

APPENDIX

Supplementary Table 1. Databases consulted for all variables				
Six primary databases were consulted using ICES' independent repository of linked records. The Ontario Cancer Registry (OCR), a provincial repository of incident cancer cases, was used to identify individuals with a history of non-urinary pelvic cancer. The Ontario Health Insurance Plan (OHIP) Claims Database which captures all fee-for-service healthcare practitioner billings through the publicly funded system, was used to identify several variables including radiotherapy, HBOT use and medical diagnoses. The National Ambulatory Care Reporting System (NACRS), a national database for all hospital and community-based ambulatory care records, was consulted for information regarding medical diagnoses, particularly co-morbidities. The Discharge Abstract Database (DAD), a provincial record of admissions to acute care hospitals, rehabilitation and day surgery, provided data on medical diagnoses as well- this database has been validated in its' entirety. ¹ The Registered Persons Database (RPDB) contains basic demographic information such as age, sex and location of residence. Finally, the Ontario Drug Benefit database (ODB) offers information on medication claims for adults aged 65 and older in the province.				

Supplementary Table 2. Unique databases and respective codes for each variable				
Variable	Definition	Database	Codes	Validation
Exposures				
Cancer type	Non-urinary pelvic cancer: prostate, colorectal, uterine, cervical, ovarian, vaginal, vulvar, female unspecified, penis, testis, male unspecified.	OCR	C18, C19, C20, C21, C51, C52, C53, C54, C55, C56, C57, C60, C61, C62, C63	Unvalidated
Radiotherapy	At least one radiotherapy session.	OHIP claims database	X310, X311, X312, X313, A343, A340, A341	Unvalidated
Hemorrhagic cystitis	Diagnosis of hemorrhagic cystitis.	DAD, NACRS, OHIP claims database	DAD: R31.0 CCI: 1PM54CATS, 1PM13BAZ9, 1PM13BAC2, 1PM52BATS, 1PM52CATS, 1QT13	Partially validated ¹

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			OHIP: Z608, E783	
HBOT use	At least one HBOT session.	OHIP claims database	G800, G801, G802, G803, G804, G805, G807	Unvalidated
HBOT time and physician supervision	Time physician in hyperbaric unit per patient per session	OHIP claims database	Each G800 and G804 code represents first 15 min in HBOT and G801, G802 and G805 is each additional 15 min, where the time spent is number of services in 15min.	Unvalidated
Number of HBOT sessions	Number of unique dates of HBOT services received	OHIP claims database	As above.	Unvalidated
Distance from HBOT center	Distance in km from home residence to institution where HBOT services were received using postal code. For those without HBOT the closest distance from residence to any institution providing HBOT was used.	RPDB	NA	Unvalidated
Clinical outcomes				
Emergency room visit	Any emergency room visit for any reason.	NACRS	NA	Unvalidated
Hospitalization	Any acute care hospital episode for any reason.	DAD	NA	Validated ¹
Procedure	Any code for one or more of the following: cystoscopy, clot evacuation/irrigation, control of bleeding	DAD, NACRS, OHIP claims database	CCI: 2.PM.70.BA, 1.PM.54.CA-TS, 1.PM.13.BA-Z9, BA-C2, 1PM13, 2PM70BA,	Partially validated ¹

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	and transurethral resection of bladder tumor, transurethral resection of prostate		1PM59BA-GX, 1PL87, 1PL87BA, 1PL87BAAG, 1PM87, 1PM87BA 1PM87BAAG, 1QT87BA, 1QT87BAAG, 1QT87BAK OHIP: Z606, Z607, Z608, E783, E781, Z632, Z633, Z634, S655, S654	
Blood transfusion	Blood transfusion	DAD, NACRS, OHIP claims database	CCI: 1.LZ.19.HH-U9- A, 1.LZ.19.HM- U9, 1.LZ.19.HH- U9-J OHIP: E025, G098, G275	Partially validated ¹
Covariates				
Age	Individual's age.	RPDB	NA	Unvalidated
Sex	Individual's sex assigned at birth.	RPDB	NA	Unvalidated
Neighbourhood income quintile	Income quintile of neighbourhood individual resides in.	RPDB	NA	Unvalidated
Rurality	Individual resides in provincially recognized rural community.	RPDB	NA	Unvalidated
Charlson score	Individual Charlson score based on numbers of co- morbidities.	DAD	NA	Validated ^{1,2}
Atrial fibrillation	Any ICD-10 code from the emergency department or DAD, or four codes in OHIP which are within a year but at	DAD, NACRS, OHIP claims database	ICD-10: I48, I4891 OHIP: 427, Z437 ICD-9: 4273, 42721, 42732	Partially validated ³

