From Data to Action:

Leveraging evidence for improved winter service planning for people experiencing homelessness in Toronto

May 28 2025

Lucie Richard
MAP Centre for Urban Health Solutions

ST. MICHAEL'S
UNITY HEALTH TORONTO

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Outline

1. Quick overview of Toronto's winter service planning
2. The need for additional services – initial evidence
3. Advocacy Efforts
4. Research in support of advocacy
5. Impact (to date)

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[1] The Local. Toronto's Encampments, by the Numbers. https://thelocal.to/toronto-encampment-analysis/

WATCH FOR SIGNS OF **COLD INJURIES**

HYPOTHERMIA

Hypothermia can progress to a life-threatening condition. Shivering, confusion, unconsciousness and loss of muscular control can occur.

ACTIONS TO TAKE

- Get the person indoors.
- Have the person lie down as soon as possible.
- Remove any wet clothing.
- Insulate well (for example, wrap in a sleeping bag).
- Get medical help immediately.
- **Do not** put the person in a warm bath.

FROSTBITE

There is no sensation. Skin is hard to the touch. Skin can appear white and waxy on light and medium skin tones. Frostbite does not normally change the appearance of darker skin tones.

ACTIONS TO TAKE

- Get medical help immediately. Frostbite can lead to amputation.
- Warm the area with body heat (armpit or chest), or warm water (like a warm bath).
- Ensure the affected area stays warm.
- **Do not** rub or massage the area or thaw over a fire.

FROSTNIP

The affected area is painful or numb. Skin can appear yellowish or white on light and medium skin tones but feels soft to the touch. Frostnip does not normally change the appearance of darker skin tones.

ACTIONS TO TAKE

- Warm the area with body heat (a warm hand) or warm water (like a warm bath).
- **Do not** rub or massage the area.

Canada

Source: Peterborough Public Health

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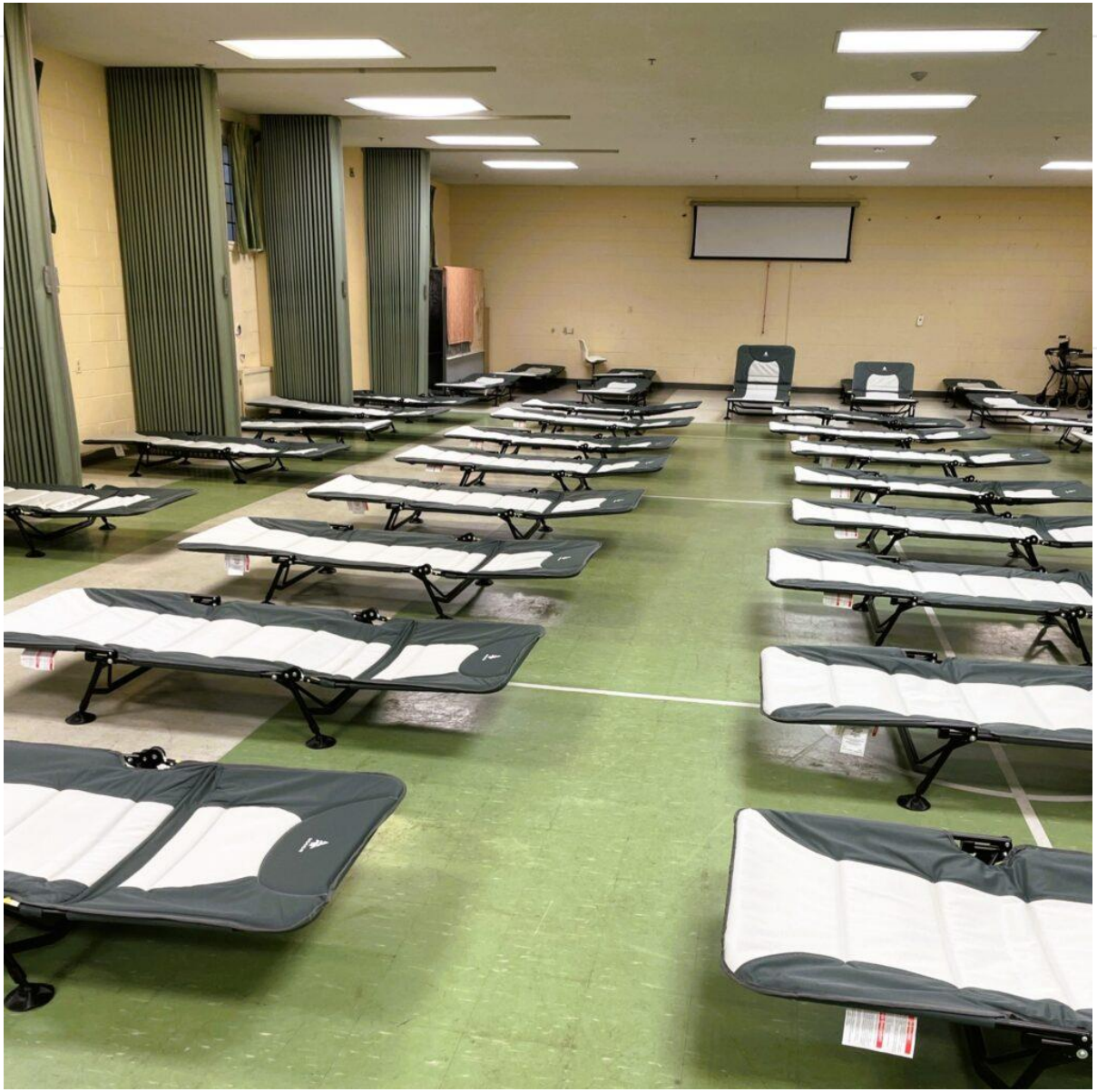
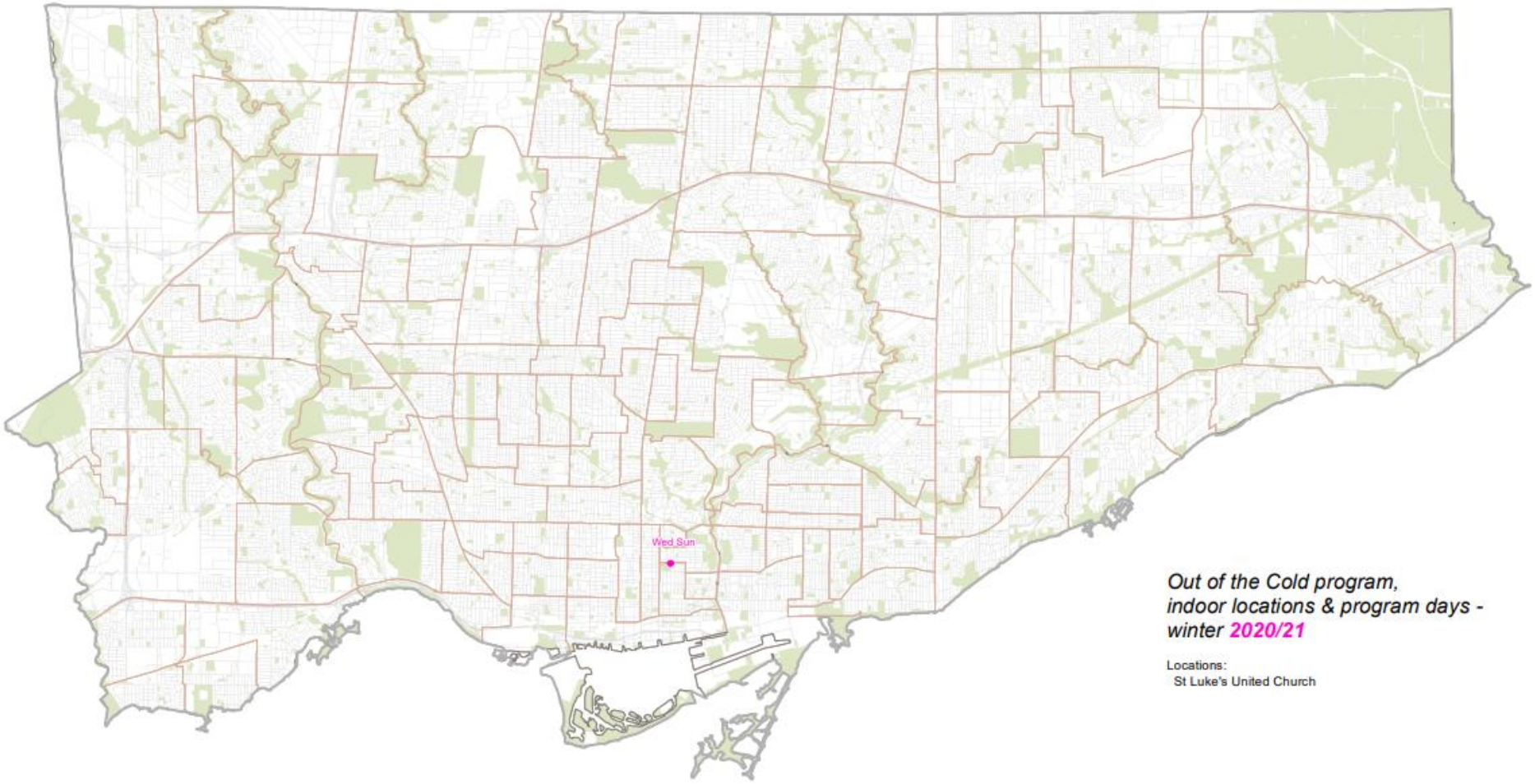


