

# Population Based Trends in Intravesical Gemcitabine Use Among Patients With High-Risk Non-Muscle Invasive Bladder Cancer

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## KEY TAKEAWAY



A large retrospective real-world study among a Medicare population with HR NMIBC found that iGEM use has increased substantially in recent years (2019-2020). Shortage of BCG supply may have played a significant role in increased uptake.

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## CONCLUSIONS

- ✓ The use of iGEM in management of HR NMIBC has increased dramatically since 2019 in overall intravesical treated patients.
- ✓ Treatment duration of iGEM was observed to be sub-optimal with the majority of patients stopping therapy within 4 months.
- ✓ Given the increased practice and lack of phase 3 trials on iGEM use in the HR NMIBC setting, studies of real-world clinical outcomes will become important in understanding the clinical benefits and risks of iGEM and the optimal duration of treatment.

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## BACKGROUND

- Although Bacillus Calmette-Guérin (BCG) remains the standard of care for newly diagnosed high-risk (HR) non-muscle invasive bladder cancer (NMIBC), intravesical gemcitabine (iGEM) use among these patients has shown effectiveness towards preventing or delaying tumor recurrence.<sup>1,2,3</sup>
- Data characterizing iGEM use and associated treatment patterns in existing literature is limited. Real-world research of treatment patterns in the HR NMIBC population is warranted to better understand iGEM utilization.

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## OBJECTIVES

- To report iGEM utilization and treatment patterns during the 12-month period following iGEM initiation in newly diagnosed HR NMIBC patients in the United States, stratified by those who were BCG naïve (BCG-N) or exposed to BCG (BCG-Exp) prior to iGEM initiation.

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## METHODS (1 of 4)

This retrospective cohort study used data from the Surveillance, Epidemiology, and End Results (SEER)-Medicare database of patients newly diagnosed with bladder cancer (BC) between January 1, 2007 and December 31, 2019, with Medicare claims up to December 31, 2020 (**Figure 1**).

- The SEER-Medicare database represents a subset of the SEER population, which is created by merging the SEER data of cancer patients eligible for Medicare with their claims for covered health care services under Medicare.<sup>4</sup>

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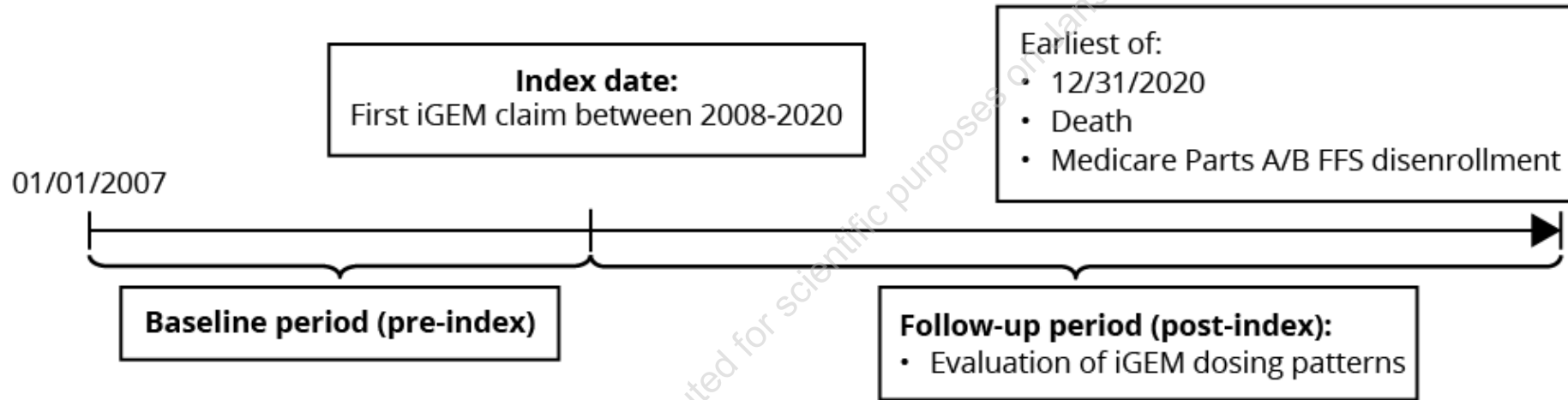


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## METHODS (2 of 4)

FIGURE 1: Study design



BCG: Bacillus Calmette-Guérin; FFS: fee-for-service; iGEM: intravesical gemcitabine; HR NMIBC: high-risk non-muscle invasive bladder cancer.



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## METHODS (3 of 4)

### Study Population

- **Inclusion criteria:** aged  $\geq 65$  years at initial BC diagnosis; diagnosed with HR NMIBC, defined by Tis, Ta, T1, N0, M0; iGEM use between January 1, 2008 and December 31, 2020 (first iGEM claim = index date); continuous enrollment in Medicare Part A & B FFS for  $\geq 12$  months before index date (up to 1-month gap was permitted)
- **Exclusion criteria:** missing TNM stage; low/ intermediate risk group NMIBC; other primary cancer diagnosis; diagnoses that were reported on death certificate

### Cohort Definitions

- **BCG-N:** Patients without a BCG claim prior to the index date
- **BCG-Exp:** Patients with at least 1 BCG claim prior to the index date

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## METHODS (4 of 4)

### Outcomes

- Treatment patterns during the baseline period and one-year post-index date
- The percentage of patients treated with iGEM (alone or in combination) among those treated with any intravesical therapy was reported by year, regardless of their BCG exposure.

