



**United Way Energy / Utility Support Programme Analysis
2015 to 2022**

For the two-year (25 months) period of 2019 to 2022, inclusive, the average number of applications per distinct client was 1.7.

This finding indicates that the majority of clients are not long-term recipients of energy support payments.

INTRODUCTION

This report presents summarized data for the United Way’s energy support program 2015 to 2021.

In addition to the United Way, there are other organizations that process electricity and natural gas support applications, most notably the YMCA Housing Program and the Salvation Army in Wiarton. Their data is not reflected in this report.

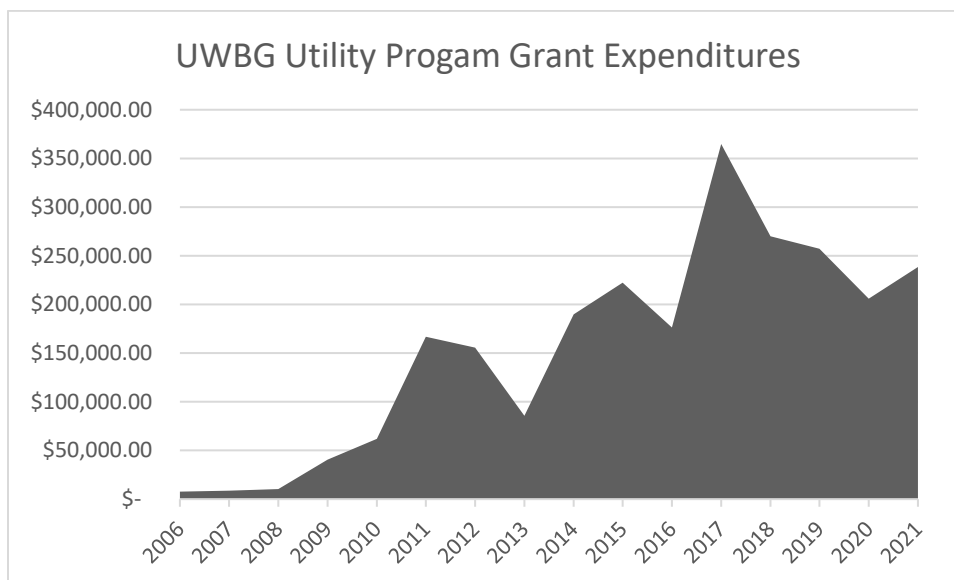
For more information on this report please contact the United Way at 519-376-1560

HISTORY

In 2006 the United Way was approached to provide grants of \$500 for Union Gas customers who were low income and in arrears with their Union Gas bills. In 2008 the program extended to electricity arrears as well. While processing the applications the United Way identified that applicants were also struggling with furnace oil, propane and cord wood. Funding and fundraising was initiated to expand the program to cover those costs as well.

The United Way processes applications for natural gas and electricity arrears, but does not handle the provincial level of funds directly. Funding reflected in this report is a combination of both local and provincial dollars.

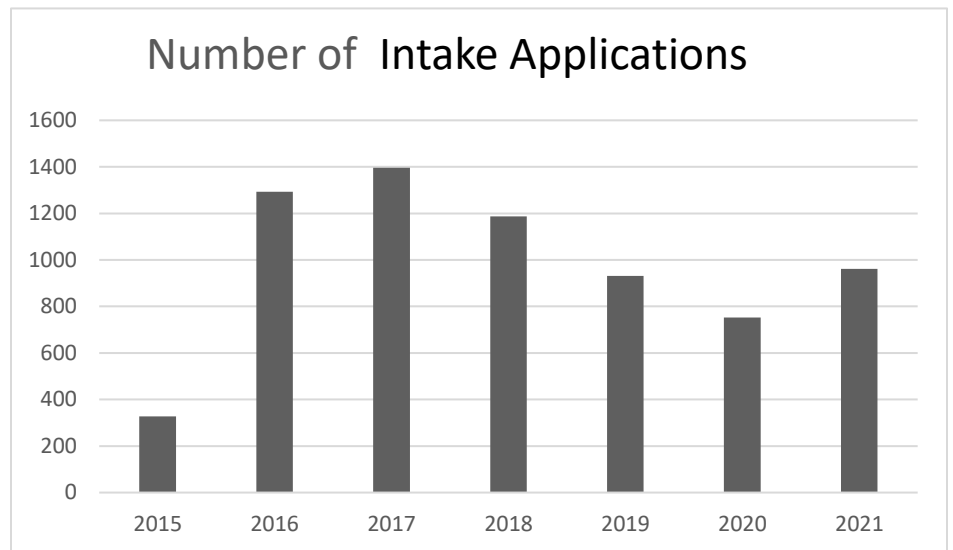
Specific to United Way dollars that flow through the United Way \$2 462 635 has been provided a direct grants to energy consumers in Bruce and Grey Counties.