Source: Dixon Hall

Out of the Cold programs



Out of the Cold program, indoor locations & program days - winter 2020/21

Locations:
St Luke's United Church

All locations: 1

Locations
Street Grid
Neighbourhood Boundaries
Green Space

0 1 2 km

(1) What this map captures: There is one of Out of the Cold (OOTC) dinner in 2020/21 which runs twice a week, with no overnight access. This map does not capture OOTC initiatives that do not involve indoor access, such as take-out meals.
(2) Data snapshot taken Dec 2020. For data sources, please see fact sheet.
(3) This map is not intended as a resource and will not be updated.

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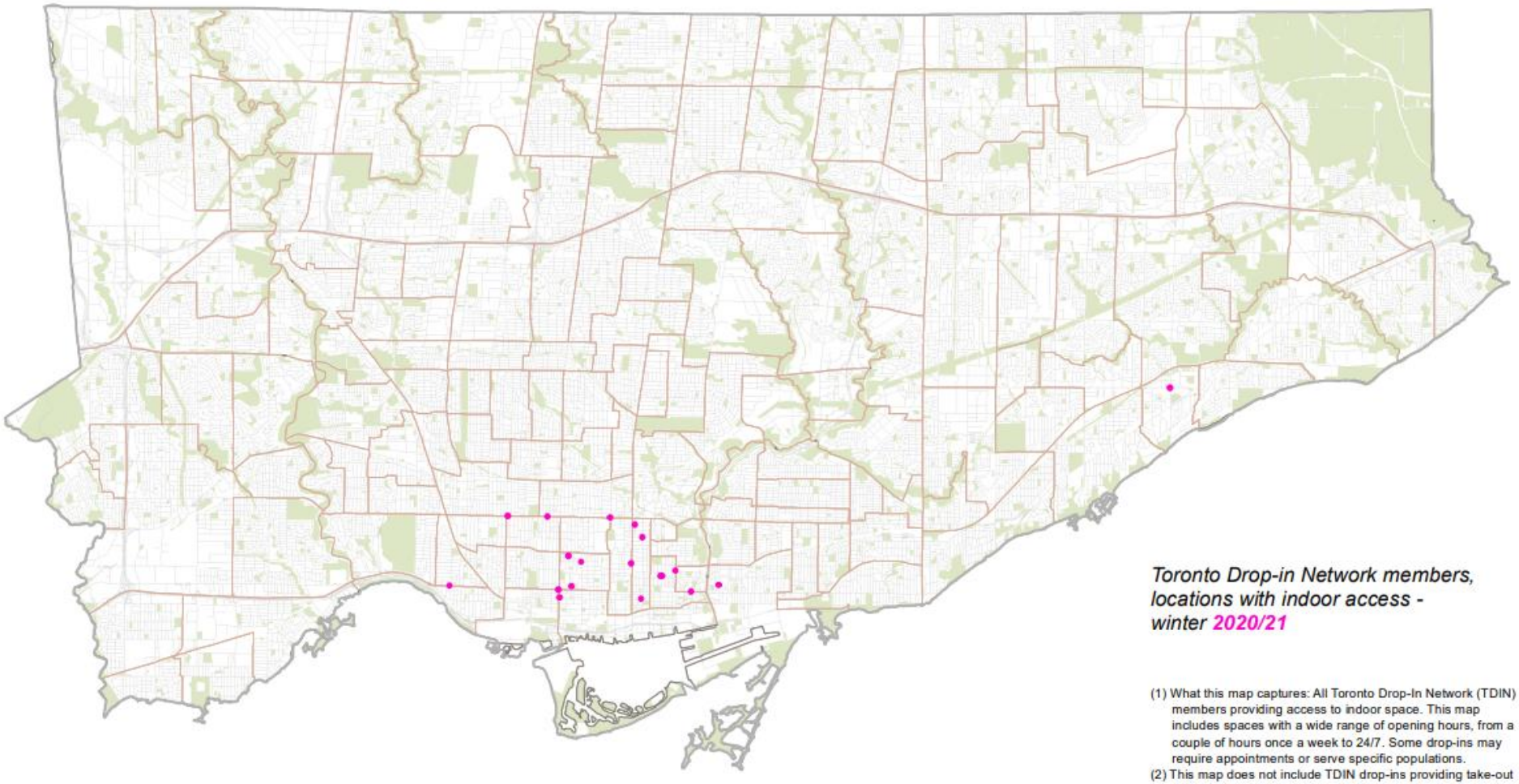
Drop-ins with indoor access



Toronto Drop-in Network members, locations with indoor access - winter 2020/21

All locations: 19

Locations
Street Grid
Neighbourhood Boundaries
Green Space

0 1 2 km

(1) What this map captures: All Toronto Drop-In Network (TDIN) members providing access to indoor space. This map includes spaces with a wide range of opening hours, from a couple of hours once a week to 24/7. Some drop-ins may require appointments or serve specific populations.
(2) This map does not include TDIN drop-ins providing take-out meals or outreach services without indoor access.
(3) This map does not include drop-ins that are not associated with TDIN such as youth spaces in libraries and community centres, drop-in programs offered by community health centres, and other drop-in programming by non-profits and others city-wide.
(4) Data snapshot captured Feb 1, 2021. For data source, please see fact sheet.
(5) This map is not intended as a resource and will not be updated. Please verify locations, hours, and availability of spaces as the service situation changes quickly.

