ANALYSIS OF UNMATCHED IMMIGRANTS IN THE BIZNET DATABASE

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PROJECT TITLE
Analysis of unmatched immigrants in the BizNet Database

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HOW TO CITE THIS WORK

KEY MESSAGES

- This report is an extension of previous work done by the New Brunswick Institute for Research, Data and Training (NB-IRDT) to assess the retention of immigrants in New Brunswick.

- The previous report[1] found that approximately 17% of Primary Applicants (Provincial Nominees) identified in the BizNet Database[2] could not be linked in the Citizen Database (Medicare Registry) stored at NB-IRDT. In other words, it appears that these nominees did not register for provincial health insurance in NB. If accurate, this would suggest that almost one-sixth of people nominated by NB and landed in Canada may take up residence elsewhere in the country.

- This raises an important question: How many Provincial Nominees are missing from our data because they did not reside in NB long enough to apply for Medicare? Since individual data matching may be faulty due to incomplete or inaccurate personal information between the two datasets, it is possible some missing residents do actually reside in NB.

- In this report, we investigate the extent to which unmatched Provincial Nominees never actually resided in NB by identifying members of each household in BizNet. If household members are able to be matched in the Citizen Database, we can assume the unmatched Provincial Nominee Program (PNP) nominee resided in NB.

- Analysis by household (family unit) shows that the vast majority of unmatched primary applicants (about 89%) lived in a household where no members could be matched.

- Since it seems unlikely that multiple members of a household would be unmatched due to spelling mistakes (or other errors), this suggests that most of the unmatched immigrants who were nominated to move to NB never actually arrived in the province, or at least did not stay long enough to establish Medicare eligibility.

- The slight change in the overall matching rate (from 83% to 85%) has a minor impact on the retention rates of PNP nominees discussed in the previous report. This indicates that the likelihood of PNP nominees remaining in the province remains around 75% on average for 1 year.

- It takes around three and a half months on average for a landed immigrant (PNP nominee) to register for Medicare. Half of PNP nominees apply shortly after landing (median: 1 day). However, around 10% take more than 14 months to apply. This implies that some recent immigrants could still apply for Medicare one year after arriving in New Brunswick. Thus, some of those unmatched nominees may eventually re-enter and settle in NB.

- The higher matching rates among PNP nominees with job offers implies the significance of a job offer in influencing both the arrival and retention of an immigrant in the province.

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[1] Leonard, P., McDonald, T., & Miah, P. (2019). Immigrant retention in New Brunswick: Results from BizNet and Citizen Database. Fredericton, NB: New Brunswick Institute for Research, Data and Training. Retrieved from https://www.unb.ca/nbirdt/_assets/documents/nbirdt/research/2019-immigrant-retention-colour.pdf

[2] The BizNet Database is provided by the Department of Post-Secondary Education, Training and Labour (PETL).

INTRODUCTION

New Brunswick (NB) has been facing the problem of an aging and shrinking population for some time now, and both factors are likely to affect the economy and workforce of the province. To implement measures for proactive population growth and for increasing the size of the labour force, the Government of New Brunswick (GNB) has identified immigration as a key strategy – and while NB has seen a growing number of immigrant arrivals, the retention of landed immigrants must be a primary objective.

Identifying trends in immigrant retention, and factors influencing retention, can help decision makers understand how well current policies work and – if required – make necessary changes.

In 2019, NB-IRDT released a report titled "Immigrant retention in New Brunswick: Results from BizNet and Citizen Database."[3] In this publication, researchers examined (i) the number of landings and (ii) the retention rates of immigrants in NB, with a particular emphasis on immigrants who arrived through the Provincial Nominee Program (PNP).

This report builds on the findings of the 2019 publication to analyze instances in which immigrants arriving through PNP are present in the BizNet Database but cannot be matched in the Citizen Database. These two datasets are matched through the Department of Health based on the name, gender, and birthdate of individuals, in the absence of a unique identifying number (e.g. Medicare number). This work also provides descriptive statistics for unmatched immigrants (primary applicants and their household) by family type, job offer, and industry.

Identifying the extent to which PNPs are not coming to NB (or are not staying long enough to register for Medicare) is important in helping us understand how effective our provincial retention efforts are. For immigrants arriving in NB, retention efforts can be directed to encouraging them to remain in the province. However, these retention efforts cannot be targeted towards the immigrants who do not arrive in the first place. Thus, there may be a need to expand a policy focus on retention to also consider attraction – that is, how to encourage more nominees to move to NB upon arrival in Canada.