Data analysed by David I.M. Clark. March 2022. For the United Way of Bruce and Grey.

Applications Received

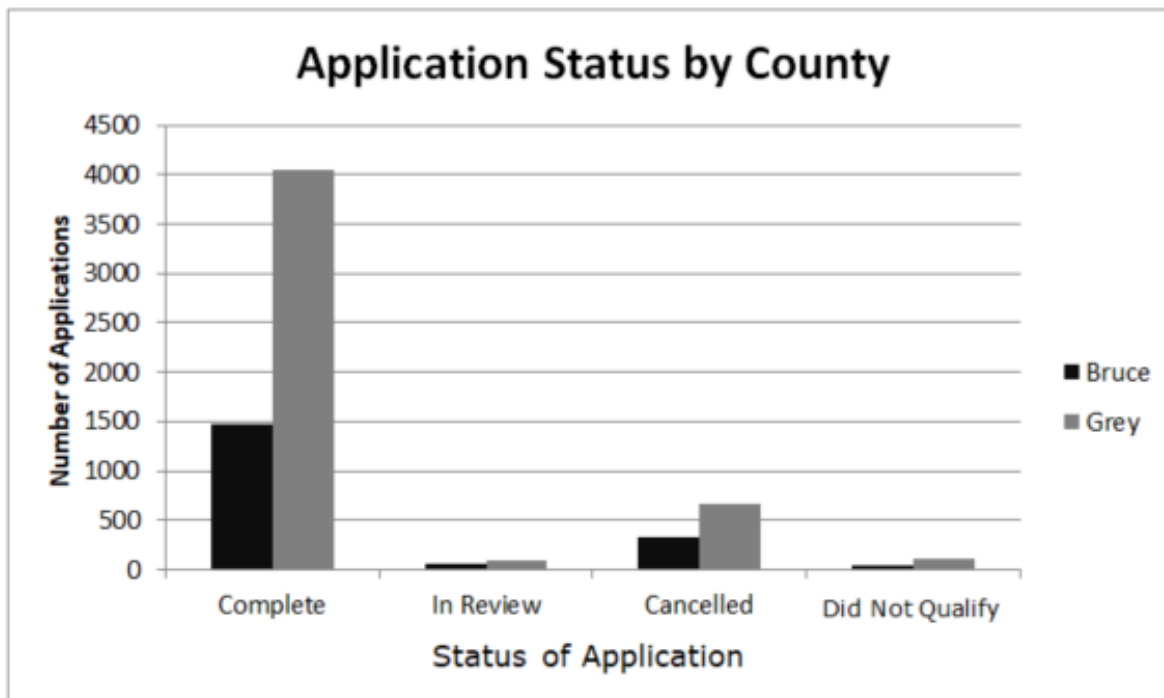
| Number of Intake Applications | |
|--|------------------------|
| Year of Intake | Number of Applications |
| 2015 | 328 |
| 2016 | 1293 |
| 2017 | 1396 |
| 2018 | 1187 |
| 2019 | 931 |
| 2020 | 752 |
| 2021 | 961 |
| Total | 6910 |
| *Partial year; January 1 st to 19 th . | |



United Way of Bruce and Grey received a total of 6,910 applications over the last seven years and one month in 2022. This includes applications that were eventually completed, not qualified, or cancelled. Data also includes those who have accessed the Financial Literacy Program as part of their assessment.