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Initial evidence

- Mapped closure of informal warm indoor spaces because of the pandemic
- St Michael's Hospital clinicians suggest ~15% of ED visits in winter 2022 were by homeless patients seeking shelter/warmth
- The previous year (2021/2022) also saw an influx in homeless patients with cold-related injuries, e.g. trench foot, frostbite, hypothermia
- At least 2 deaths that winter were caused by exposure (since then we learned it might be as high as 10 to 15)
- Average of 140 people seeking shelter were turned away each night in Nov/Dec 2022
- Pre-pandemic papers on cold-related injury and hypothermia in Toronto

Int J Environ Res Public Health. 2019 Sep 5;16(18):3259. doi: 10.3390/ijerph16183259.

Cold Weather Conditions and Risk of Hypothermia Among People Experiencing Homelessness: Implications for Prevention Strategies

Paige Zhang [1], Kathryn Wiens [2 3], Ri Wang [4], Linh Luong [5], Donna Ansara [6], Stephanie Gower [7 8], Kate Bassil [9 10], Stephen W Hwang [11 12]

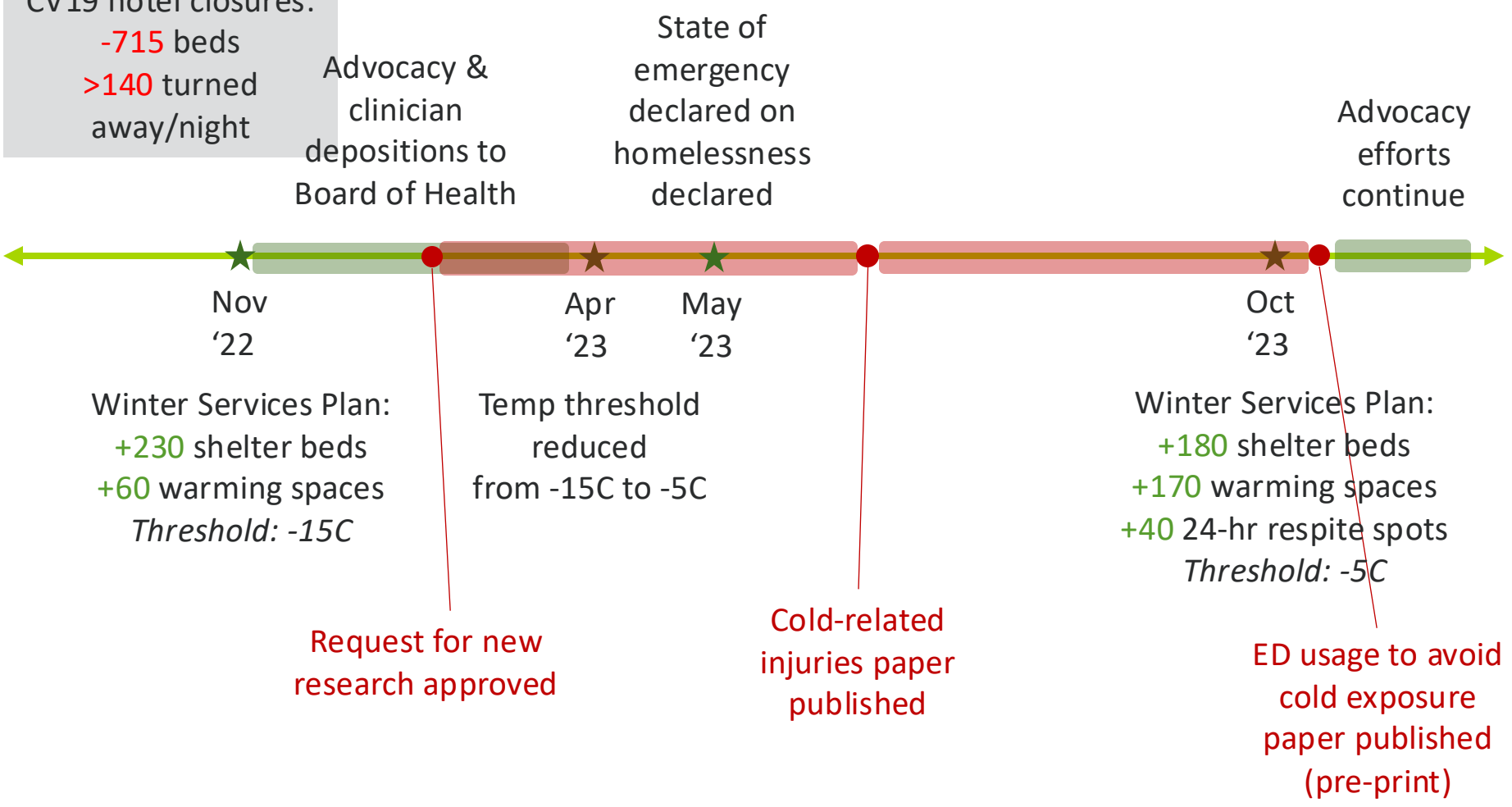
Table 3. Predicted odds ratio estimates of hypothermic injury or death at varying temperatures relative to the reference temperature (0 °C).

Minimum Temperature (°C)	Predicted Odds Ratio (95% CI) [a]
5	0.61 (0.48–0.77)
0	Ref.
−5	1.64 (1.30–2.07)
−10	2.68 (1.68–4.27)
−15	4.39 (2.18–8.84)
−20	7.18 (2.82–18.27)

[a]: Derived from the conditional logistic regression model, adjusted for precipitation.