METHODOLOGY

To construct the household size of PNP nominees, we used the indicators for household ID and family size in the BizNet Database. This enabled us to indicate the number of members from each household that could be matched in the Citizen Database.

A "Matched Household" refers to a household with at least one member who is matched in the Citizen Database (i.e., one member registered for provincial Medicare). Meanwhile, an "Unmatched Household" does not have even a single member matched in the Citizen Database.

Using the indicators for family size and type of dependents present in the household (i.e., spouse and children), we constructed family types of PNP immigrants. Furthermore, to estimate the average time it takes for an immigrant to register for provincial Medicare, we subtracted the first activation date in the Citizen Database from the landing date of primary applicants in BizNet.

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3 Leonard, P., McDonald, T., & Miah, P. (2019). Immigrant retention in New Brunswick: Results from BizNet and Citizen Database. Fredericton, NB: New Brunswick Institute for Research, Data and Training. Retrieved from https://www.unb.ca/nbirdt/_assets/documents/nbirdt/research/2019-immigrant-retention-colour.pdf

RESULTS

Table 1 below shows the distribution of matched (linked) and unmatched (unlinked) immigrant households in the BizNet Database. Around 85% of households (7,045) are matched to the BizNet Database. In other words, at least one member in 85% of immigrant households registered for Medicare after landing. Of these 7,045 matched households, 150 do not have a matched primary applicant, but one of the dependents in the household is matched. These 150 unmatched primary applicants (in matched households) account for 11% of all unmatched primary applicants in the BizNet Database.

Primary applicants must land in Canada in order for other family members to officially land as well. Therefore, even though 11% of these primary applicants are not matched in the Citizen Database, having at least one household member matched indicates that they landed in the province with their family. This implies that the inability to match them with the Citizen Database is due to incomplete or inconsistent personal information (such as the spelling of a name) rather than not arriving in NB.

After accounting for these matched household members, the overall matching rate for primary applicants between BizNet and the Citizen Database only increased from 83% (calculated in the previous report) to 85%. This slight change in the matching rate of primary applicants barely alters the retention rates of the arrived (upper bound) and targeted (lower bound) PNP nominees in the province, with average 1-year retention rates of 75% and 64%, respectively.

Table 1: Distribution of Matched and Unmatched Households

Households (HH)	N
Matched HH	7,045
Unmatched HH	1,215
Total HH	8,265

Matched HH but Unmatched Primary Applicants	150

Note: All counts have been independently rounded to the nearest 5 to protect confidentiality. The total value may not necessarily match the summed individual values.

As presented in Table 2, the majority of PNP nominees have a spouse and children with them (62% or 5,115), and approximately 17% percent of these households are unmatched. On the other hand, the lowest number of nominations (3%, or 220) are primary applicants with children only (i.e. no spouse). However, over 18% of these households are unmatched.

Around 12% of PNP nominees without accompanying household members are unmatched, while less than 9% of households comprised of primary applicants and their spouses (no children) are unmatched (Table 2).

The higher distribution of unmatched households among families with children implies that PNP immigrants with children are less likely to arrive in the province compared to other family types.

Table 2: Completely Unmatched HHs by Family Type

Family Type	Unmatched	Matched	Total	Percentage of Unmatched
Applicant Only	220	1,560	1,780	12.4%
Spouse	100	1,045	1,145	8.7%
Spouse & Children	855	4,260	5,115	16.7%
Children Only	40	180	220	18.2%

Note: All counts have been independently rounded to the nearest 5 to protect confidentiality.
The total value may not necessarily match the summed individual values.

Table 3 estimates the number of days it takes for an immigrant to be registered in the provincial health care system (Medicare) after landing in New Brunswick.

On average, it takes 109 days, or around three and half months, for a landed PNP nominee to register for Medicare, with 50% (median) applying within 1 day after landing. Within 14 months (431 days), 90% of landed immigrants are registered in the Citizen Database. The average of 109 days for registration is high due to the 10% of landed immigrants that take more than 14 months to register for Medicare.

It should be noted that international immigrants arriving in NB can apply for provincial health care immediately upon arrival. However, it is possible that household members could arrive much later than primary applicants. Therefore, the findings in Table 3 indicate that recent immigrant arrivals, especially household members of primary applicants, could still apply for Medicare one year after the primary applicant lands.