Most applications were completed (80.8%) and only 2.3% did not qualify.

| County | Completed % | In Review % | Cancelled % | Not Qualified % | Row Total % |
|---------------|--------------------|--------------------|--------------------|------------------------|--------------------|
| Bruce | 21.5 | 0.8 | 4.9 | 0.7 | 27.9 |
| Grey | 59.3 | 1.5 | 9.7 | 1.6 | 72.1 |
| Total | 80.8 | 2.3 | 14.6 | 2.3 | 100.0 |



Population, Applications, and Low Income

Applications received and with “completed” status are compared to population and prevalence of Low Income After Tax (LIN-AT) to determine if rate is similar to the population distribution by population.ⁱ

| County | Population % | Share of... | | |
|--------|--------------|--------------------|--------------------------|----------------------------|
| | | All Applications % | Completed Applications % | Low Income After Tax (2) % |
| Bruce | 42.1 | 27.9 | 26.6 | 38.4 |
| Grey | 57.9 | 72.1 | 73.4 | 61.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Statistics Canada. 2016 Census.

Applications by Cohort*

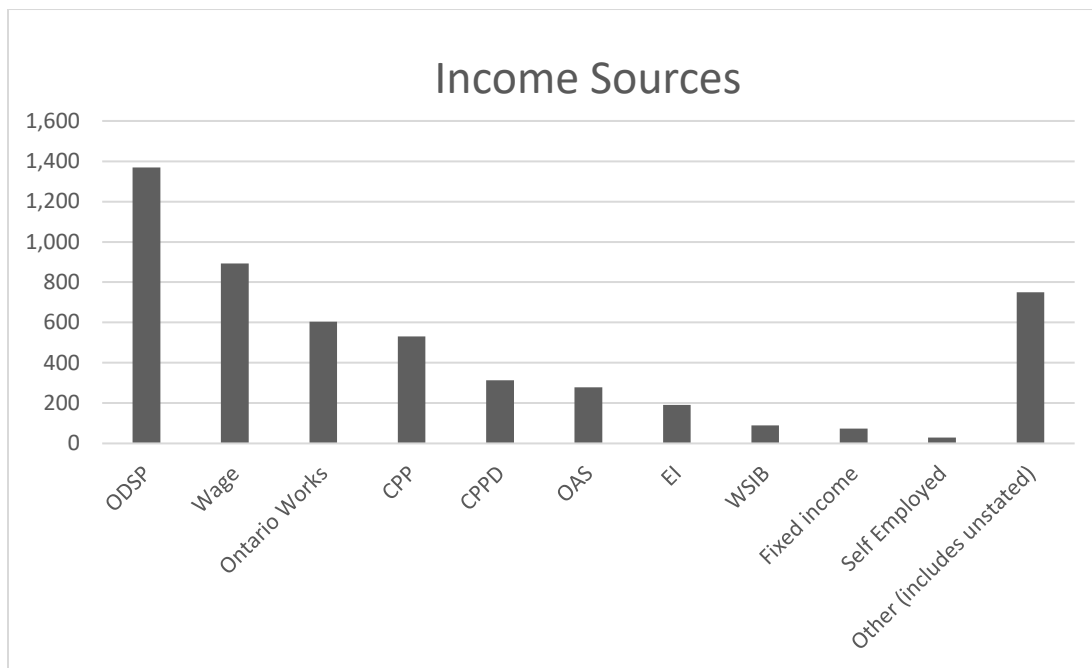
| | Adults | Senior | Children*** | Total |
|----------------|--------|--------|-------------|-------|
| Bruce and Grey | 4,465 | 499 | 2,636 | 7,600 |
| Minimum** | 1 | 1 | 1 | |
| Maximum** | 5 | 2 | 7 | |

* A person is counted each year for each application submitted and had “completed” status. **Number within a family unit ***Assumption is children are attached to an adult-generated application.