End 2022:
20.7K clients
>300M funding gap;
CV19 hotel closures:
-715 beds
>140 turned away/night

End 2023: 22.0K clients
>100M funding gap; +65% ↑ refugees; 5 more CV19 hotel closures:
-580 beds, average of 200+ turned away/night



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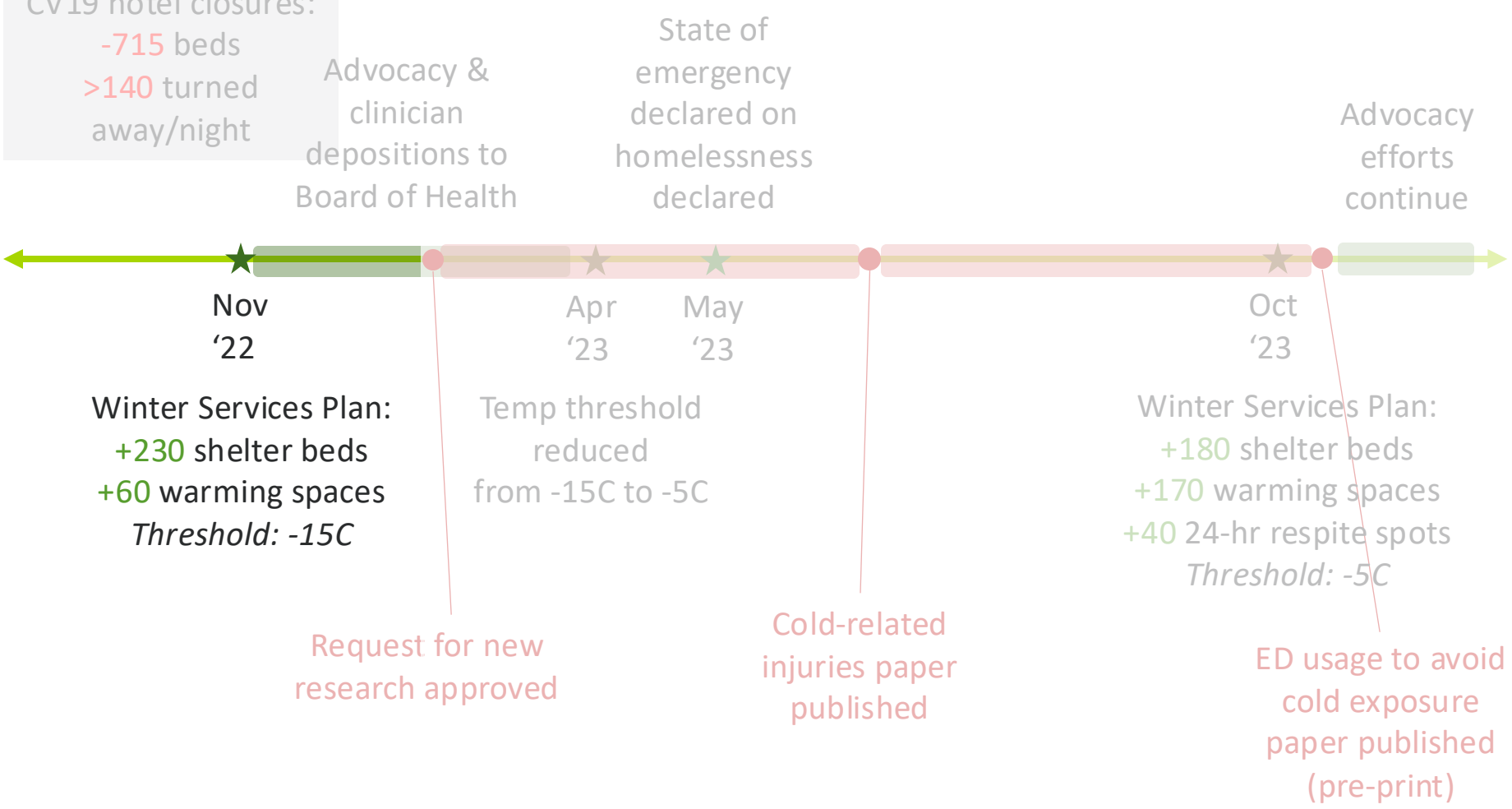

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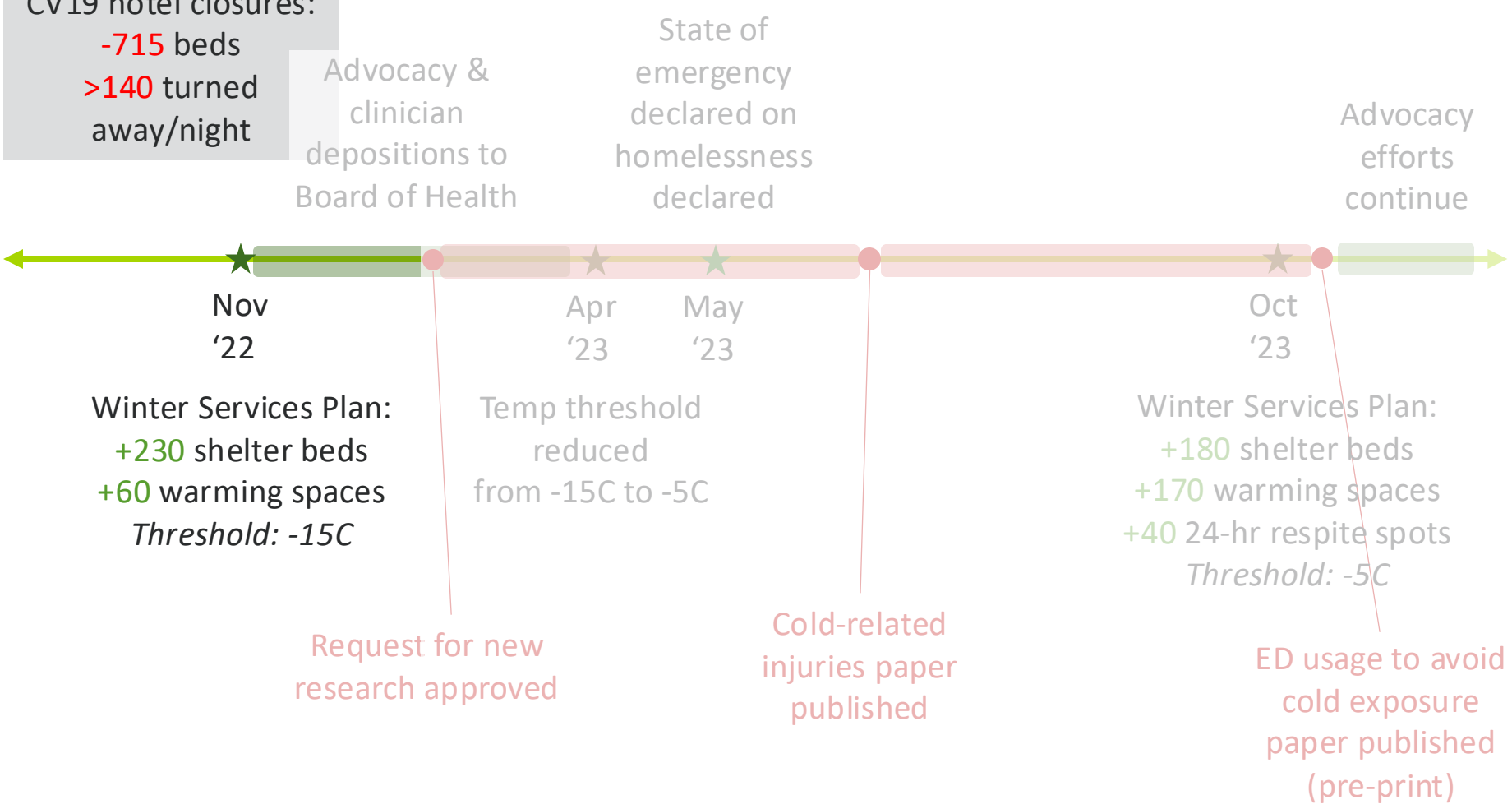

