BC LTC Parameters

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General Home Information

Parameter	Type	Description
FACILITY_NAME	string	Name of long-term care facility.
Number of dead	float64	As reported by Global News article.
HCC_CODE	string	Unique identifier of facility.
HLTH_AUTH	string	Name of health authority that home resides in.
STREET_ADDRESS	string	Street address.
CITY	string	City.
POSTAL	string	Postal code.
PHONE	string	Phone.
OPEN_DATE	string	Year LTC opened.
point		Location coordinates from OSM geocoder.
latitude		Latitude of home from OSM geocoder.
longitude		Longitude of home from OSM geocoder.
LATITUDE		Latitude of home from bc.gov data (missing values filled with OSM geocoder). [6]
LONGITUDE		Longitude of home from bc.gov data (missing values filled with OSM geocoder). [6]
geometry		Point of (LATITUDE, LONGITUDE).

Detailed Home Information

Parameter	Type	Description
COUNCIL	string	List of councils operating in home. A family and/or resident council is also self-led, self-determining and democratic. Councils exist to engage the resident community in collaborative activities which will advance the quality of life for residents. [1]
residents_council	binary string	"yes" or "no".
family_council	binary string	"yes" or "no".

Parameter	Type	Description
ACCRED_STATUS	string	Accreditation is a voluntary process that LTC homes may use to assess their services and help them improve the quality, safety and efficiency of their performance for the benefit of their residents and the health system [2].
accreditation	binary string	"yes" or "no".
BEDS_PRIVATE	int64	Number of private beds in facility.
BEDS_PUBLIC	int64	Number of public beds in facility.
BEDS_TOTAL	int64	Total number of beds in facility.
ROOMS_PRIVATE	int64	Number of private rooms.
ROOMS_SEMI	int64	Number of semi-private rooms (2 beds).
ROOMS_MULTI	int64	Number of mult-persons rooms (3+ beds).
home_type	string	Home operation - either for profit, non-profit, or health authority.
ownership_type	string	Funding - either public or private (for profit, non-profit homes).
years_operation	float64	Number of years a home has operated for.

Quality Metrics[3]

Parameter	Type	Description
COMPLAINTS	int64	Number of licensing complaints.
COMPLAINTS_SUB	int64	Number of substantiated licensing complaints.
INCIDENT_OUTBREAK	int64	Total disease or outbreak occurences.
INCIDENT_ABUSE	int64	Total documented cases of abuse or neglect.
INCIDENT_FALL	int64	Total documented cases of falls with injury / adverse events.
INCIDENT_POISON	int64	Total documented cases of food or other poisonings.
INCIDENT_MEDICATION	int64	Total documented cases of medication error with adverse event.
INCIDENT_WANDERING	int64	Total documented cases of missing or wandering person.
INCIDENT_INJURY	int64	Total documented cases of other injury.
INCIDENT_AGGRESSION	int64	Total documented cases of aggression between persons in care.
INCIDENT_OUTBREAK_100	int64	Per 100 beds, disease or outbreak occurences.
INCIDENT_ABUSE_100	int64	Per 100 beds, documented cases of abuse or neglect.
INCIDENT_FALL_100	int64	Per 100 beds, documented cases of falls with injury / adverse events.
INCIDENT_POISON_100	int64	Per 100 beds, documented cases of food or other poisonings.
INCIDENT_MEDICATION_100	int64	Per 100 beds, documented cases of medication error with adverse event.
INCIDENT_WANDERING_100	int64	Per 100 beds, documented cases of missing or wandering person.

Parameter	Type	Description
INCIDENT_INJURY_100	int64	Per 100 beds, documented cases of other injury.
INCIDENT_AGGRESSION_100	int64	Per 100 beds, documented cases of aggression between persons in care.
INSPECTIONS	float64	Number of inspections.
INFRACTIONS	float64	Number of licensing infractions found.
INFRACTIONS_LICENSING	float64	Licensing infractions - Licensing.
INFRACTIONS_FACILITY	float64	Licensing infractions - physcial facility, equipment & furnishings.
INFRACTIONS_STAFFING	float64	Licensing infractions - staffing.
INFRACTIONS_POLICY	float64	Licensing infractions - policies & procedures.
INFRACTIONS_CARE	float64	Licensing infractions - care & supervision.
INFRACTIONS_DISEASE	float64	Licensing infractions - hygiene & communicable disease control.
INFRACTIONS_FOOD	float64	Licensing infractions - nutrition & food services.
INFRACTIONS_MEDICATION	float64	Licensing infractions - medication.
INFRACTIONS_PROGRAM	float64	Licensing infractions - program.
INFRACTIONS_REPORTING	float64	Licensing infractions - records & reporting.
INFRACTIONS_RIGHTS	float64	Licensing infractions - resident bill of rights.
INFRACTIONS_OTHER	float64	Licensing infractions - other.

General Resident Profile

Parameter	Type	Description
AGE	int64	Average age of population.
FEMALE	int64	Percent female.
AGE_85_PLUS	int64	Percent 85 years or older.
AGE_UNDER_65	int64	Percent younger than 65 years.
STAY_LENGTH	int64	Average length of stay
DEPRESSION	float64	Percent of residents diagnosed with depression
ADL_DEPENDENT	float64	Percent of residents dependent in activities of daily living
CPS_SEVERE	float64	Percent of residents with severe cognitive impairment
DEMENTIA	float64	Percent of residents with dementia
ABS_PHYS_ABUSIVE	float64	Percent of residents with physically abusive behaviour
ISE	float64	Average index of social engagement
ISE_LOW	float64	Percent of residents with low social engagement
CMI	float64	Case mix index
THERAPY_PT	float64	Percents of residents receiving physical therapy
THERAPY_RT	float64	Percents of residents receiving recreation therapy

Parameter	Type	Description
THERAPY_OT	float64	Percents of residents receiving occupational therapy
MEDS_DEPRESSION	float64	Percent of residents receiving depression medication
MEDS_ANTIPSYCHOTICS	float64	Percent of residents taking antipsychotics without a diagnosis of psychosis
RESTRAINTS	float64	Percent of residents with daily physical restraints

COVID-19 Related Parameters

Parameter	Type	Description
outbreak_status	binary string	"yes" (outbreak has occured) or "no" (outbreak has not occured)
Number of dead	int64/string	Number of dead as reported by Nora Loreto[4]. For homes with an outbreak (according to government websites [5]) but not included in Nora's report, "unreported" was imputed.

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[1] https://www2.gov.bc.ca/gov/content/health/accessing-health-care/home-community-care/accountability/family-and-resident-councils

[2] http://health.gov.on.ca/en/public/programs/ltc/glossary.aspx

[3] [Excel provided by Seniors Advocate Representative.]

[4] https://docs.google.com/spreadsheets/d/1M_RzojK0vwF9nAozI7aoyLpPU8EA1JEqO6rq0g1iebU/edit#gid=0

[5] http://www.phsa.ca/current-outbreaks

[6] https://catalogue.data.gov.bc.ca/dataset/residential-care-facilities/resource/75b329ef-1f29-4c03-a35b-03b3666dee1d

Data Quality

* Dealing with sparsity and NA's; mostly apparent in `INCIDENT_*` and `INFRACTIONS_*` predictors.

* Skewed predictors. Log and square-root transformations ineffective at mediating skewness.

* High multicollinearity exists between `BEDS_TOTAL` and `ROOMS_TOTAL`, `ISE_LOW` and `ISE`.