Income Sources*

| Income type | Total N | Total % |
|---------------------------|---------|---------|
| ODSP | 1,370 | 26.7 |
| Wage | 893 | 17.4 |
| Ontario Works | 604 | 11.8 |
| CPP | 531 | 10.4 |
| CPPD | 314 | 6.1 |
| OAS | 279 | 5.4 |
| EI | 191 | 3.7 |
| WSIB | 89 | 1.7 |
| Fixed income | 74 | 1.4 |
| Self Employed | 29 | 0.6 |
| Other (includes unstated) | 750 | 14.6 |

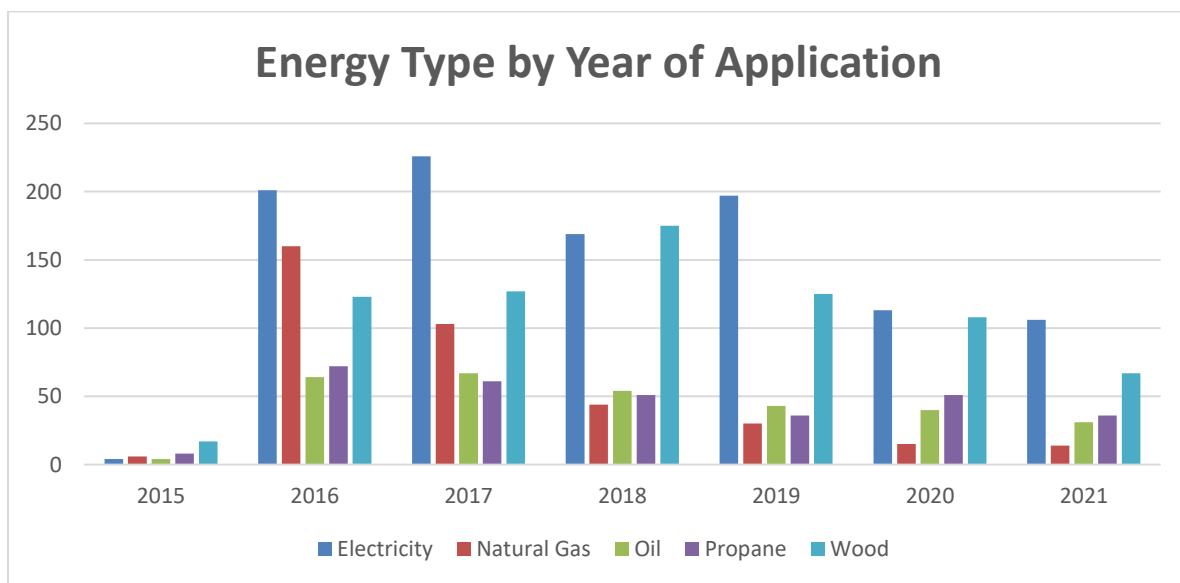
*This table includes all years and person-clients with multiple applications, and for applications with "completed" status only.



Energy Type by Year of Application

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total (row) |
|--------------|-----------|------------|------------|------------|------------|------------|------------|----------|----------------|
| Electricity | 4 | 201 | 226 | 169 | 197 | 113 | 106 | 0 | 1016 |
| Natural Gas | 6 | 160 | 103 | 44 | 30 | 15 | 14 | 1 | 373 |
| Oil | 4 | 64 | 67 | 54 | 43 | 40 | 31 | 4 | 307 |
| Propane | 8 | 72 | 61 | 51 | 36 | 51 | 36 | 1 | 316 |
| Wood | 17 | 123 | 127 | 175 | 125 | 108 | 67 | 2 | 744 |
| Total | 39 | 620 | 584 | 493 | 431 | 327 | 254 | 8 | 2,756 |

*This table includes all years and person-clients with multiple applications, and for applications with "completed" status.



