by rural route drivers and/or postal outlets" for "customers residing along or near well defined roads in reasonably well settled rural areas." ^a
- B.C. is divided into 5 Health Authority regions (see Figure 1). We also compared physician prescribing patterns between urban and rural regions within each Health Authority region.
- A physician with ≥6 HIV-positive patients was defined as HIV-experienced. ^b
- Chi Square Test and Wilcoxon's Rank-Sum Test were applied to generate p-values.

Results

- 916 physicians completed at least one ARV prescription (7.3% of the total number of registered physicians in B.C.).
- 808 (88.2%) were in urban areas and 108 (11.8%) were in rural areas.

A) Prescribing Practices

- Rural physicians were more likely to refill ARVs than initiate/change ARV prescriptions (Urban 81.6%, Rural 92.6%, $p=0.0046$).
- More urban ARV Physicians both refilled and initiated/changed ARV prescription (Urban 17.1%, Rural 5.6%, $p=0.0079$) (see Figure 2).

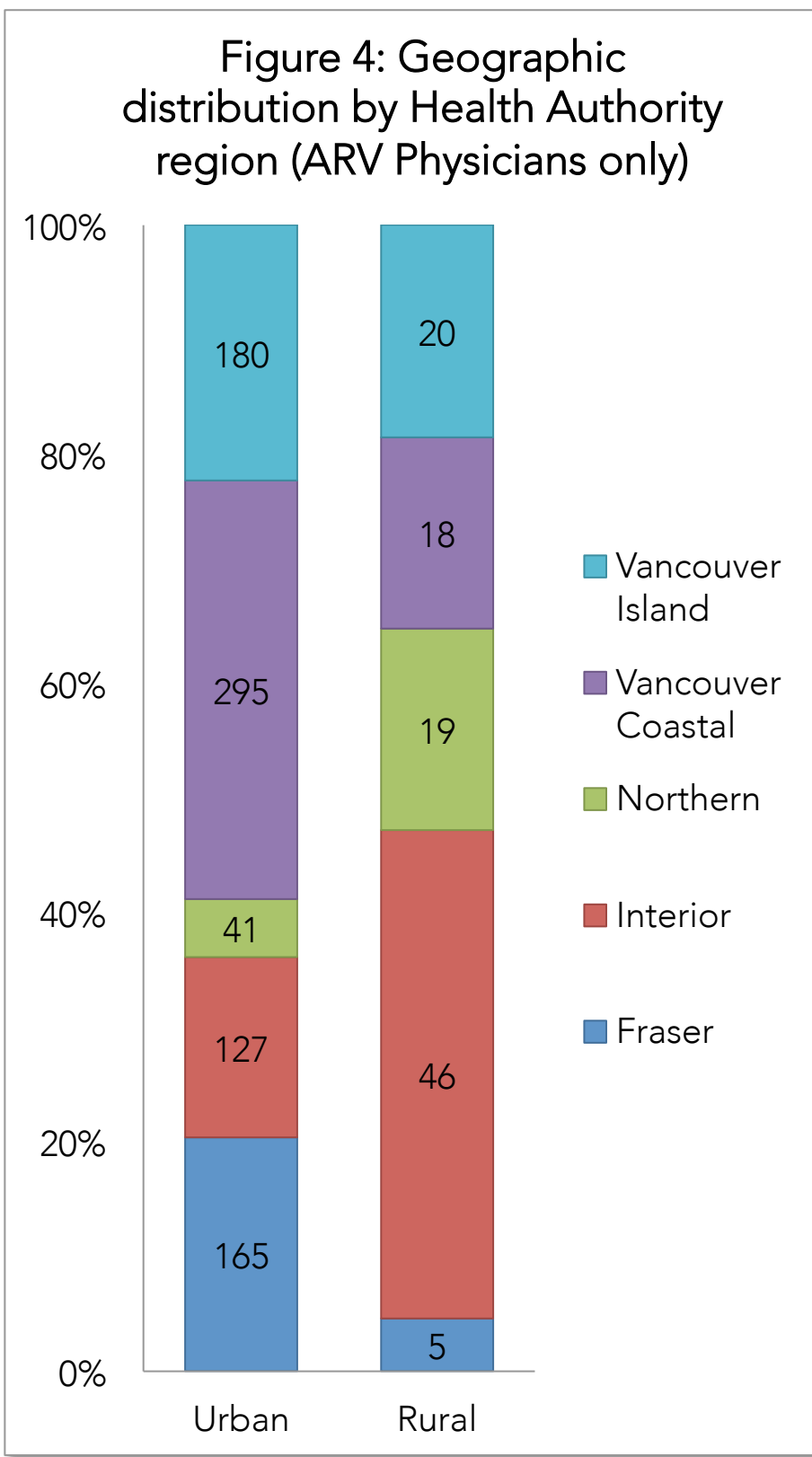
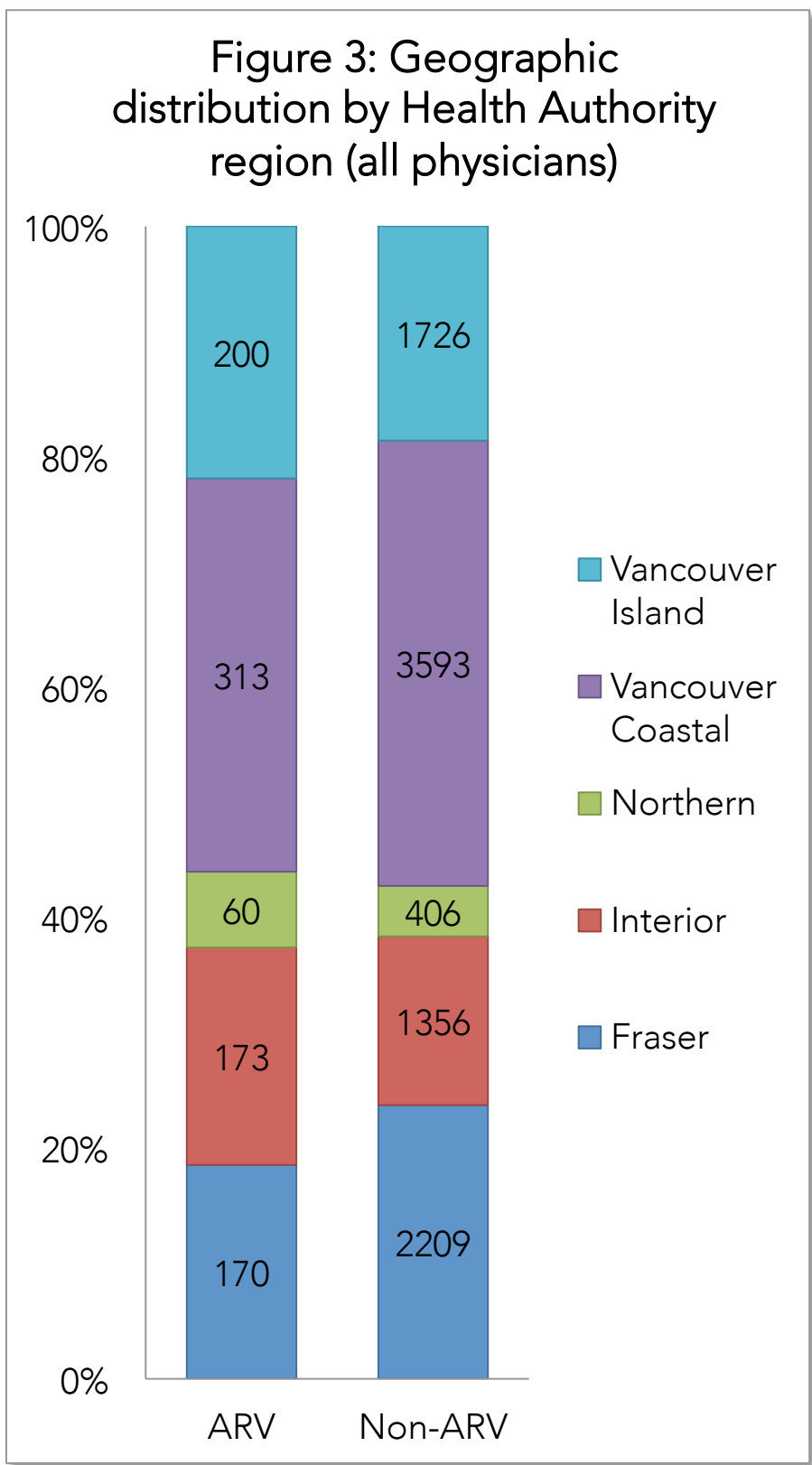


B) Medical Specialty

- Of physicians who prescribe ARVs, more family physicians in rural areas prescribed ARVs than those in urban areas (Urban 92.9%, Rural 98.1%, $p=0.0398$).
- Among urban ARV Physicians, the remaining specialties were: 28 Infectious Diseases, 15 Internal Medicine, and 13 Other. Among rural ARV Physicians, the remaining specialties were: 1 Internal Medicine, 1 Other.