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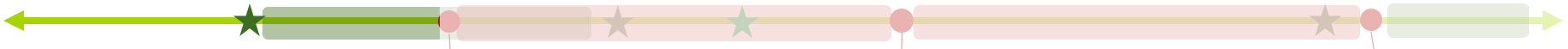

Nov '22

Winter Services Plan:
+230 shelter beds
+60 warming spaces
Threshold: -15C

Advocacy & clinician depositions to Board of Health

Request for new research approved

Apr '23

May '23

State of emergency declared on homelessness declared

Temp threshold reduced from -15C to -5C

Cold-related injuries paper published

Oct '23

Winter Services Plan:
+180 shelter beds
+170 warming spaces
+40 24-hr respite spots
Threshold: -5C

Advocacy efforts continue

ED usage to avoid cold exposure paper published (pre-print)

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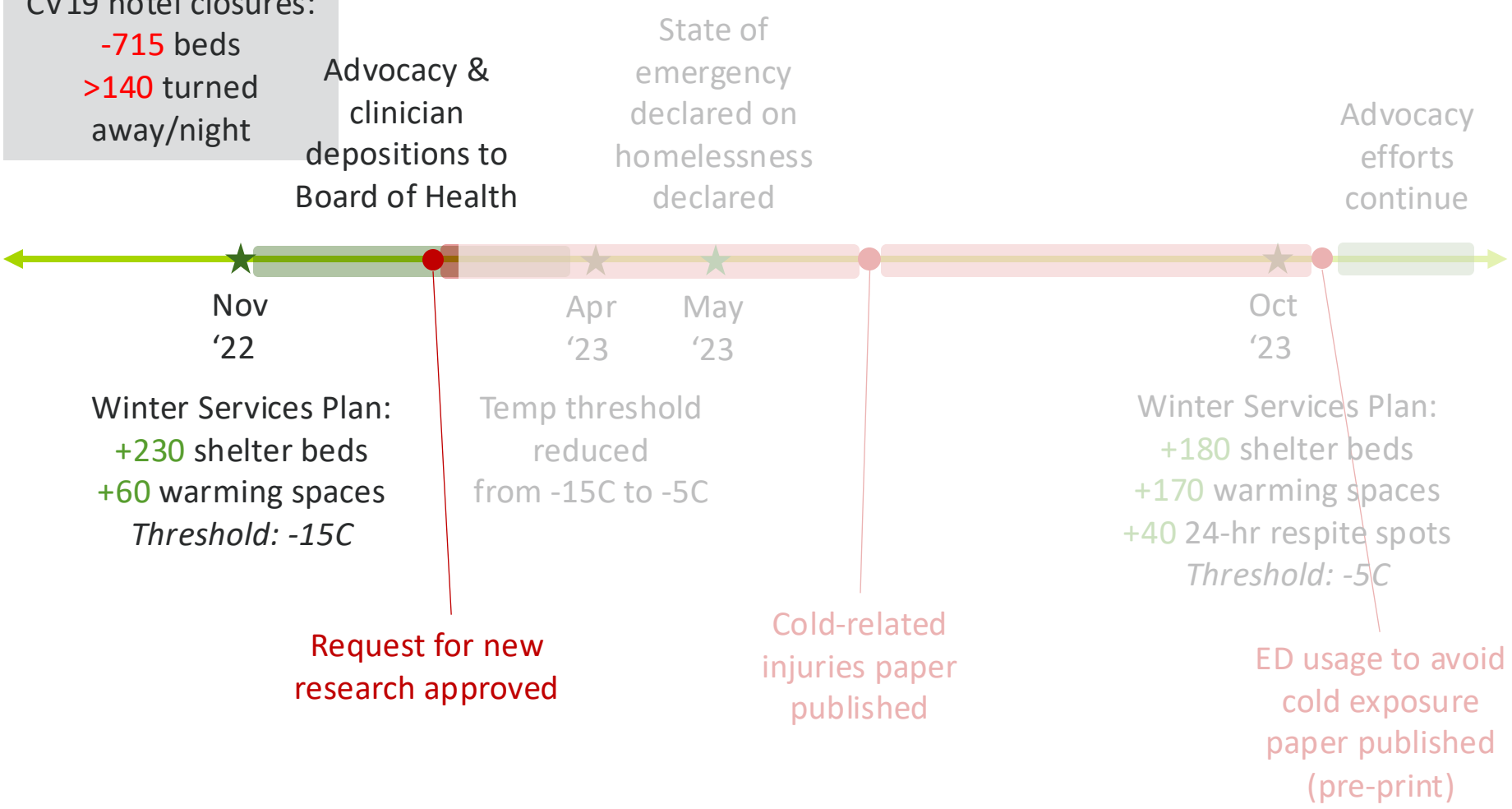