Fuel Use by Type

The following table ranks the top three municipalities for each type of fuel use, as a percentage of all "completed" applications for that fuel. All municipalities have a diversity of fuel use, with the exception of seven which have one or two fuel types for which no applications were received, or at least not marked as "completed".

| Wood | Electricity | Oil | Natural Gas | Propane |
|-----------------------------|---------------------------|---------------------------|---------------------------|--------------------------|
| Municipality and (%) | | | | |
| West Grey (17.2) | Arran-Elderslie (15.4) | Arran-Elderslie (18.8) | West Grey (13.8) | Grey Highlands (18.3) |
| Grey Highlands (12.2) | Chatsworth (15.4) | Grey Highlands (13.9) | Georgian Bluffs (11.9) | West Grey (16.3) |
| Arran-Elderslie (11.3) | Grey Highlands (12.4) | Southgate (12.5) | South Bruce (10.7) | Chatsworth (13.5) |

Data analysed by David I.M. Clark. March 2022. For the United Way of Bruce and Grey.

The following table ranks the top three fuel usages within each municipality by percentage of all “completed” applications for the municipality. The table provides insight into the geo-spatial distribution of energy subsidy by fuel type. It also highlights the high reliance on electricity, and interestingly, wood. All sources of fuel are subject to the “ups and downs” (mostly ups) set by the supply side of the equation and just how vulnerable citizens are to the market of such a necessary commodity.

| | Wood | Electricity | Oil | Natural Gas | Propane |
|--------------------------|-------------|--------------------|------------|--------------------|----------------|
| | % | % | % | % | % |
| Arran-Elderslie | 36.7 | 34.8 | 26.1 | | |
| Blue Mountains | | 38.7 | | 32.3 | 19.4 |
| Brockton | 33.8 | 23.5 | 19.1 | | |
| Chatsworth | 27.9 | 35.8 | | | 20.9 |
| Georgian Bluffs | 27.5 | 36.3 | | 20.9 | |
| Grey Highlands | 34.5 | 24.4 | | | 23.9 |
| Hanover | 14.3 | 42.9 | | 18.6 | |
| Huron-Kinloss | | 38.7 | | 32.3 | 19.4 |
| Kincardine | 27.2 | 22.2 | 32.1 | | |
| Meaford | 41.5 | 22.6 | | 18.9 | |
| Northern Bruce Peninsula | 60.3 | 11.0 | | | 28.8 |
| Owen Sound | | 38.7 | | 32.3 | 19.4 |
| Saugeen Shores | 33.8 | 45.6 | | 10.3 | 10.3 |
| South Bruce | 41.6 | 10.9 | | | 19.7 |
| South Bruce Peninsula | 42.0 | | 15.1 | | 17.6 |
| Southgate | 45.3 | | 24.0 | | 16.0 |
| West Grey | 46.0 | 13.9 | | | 20.2 |
| Count | 14 | 14 | 5 | 6 | 10 |

Multi-Year Applications

Over the course of the energy support programme distinct clientsⁱⁱ had submitted applications for one or more years. Analysis indicates that the average number of applications per distinct individual was 2.3 for the seven-year (85 months) period of 2015 to 2022, inclusive.ⁱⁱⁱ (Note: 2022 included the month of January only.)

For the two-year (25 months) period of 2019 to 2022, inclusive, the average number of applications per distinct client was 1.7.

This finding indicates that the majority of clients are not long-term recipients of energy support payments.