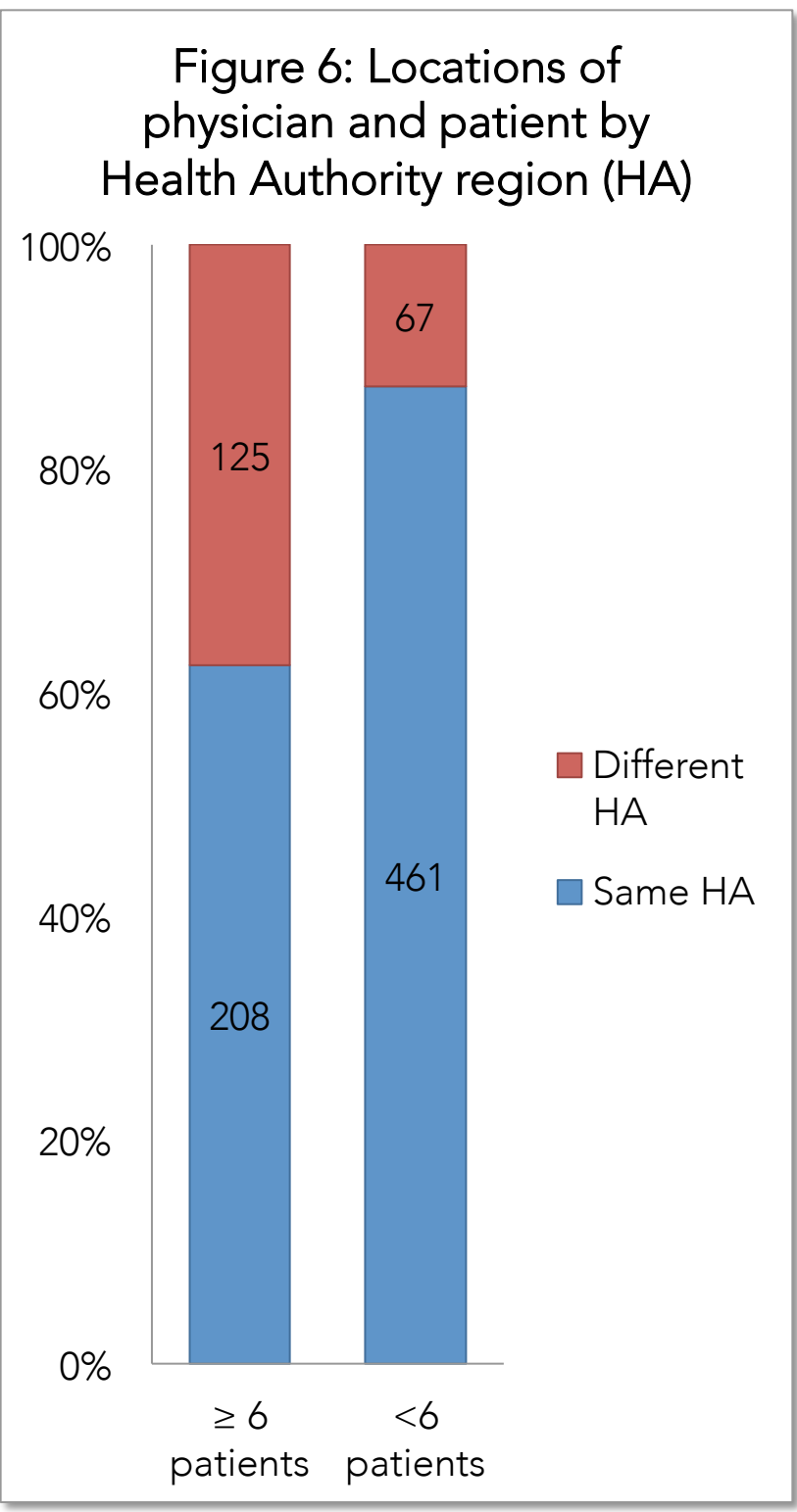
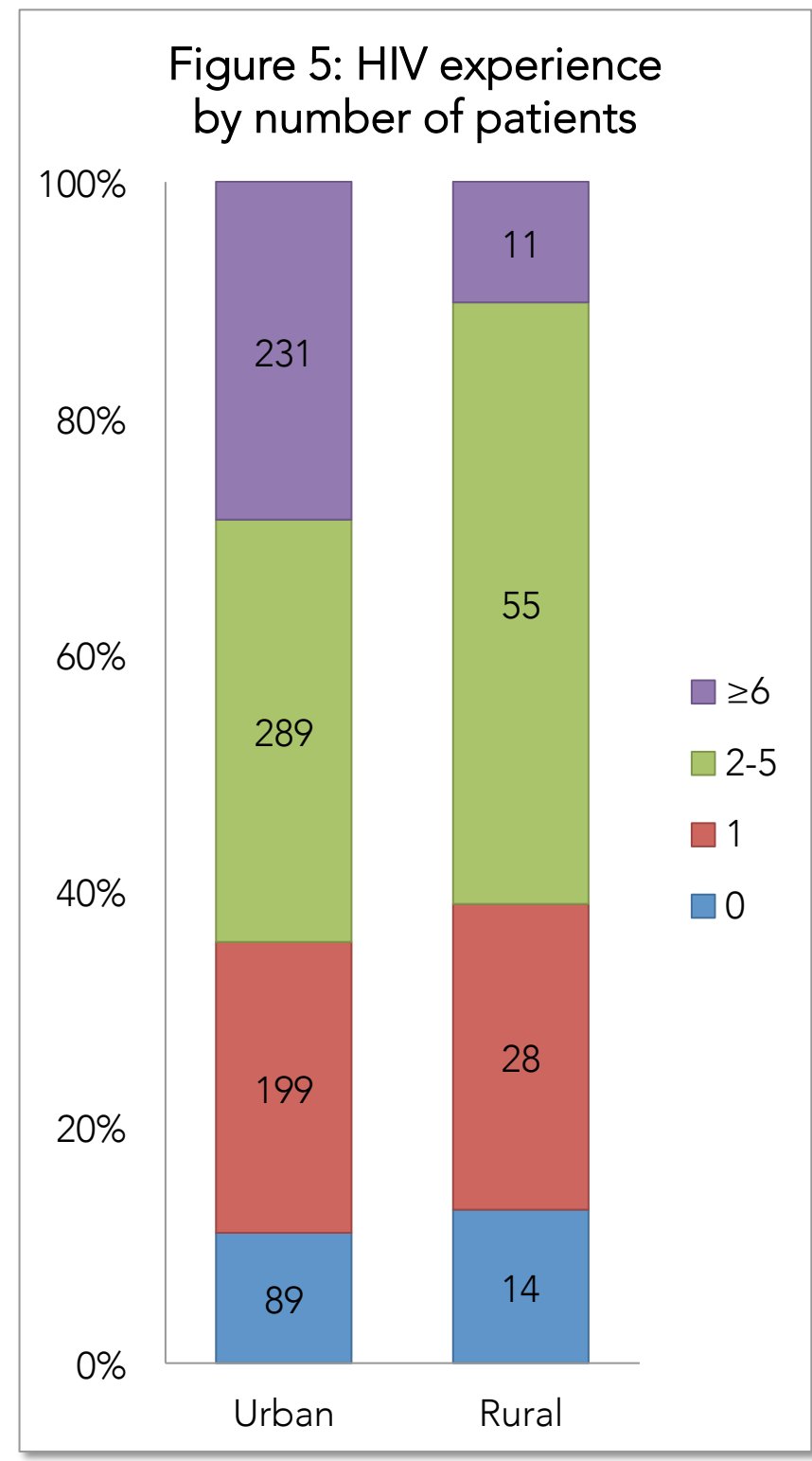
C) Geographic Distribution by Health Authority Region