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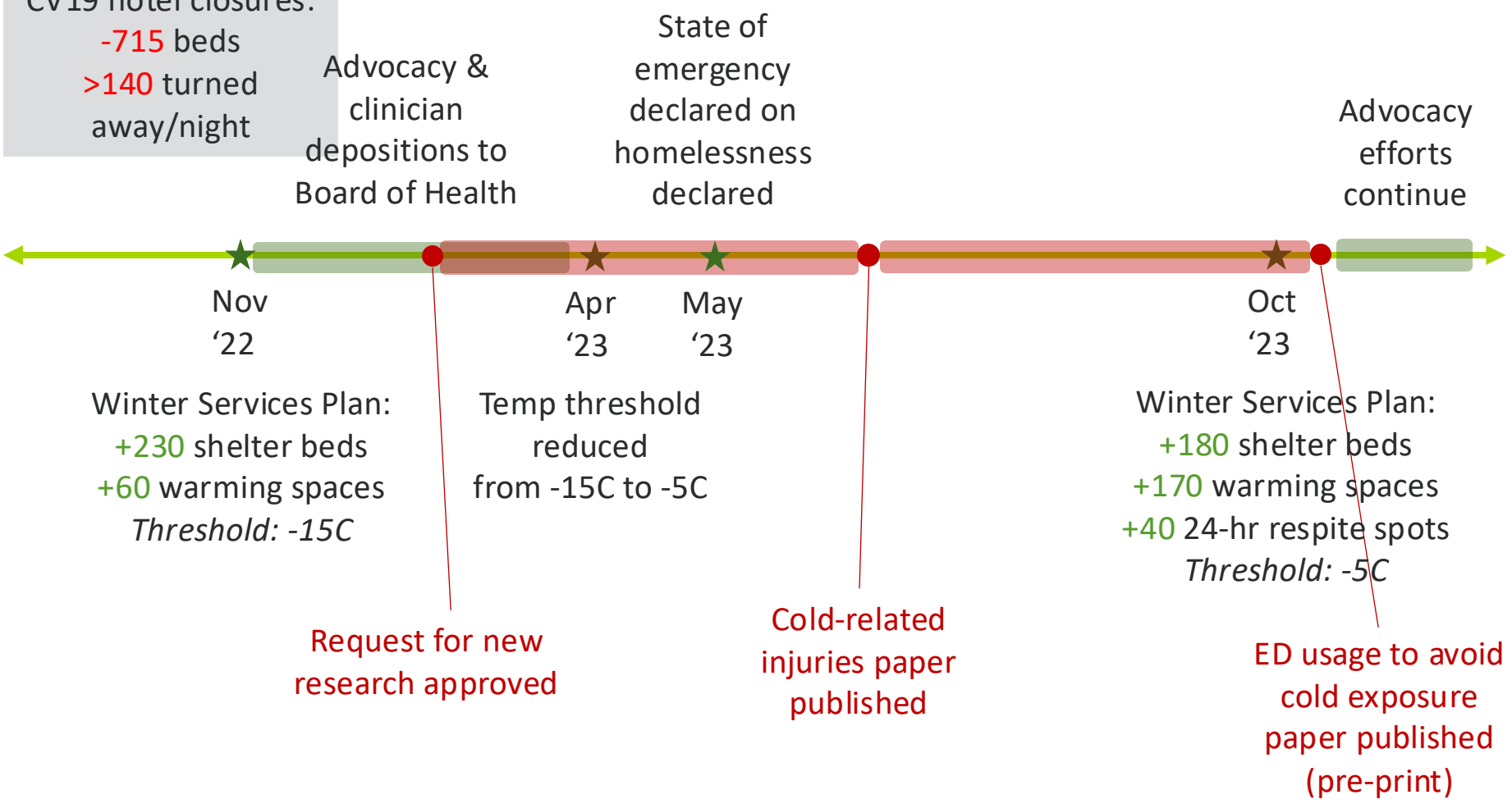

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Home > Data Services

Applied Health Research Questions (AHRQ)

According to the Ministry of Health (MOH), an Applied Health Research Question (AHRQ) is a question posed by a health system policymaker or provider in order to obtain research evidence to inform planning, policy and program development that will benefit the entire Ontario health system.

J Clin Epidemiol. 2024 Aug:172:111430. doi: 10.1016/j.jclinepi.2024.111430. Epub 2024 Jun 14.

Identification of homelessness using health administrative data in Ontario, Canada following a national coding mandate: a validation study

Lucie Richard [1], Brooke Carter [2], Rosane Nisenbaum [3], Michael Liu [4], Stephen W Hwang [5]

CJEM. 2023 Aug;25(8):695-703. doi: 10.1007/s43678-023-00546-7. Epub 2023 Jul 5.

Cold-related injuries among patients experiencing homelessness in Toronto: a descriptive analysis of emergency department visits

Lucie Richard [1], Haley Golding [2], Refik Saskin [2], Jesse I R Jenkinson [3], Katherine Francombe Pridham [3], Evie Gogosis [3], Carolyn Snider [4], Stephen W Hwang [3]

	Patients identified as experiencing homelessness (n=90,165)	Patients not identified as experiencing homelessness (n=4,782,114)
Year of visit (%)		
2018/2019	25.3%	28.0%
2019/2020	27.6%	25.4%
2020/2021	23.2%	21.9%
2021/2022	23.8%	24.7%
Patient sex = Male (%)	73.3%	48.0%
Visit for cold-related injury, N (%)	333 (0.37%)	1,126 (0.02%)

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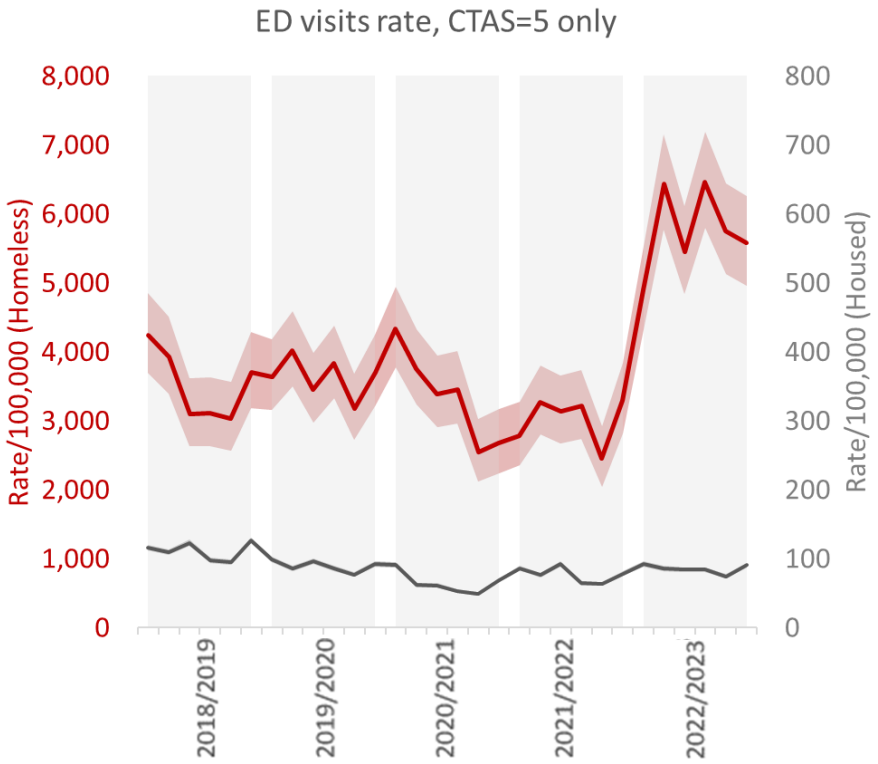
Group & Winter season	Patients identified as experiencing homelessness		Patients not identified as experiencing homelessness		Rate Ratio (95% CI)
	N	Rate per 100,000 (95% CI)	N	Rate per 100,000 (95% CI)	
Overall					
2018/2019	93	407.0 (328.5-498.6)	402	30.0 (27.1-33)	13.6 (10.8-17.0)
2019/2020	67	268.9 (208.4-341.5)	191	15.8 (13.6-18.1)	17.0 (12.9-22.5)
2020/2021	69	330.0 (256.7-417.6)	208	19.8 (17.2-22.7)	16.7 (12.7-21.9)
2021/2022	104	483.9 (395.4-586.4)	325	27.5 (24.6-30.7)	17.6 (14.1-21.9)
Female					
2018/2019	14	243.4 (133.1-408.4)	107	15.2 (12.4-18.4)	16.0 (9.2-30.0)
2019/2020	10	153.7 (73.7-282.6)	60	9.5 (7.3-12.3)	16.2 (8.3-31.6)
2020/2021	15	264.3 (147.9-435.9)	59	10.9 (8.3-14.1)	24.2 (13.8-42.7)
2021/2022	23	375.6 (238.1-563.5)	117	19.2 (15.9-23)	19.6 (12.5-30.6)
Male					
2018/2019	79	462.4 (366.1-576.3)	295	46.3 (41.2-51.9)	10.0 (7.8-12.8)
2019/2020	57	310.0 (234.8-401.6)	131	22.5 (18.8-26.7)	13.8 (10.1-18.8)
2020/2021	54	354.6 (266.4-462.7)	149	29.4 (24.9-34.5)	12.1 (8.8-16.5)
2021/2022	81	527.7 (419.1-655.9)	208	36.5 (31.7-41.8)	14.4 (11.2-18.7)

CJEM. 2024 May;26(5):339-348. doi: 10.1007/s43678-024-00675-7. Epub 2024 Apr 5.