Adults, Seniors, and Children Benefiting From Energy Support Program

| County | Municipality | Adults* N (%) | Seniors* N (%) | Children* N (%) | Total* (row) |
|--------|--------------------------|------------------|-------------------|--------------------|-----------------|
| Bruce | Arran-Elderslie | 222 | 45 | 94 | 361 |
| Bruce | South Bruce Peninsula | 125 | 29 | 60 | 214 |
| Bruce | Saugeen Shores | 95 | 9 | 34 | 138 |
| Bruce | Kincardine | 83 | 13 | 23 | 119 |
| Bruce | Brockton | 60 | 19 | 33 | 112 |
| Bruce | Northern Bruce Peninsula | 63 | 12 | 22 | 97 |
| Bruce | Neyaashiinigmiing | 49 | 9 | 23 | 81 |
| Bruce | Huron-Kinloss | 48 | 4 | 20 | 72 |
| Bruce | South Bruce | 29 | 5 | 2 | 36 |
| Bruce | Saugeen First Nation | 14 | 0 | 9 | 23 |
| Grey | Owen Sound | 1009 | 66 | 453 | 1528 |
| Grey | West Grey | 241 | 43 | 84 | 368 |
| Grey | Grey Highlands | 230 | 26 | 62 | 318 |
| Grey | Chatsworth | 157 | 56 | 75 | 288 |
| Grey | Southgate | 138 | 36 | 54 | 228 |
| Grey | Georgian Bluffs | 83 | 22 | 46 | 151 |
| Grey | Hanover | 81 | 11 | 36 | 128 |
| Grey | Meaford | 29 | 29 | 29 | 87 |
| Grey | Blue Mountains | 29 | 5 | 2 | 36 |
| | Unknown** | 1689 | 490 | 1476 | 3216 |
| | Total | 4474 | 929 | 2637 | 7601 |

*A person or family receiving support over multiple years were counted for each occurrence. For example: one person receiving support for two years is counted as "two" persons. ** Data missing for municipality of residency.

Completed Applications as a Share of the Population

The following table indicates if persons supported (completed applications) in each municipality is in proportion to the total population for that community (as a percentage of the total Grey-Bruce population. Location Quotients (LQ) for "applications" indicates whether each municipality generated more applications than might be expected based on its share of the Grey-Bruce total population. For example, Owen Sound's LQ of 2.63 means there were 163% more applications than expected, all things being equal.

Likewise, LQs for "low income" indicate whether there is a higher than expected number of low income people/families within a municipality than might be expected if these were equally distributed throughout the two counties, or equal to the mean rate for the two counties. For example, Owen Sound's LQ of 1.30 means there were 30% more applications than expected, all things being equal.

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The column “number of applications expected” provides another perspective on “what if need for energy subsidy was equally distributed” throughout Grey and Bruce. Read with column “LQ applications” highlights municipalities that appear to have more residents that can benefit from energy subsidy support. Columns “total applications” and “number of applications expected” are calculated using the same data, simply expressed differently. Each provides a geo-spatial perspective to the energy support program.

| Municipality* (Note ii) ^{iv} | Total Applications* | Number of Applications Expected** | LQ*** Applications | LQ*** Low Income |
|---|----------------------------|--|---------------------------|-------------------------|
| Arran-Elderslie | 361 | 182 | 1.99 | 1.20 |
| Blue Mountains | 36 | 188 | 0.19 | 0.76 |
| Brockton | 112 | 253 | 0.44 | 0.90 |
| Chatsworth | 288 | 177 | 1.63 | 1.29 |
| Georgian Bluffs | 151 | 280 | 0.54 | 1.16 |
| Grey Highlands | 318 | 262 | 1.21 | 1.00 |
| Hanover | 128 | 205 | 0.62 | 1.02 |
| Huron-Kinloss | 72 | 189 | 0.38 | 1.16 |
| Kincardine | 119 | 304 | 0.39 | 0.64 |
| Meaford | 87 | 293 | 0.30 | 0.88 |
| Northern Bruce Peninsula | 97 | 107 | 0.91 | 0.92 |
| Owen Sound | 1528 | 570 | 2.68 | 1.30 |
| Saugeen Shores | 138 | 366 | 0.38 | 0.62 |
| South Bruce | 36 | 151 | 0.24 | 0.89 |
| South Bruce Peninsula | 214 | 225 | 0.95 | 1.10 |
| Southgate | 228 | 196 | 1.16 | 1.19 |
| West Grey | 368 | 334 | 1.10 | 0.95 |
| Total | 4281 | 4281 | | |

* Some incomplete data for municipality of residency. ** Number of applications expected means that all applications were received based on equal distribution of need for energy subsidy support throughout Grey and Bruce counties. *** LQ: Location Quotient shows “the extent to which each of a set departs from some norm”. If inequality is equally distributed throughout the two counties within each municipality, the LQ would be “1”. For example, Grey Highlands (LQ of 1.21 for applications) is 21% higher than expected with equal distribution but as expected (LQ is 1.00) for a “share” of Low Income households. Higher than expected municipalities are “**bolded**”.