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	least 30 days apart for atrial fibrillation.			
Stroke	Individual diagnosed with a stroke.	DAD, NACRS, OHIP claims database	ICD-10: I60, I61, I63, I64, H34.1 OHIP: 432, 436	Partially validated ¹
Deep vein thrombosis	Individual diagnosed with a deep vein thrombosis.	DAD, NACRS	ICD-10: I80.1, I80.2, I80.3, I80.8, I80.9, O22.3x, O87.1x	Partially validated ¹
Pulmonary embolism	Individual diagnosed with a pulmonary embolism.	DAD, NACRS	ICD-10: I26.x, O88.2x	Partially validated ¹
Immune thrombocytopenia	Individual diagnosed with immune thrombocytopenia.	DAD, NARCS	ICD-10: D69.3x	Partially validated ¹
Cerebral venous thrombosis	Individual diagnosed with cerebral venous thrombosis.	DAD, NARCS	ICD-10: G08, I63.6, I67.6, O22.5, O87.3	Partially validated ¹
Oral anticoagulant use	Use of oral anticoagulant within 6 months prior to index date among individuals aged ≥ 65 years old. Included drugs: warfarin, rivaroxaban, dabigatran, apixaban, edoxaban	ODB	02344068, 02344084, 00010308, 01918311, 01918338, 01918346, 01918354, 01918362, 02007959, 02240205, 02242680, 02242681, 02242682, 02242683, 02242684, 02242685, 02242687, 02242924, 02242925, 02242926, 02242927, 02242928, 02242929, 02244462, 02244463, 02244464, 02244465,	Unvalidated

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			02244466, 02244467, 02245618, 02265273, 02265281, 02265303, 02265311, 02265338, 02265346, 02287498, 02344025, 02344033, 02344041, 02344076, 02378604, 02378612, 02480808, 09854799, 02316986, 02312441, 02358808, 02397714, 02486806, 02486814, 02487381, 02487403, 02487713, 02489228, 02489236, 02492369, 02492814, 02492822, 02495430, 02495449, 02510464, 02510472, 02526050, 02526069, 02528924, 02530708, 02530716, 09858165, 09858170, 09858171, 09858172, 09858173,	
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			09858174, 09858175, 09858176, 09858177, 09858180, 09858239, 09858249, 09854796, 09854798, 02377233, 02487721, 02492377, 02528932, 09857463, 02458640, 02458659, 02458667	
Antiplatelet use	Use of antiplatelet agent within 6 months prior to index date among individuals aged ≥ 65 years old. Included drugs: aspirin, dipyridamole, clopidogrel, prasugrel, ticagrelor, ticlopidine	ODB	01905392, 00785547, 00040851, 00419508, 00010332, 00010340, 00216666, 00229296, 09857145, 00315117, 00315133, 00377961, 00451738, 00451746, 00036145, 00092754, 09857146, 09857147, 02046253, 02242119, 00579327, 02471051	Unvalidated
			00571237, 00571245, 00601845, 00895644, 00895652, 00895660, 09852565,	

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			00067385, 00067393, 00452092, 00452106, 00784435	
			02252767, 02293161, 02379813, 02385813, 02408910, 02415550, 02416387, 02412942, 02400553, 02238682, 02303027, 02348004, 02351536, 02359316, 02422255, 02482037, 02502283	
			02349124, 02502429	
			02368544, , 02482630, 02492598, 02529769	
			02237701, , 02239744, 02243327, 02236848, 00911759, 01911759, 02162776, 02237560, 02243587	

Where multiple databases were used to identify a single variable, duplicate patients were removed to ensure the variable was only captured once. OCR: Ontario Cancer Registry; ODB: Ontario Drug Benefit; OHIP: Ontario Health Insurance Plan; DAD: Discharge Abstract Database; NACRS: National Ambulatory Care Reporting System; RPDB: Registered Persons Database.

Supplementary Table 3. Prescription drug use among patients aged ≥65 in Ontario, Canada				
Drugs	Without HBOT use	With HBOT use	Total	p±
	n=38,403	n=436	n=38,839	
Oral anticoagulants (warfarin, rivaroxaban, dabigatran, apixaban, edoxoban)	6410 (16.7%)	69 (15.8%)	6479 (16.7%)	0.630
Anti-platelet agents (aspirin, dipyridamole, clopidogrel, prasugrel, ticagrelor, ticlopidine)	7853 (20.4%)	80 (18.3%)	7933 (20.4%)	0.279

±Bivariate testing was conducted using non-parametric Chi-squared testing.

REFERENCES

1. Juurlink D, Preyra C, Croxford R, et al. Canadian Institute for Health Information Discharge Abstract Database: A Validation Study; 2006. Available at: www.ices.on.ca (accessed September 26, 2025)
2. Charlson ME, Pompei P, Ales KL, et al. A new method of classifying prognostic comorbidity in longitudinal studies: Development and validation. *J Chronic Dis* 1987;40:373-83. [https://doi.org/10.1016/0021-9681\(87\)90171-8](https://doi.org/10.1016/0021-9681(87)90171-8)
3. Tu K, Nieuwlaat R, Cheng SY, et al. Identifying patients with atrial fibrillation in administrative data. *Can J Cardiol* 2016;32:1561-5. <https://doi.org/10.1016/j.cjca.2016.06.006>