Trends in emergency department visits during cold weather seasons among patients experiencing homelessness in Ontario, Canada: a retrospective population-based cohort study

Lucie Richard [1], Haley Golding [2], Refik Saskin [2], Salimah Z Shariff [3], Jesse I R Jenkinson [4], Katherine Francombe Pridham [4], Carolyn Snider [5 6], Andrew Boozary [7], Stephen W Hwang [4 2 5]



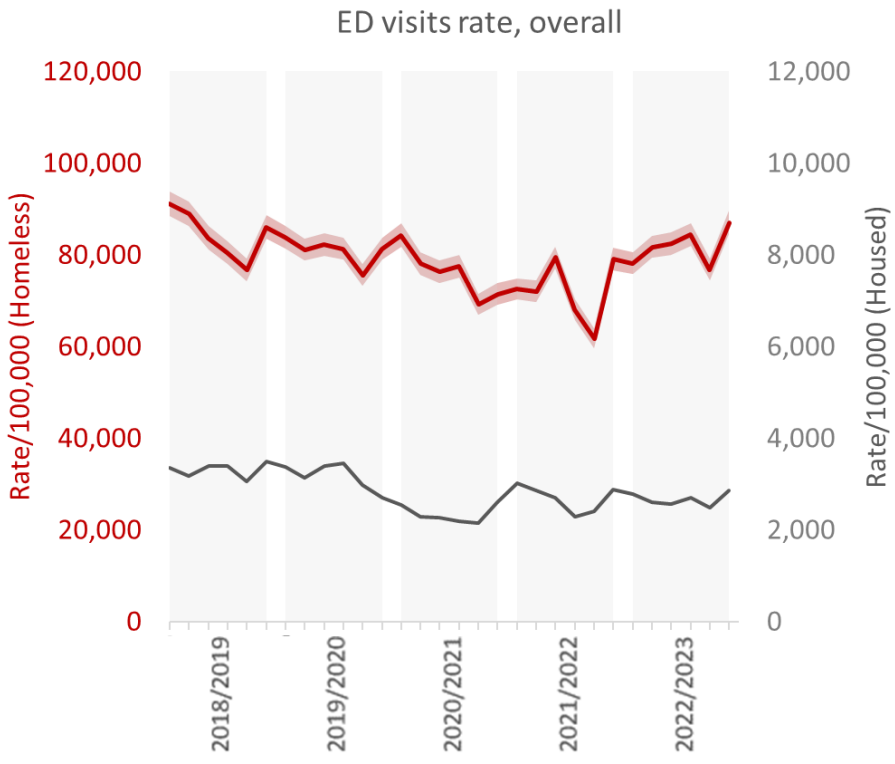


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Table 2 Poisson regression models estimating the level and significance of change in rate of non-urgent ED visit rates in each group during the final cold weather season (2022/2023) compared to previous seasons (2018/2019 to 2021/2022)

	Rate ratio (95% CI)	*p* value
City of Toronto		
2022/2023 vs previous seasons, people experiencing homelessness	1.68 (1.57–1.80)	<.001
2022/2023 vs previous seasons, housed people	0.98 (0.82–1.18)	0.84

Cold weather season is defined as October 1st to March 31st the following calendar year

CI confidence interval

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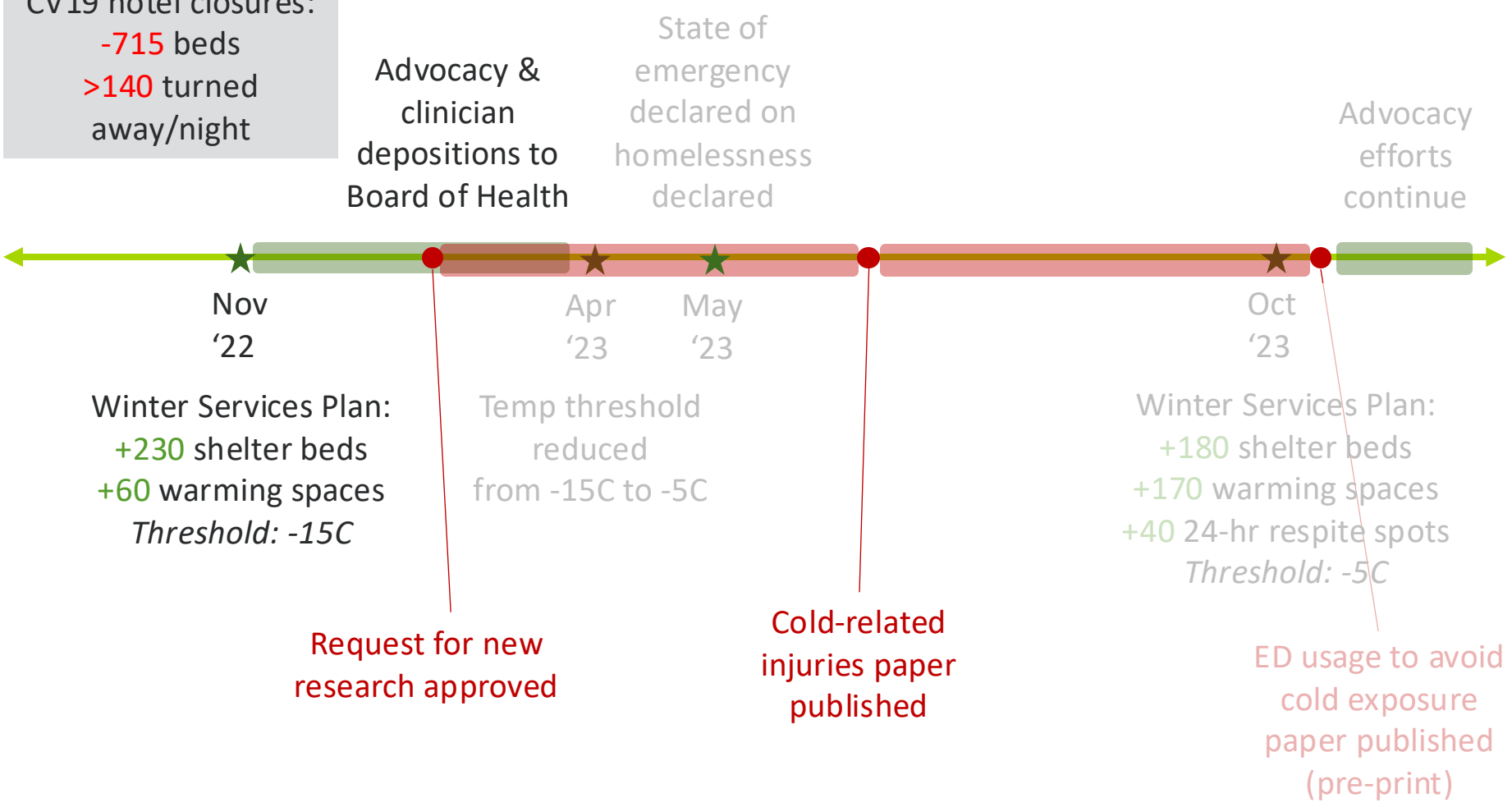