Table 3: Average Time for Active Status in Citizen Database after Landing (PNP immigrants)

	Mean (in days)	90th Percentile (in days)	Median (in days)
Number of Days for activation after landing (All Primary Applicants)	109.4	431	1
Number of Days for activation after landing (Matched Primary Applicants)	109.2	434	1
Number of Days for activation after landing (Unmatched Primary Applicants - Matched HH)	115.3	314	3.5

The tables below estimate differences between matched and unmatched immigrants in terms of job offer and industry based on the National Occupational Classification (NOC) and the North American Industry Classification System (NAICS). Among 1,215 PNP nominees who did not arrive in NB, 89% did not have a job offer, compared to 11% who had a job offer. On the other hand, approximately 33% of 7,045 matched primary applicants had job offers indicated in their application (Table 4).

Table 4: Distribution of Matched and Unmatched HHs by Job Offer of Primary Applicants

Household	Job Offer	No Job Offer	Total	Percentage with Job Offer	Percentage with No Job Offer
Matched Household	2,295	4,750	7,045	32.6%	67.4%
Unmatched Household	135	1,085	1,215	11.1%	89.3%

Note: All counts have been independently rounded to the nearest 5 to protect confidentiality. The total value may not necessarily match the summed individual values.

The distribution of matched and unmatched primary applicants according to indicated industry classification is shown in Table 5. The "Unknown – Entrepreneur"4 category has the highest count for industry, indicated by both matched and unmatched primary applicants. However, almost one-quarter of primary applicants under the "Unknown – Entrepreneur" category (24.4%) are unmatched (i.e., they have not landed in the province.) The "Unknown – Entrepreneur" category accounts for nearly two-thirds (64%) of all unmatched primary applicants.

Table 5: Distribution of Primary Applicants by Industry Classification (NOC & NAICS)

Industry	Unmatched	Matched	Total	Percentage Unmatched
Unknown – Entrepreneur	845	2,615	3,460	24.4%
Professional, Scientific & Technical	195	1,045	1,240	15.7%
Transportation & Warehousing	30	715	745	4.0%
Accommodation & Food Services	65	560	625	10.4%
Manufacturing	30	375	405	7.4%
Administrative & Support, Waste Mgt	25	280	305	8.2%
Health Care and Social Assistance	30	195	225	13.3%
Finance and Insurance	30	145	175	17.1%
Retail Trade	25	145	170	14.7%
Other Services (except Public Admin)	10	110	120	8.3%
Educational Services	10	85	95	10.5%
Public Administration	10	90	100	10.0%
Construction	5	75	80	6.3%
Wholesale Trade	10	65	75	13.3%
Agriculture, Forestry, Fishing & Hunting	5	65	70	7.1%
Arts, Entertainment and Recreation	5	25	30	16.7%
Information and Cultural Industries	0	10	10	0.0%
Utilities	0	10	10	0.0%
Real Estate and Rental and Leasing	0	5	5	0.0%

Note: All counts have been independently rounded to the nearest 5 to protect confidentiality. The total value may not necessarily match the summed individual values.

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4 The category of "Unknown – Entrepreneur" is coded as "Entrepreneur" for industry classification in the applications of the provincial nominees. However, the dataset does not indicate any specific industry classifications (under NAICS) for these nominees.

CONCLUSION

Even though it was possible to match at least one household member for a small proportion (11%) of unmatched primary applicants in BizNet to the Citizen Database, the overall effect of these additional numbers on the matching rate and the retention rates of PNP nominees is not significant.

For the remaining unmatched primary applicants (89%), no household members could be matched to the Citizen Database. It is highly unlikely that all the members of a household would be unmatched due to erroneous or mismatched information in the records. This indicates that most of the unmatched records of primary applicants are likely the result of PNP nominees not moving to New Brunswick, or possibly leaving before registering for provincial Medicare.

The overall matching rate (85%) indicates that 15% of all primary applicants did not arrive in NB upon landing in Canada. Because retention efforts targeted at immigrants residing in NB will not impact those who never land in the province, additional policy measures may be required to encourage more provincial nominees to land in NB.

We recommend further research to identify characteristics associated with non-arrival in NB after nomination. For example, the higher job offer rates among matched PNP nominees could indicate the importance of a job offer as a factor influencing immigrant arrival in the province, as well as subsequent retention. Identifying factors that are likely to impact landing as well as retention rates can help pinpoint areas where policy interventions could have the greatest impact.