Correlations

Correlations (Pearson Correlation Coefficients) are an analytic statistical calculation that assesses the linear relationship between two or more variables. Another way to state this is how does one variable change in relation to another variable? To be clear, a statistically significant correlation of two variables *does not prove causation*. A deeper analysis is required to “prove” a change in one variable causes change in another. The best we can say is that something is going on, and to explore possible reasons of what and why. Some make intuitive sense and what follows simply provides evidence.

The following correlations help us better understand the need of people for energy support. These are presented without editorial comment. Some of these are intuitively understandable. Note: The following are for applications of “completed” status. All correlations are based on the amalgamated municipalities of Bruce and Grey counties.

Median and Low Incomes

Low Income/Median Income: As the median incomes of municipalities decrease (or are lower compared with other municipalities in the study) the percentage of low income persons/families in that municipality increase. This is a strong correlation of -0.754 ($p < 0.01$)^{vi}.

Low Income/Applications: The number of applications increases as the percentage of low income persons/families increases within a municipality. The relationship is positive but moderate; 0.498 ($p = 0.042$).

Low Income/Applications per 1,000 population: There is a strong positive correlation between the incidence (by percentage) of low income persons/families and the number of applications per 1,000 population. The coefficient is 0.648 ($p = 0.005$).

Fuel Source and Applicants

Electricity/Seniors: There is a statistically significant, moderate, positive correlation of electricity and seniors. Compared with other fuel sources, as the number of applications from seniors increases the number of those for electricity also increases. The coefficient is 0.516 ($p = 0.34$).

Electricity/Applications per 1,000 population: More generally, the number of energy support applications per 1,000 people sees an increase in applications for electricity. The coefficient is 0.446 ($p = 0.073$), positive and moderate strength. As noted above, the correlation is stronger for seniors.

Wood/Median Income: Lower median incomes are correlated with higher number of applications for wood fuel. The coefficient is -0.426 ($p = 0.089$).

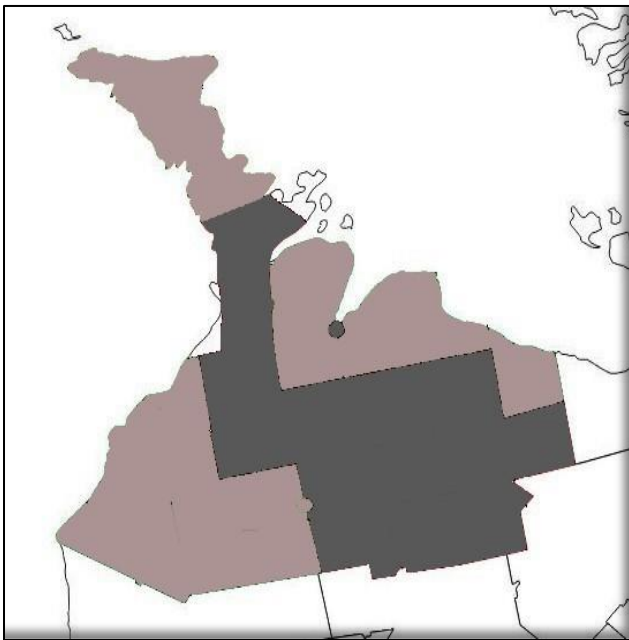
Propane/Median Income: Lower median incomes and propane support applications are negatively and moderately correlated. With lower median incomes there is a higher number of propane applications. The coefficient is -0.417 ($p = 0.096$).