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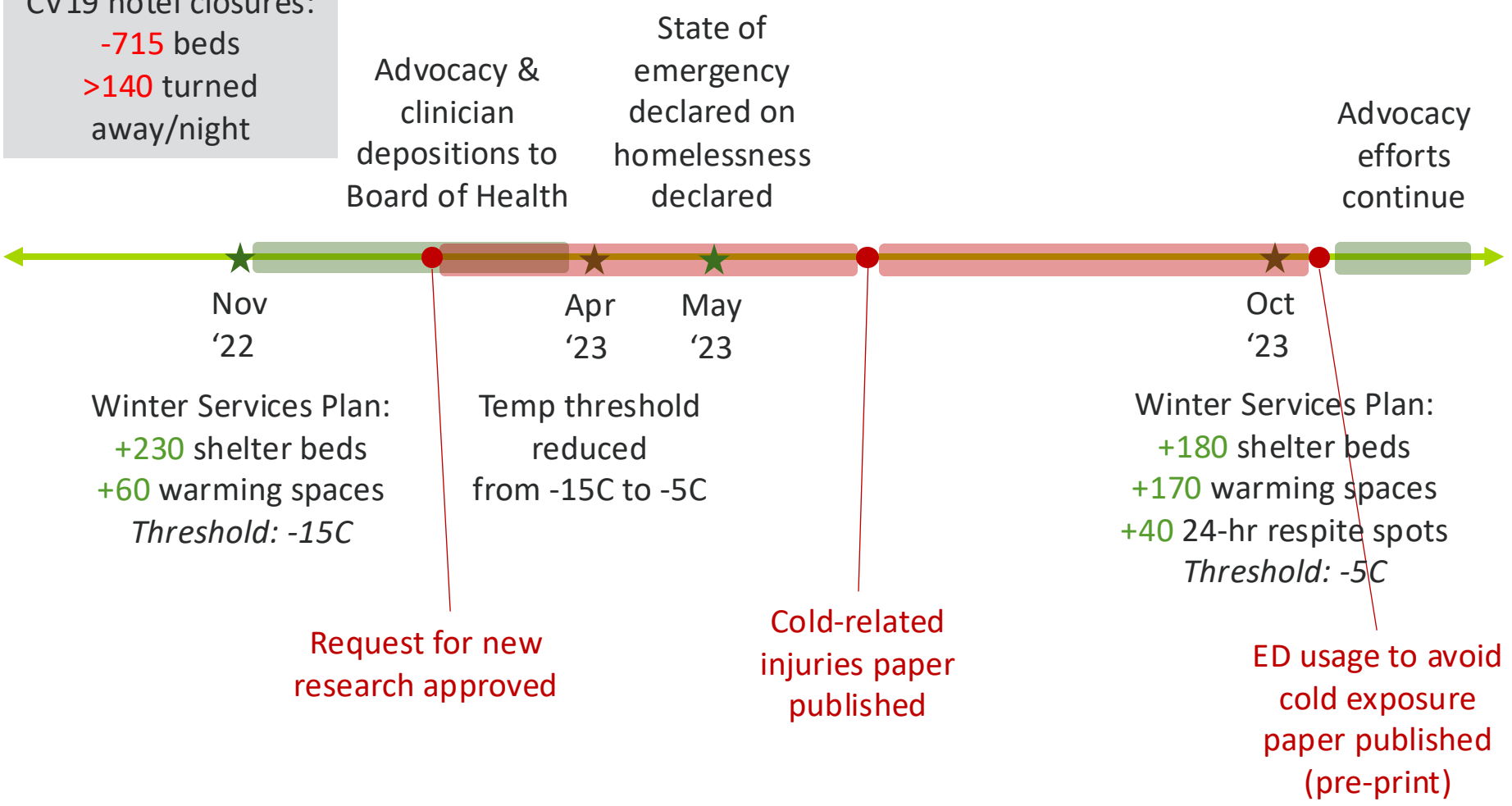

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Winter Service Plans

2022/2023	2023/2024	2024/2025
Threshold: **-15C**	Threshold: **-5C**	Threshold: **-5C**
+690 shelter/ housing spaces	**+665** shelter/ housing spaces	**~1500** shelter/ housing spaces
+60 warming spaces	**+170** warming spaces	**+218** warming spaces (at -5)
	+40 24-hr respite spots	**+164** warming spaces (at -15)
		+300 24-hr respite spaces

1. Next steps

- Continued evidence in support of advocacy is needed, e.g.
    - Have new temperature thresholds made any difference?
    - What risk factors aside from being unsheltered increase risk (e.g. chronicity, comorbidities)?

What about heat exposure?

Thank you!

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- -15C threshold study: Zhang P, Bassil K, Gower S, et al. Cold-related injuries in a cohort of homeless adults. *Journal of Social Distress and the Homeless*. 2019 Jan 2;28(1):85-9.

- Validations to identify homelessness in health data: Richard L, Hwang SW, Forchuk C, et al. Validation study of health administrative data algorithms to identify individuals experiencing homelessness and estimate population prevalence of homelessness in Ontario, Canada. *BMJ open*. 2019 Oct 1;9(10):e030221; and Richard L, Carter B, Nisenbaum R, et al. Identification of homelessness using health administrative data in Ontario, Canada following a national coding mandate: a validation study. *Journal of Clinical Epidemiology*. 2024 Aug 1;172:111430.

- Plotting public spaces pre/post pandemic: MAP Centre for Urban Health Solutions. Changes in Informal Access to Selected Indoor Public Spaces in Toronto. https://maphealth.ca/indoor-public-spaces-toronto/

- Disparities in cold-related injuries: Richard L, Golding H, Saskin R, et al. Cold-related injuries among patients experiencing homelessness in Toronto: a descriptive analysis of emergency department visits. *Canadian Journal of Emergency Medicine*. 2023 Aug;25(8):695-703.

- Trends in ED visits related to cold avoidance: Richard L, Golding H, Saskin R, et al. Trends in emergency department visits during cold weather seasons among patients experiencing homelessness in Ontario, Canada: a retrospective population-based cohort study. *Canadian Journal of Emergency Medicine*. 2024 May;26(5):339-48.