- The proportion of ARV Physicians in Vancouver Island, Northern, and Interior regions were higher than the proportion of non-ARV Physicians. Conversely, the proportion of ARV Physicians in Vancouver Coastal and Fraser regions were lower than the proportion of non-ARV Physicians ($p<0.0001$) (see Figure 3).
- Among urban ARV Physicians, 36.5% were in Vancouver Coastal region. Northern region had the lowest proportion of urban ARV Physicians at 5.1%. ($p<0.0001$). Among rural ARV Physicians, 42.6% were in the Interior region of B.C. Fraser region had the lowest proportion of rural ARV Physicians at 4.6%. ($p<0.0001$). (See Figure 4.)



D) HIV Experience

- More urban ARV Physicians were HIV-experienced (Urban 28.6%, Rural 10.2%, $p=0.0004$) (see Figure 5).
- HIV-experienced ARV Physicians were more likely to have at least 1 patient from a different Health Authority region (Experienced 58.1%, Not experienced 13.3%, $p<0.0001$) (see Figure 6).



Conclusions

- There are fewer ARV Physicians in rural areas of B.C. compared to urban areas.
- Rural ARV Physicians are more likely to refill ARVs than initiate/change ARV prescriptions. Urban ARV Physicians are more likely to both refill and initiate/change ARV prescription.
- Vancouver Coastal region has the highest percentage of urban ARV Physicians. The Interior region has the highest percentage of rural ARV Physicians.
- More ARV Physicians in rural areas tend to be family physicians than their urban counterparts.
- More urban ARV Physicians are HIV-experienced.

^a Canada Post Corporation, *Glossary*, 2015.

^b ARV-prescribing physicians who have experience with 6 or more HIV-positive patients are linked to better HIV care outcomes among patients with low CD4 counts (Wood E, et al., *AIDS* 2003;17:711-720).