Geo-spatial Comparison of the Distribution of Completed Applications and Incidence of Low Income Persons/Families

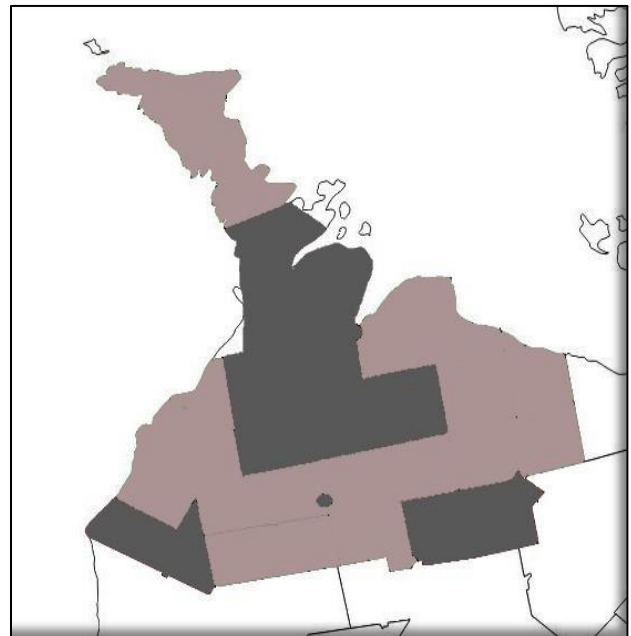
The two maps illustrate the distribution of incidences of low income and completed applications, using a mapping technique called "location quotient" (LQ). As used here, LQs illustrate which municipalities have either lower or higher than expected completed applications and incidences of low incomes. The "expected" reference is the assumption that these characteristics are evenly distributed throughout Bruce and Grey, so that these will occur based on a municipality's share of the total population.

Equal distribution is equal to "1.00"; those with a greater share will have an LQ higher than 1.00, and those with a lesser share will have an LQ less than 1.00. For these two maps, less than "1" is desirable. To illustrate, Owen Sound has high LQs for low income (1.30) and applications (2.68). This means Owen Sound has more than two and one-half more applications than would be based on its share of total population and thirty-percent more for incidence of low income persons/families.

There is a visible correlation between the two patterns of the two maps below, and there is a strong, statistically-significant correlation, too ($r=0.70, p<0.01$). This means that municipalities that have high than expected numbers of applications are very likely to have higher than expected incidences of low income persons/families. Note: this does not prove that one causes the other but does strongly suggest that they are related. Further and deeper analyses are required to discover root causes, which is not possible with the current data set.



Applications



Low Income

End Notes

ⁱ Notes: (1) Low-income measure, after tax (LIM-AT) - The Low-income measure, after tax, refers to a fixed percentage (50%) of median-adjusted after-tax income of private households. The household after-tax income is adjusted by an equivalence scale to take economies of scale into account. This adjustment for different household sizes reflects the fact that a household's needs increase, but at a decreasing rate, as the number of members increases. Source: Statistics Canada. 2016 Census.

(2) Calculated as the total number of LIN-AT persons for each county divided by the total of all LIN-AT persons. Source: Statistics Canada. 2016 Census.

ⁱⁱ A distinct individual is a person with a unique identification for the purpose of applying to the energy subsidy support programme.

ⁱⁱⁱ 2022 includes applications to end of February.

^{iv} This table includes applications only identified with a municipality; there were a large number of "unknowns". See table titled: Adults, Seniors, and Children Benefiting From Energy Support Program

^v A classic example is as outdoor temperature increases ice cream sale increase. This is a positive correlation. An example of negative correlation is as the outdoor temperature decreases, sale of fall and winter clothing sales increase.

^{vi} The closer the coefficient is to 1.00, the stronger the relationship between the two variables. The p -value indicates whether the relationship is "statistically significant". The lower the p -value the less likely the relationship is by random choice, but rather suggests some meaningfulness to the relationship with the variables. Caution: A high coefficient and a low p -value *does not prove cause and effect*.

United Way Bruce Grey
Change starts here.

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