### Statistical Analyses

Means, standard deviations (SD), and medians were reported for continuous variables; counts and percentages were reported for categorical variables. No statistical comparisons between the BCG-N and BCG-Exp cohorts were made.

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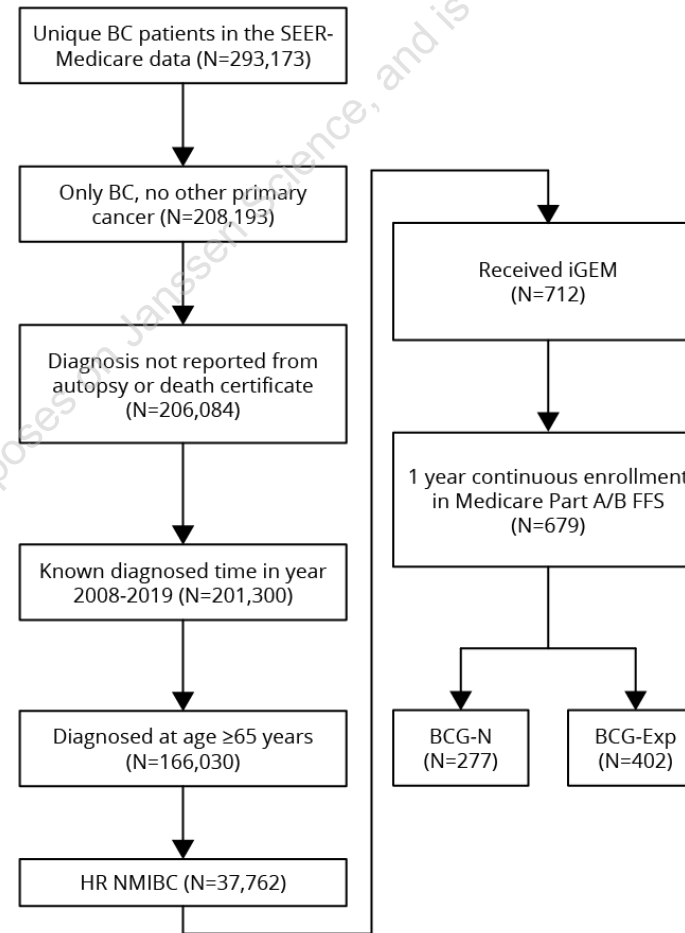
## RESULTS (1 of 6)

### Patient Disposition

#### FIGURE 2: Patient disposition

Approximately 293,000 unique BC patients were identified (Figure 2).

- 37,762 (12.9%) patients met the criterion for HR NMIBC diagnosis among BC patients during prespecified period.
- The final analysis set of 679 patients included 277 (41%) BCG-N patients and 402 (59%) BCG-Exp patients receiving iGEM.



BC: bladder cancer; BCG: Bacillus Calmette-Guérin; BCG-Exp: BCG exposed; BCG-N: BCG naïve; FFS: fee-for-service; HR NMIBC: high-risk non-muscle invasive bladder cancer; iGEM: intravesical gemcitabine.

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## RESULTS (2 of 6)

### Patient Demographics, Clinical and Treatment Characteristics (Table 1)

- On the index date for both cohorts, mean age was >75 years, >80% were male, and >90% were White.
- Higher proportions of patients with tumor stage Ta and lower proportions of patients with T1 and Tis were noted in the BCG-N group at baseline.
- From 2008-2020, use of iGEM increased in both cohorts. Of all patients included in the study, 70% of BCG-N patients and 64% of BCG-Exp patients initiated iGEM in 2019-2020.
- Intravesical therapy use beyond a perioperative instillation during the baseline period was observed in 27.4% of BCG-N and 36.1% of BCG-Exp patients; docetaxel (17.3% BCG-N, 20.4% BCG-Exp) and mitomycin (11.6% BCG-N, 17.2% BCG-Exp) were most common.

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## RESULTS (3 of 6)

TABLE 1: Baseline demographics and clinical characteristics

	BCG-N (n=277)	BCG-Exp (n=402)
<b>Age (years), mean (SD)</b>	<b>77.9 (7.35)</b>	<b>78.6 (6.22)</b>
65-69, n (%)	35 (12.6)	13 (3.2)
70-74, n (%)	67 (24.2)	108 (26.9)
75-79, n (%)	72 (26.0)	116 (28.9)
80-84, n (%)	49 (17.7)	96 (23.9)
85+, n (%)	54 (19.5)	69 (17.2)
<b>Sex, Male, n (%)</b>	<b>225 (81.2)</b>	<b>323 (80.3)</b>
<b>Race, White, n (%)</b>	<b>264 (95.3)</b>	<b>377 (93.8)</b>
<b>Marital status, Married, n (%)</b>	<b>180 (65)</b>	<b>294 (73.1)</b>
<b>Metro area, n (%)</b>		
Urban/Metro	225 (81.2)	332 (82.6)
Rural	52 (18.8)	70 (17.4)
<b>BC Initial diagnosis year, n (%)</b>		
2008-2012	26 (9.4)	78 (19.4)
2013-2016	54 (19.5)	133 (33.1)
2017-2018	71 (25.6)	130 (32.3)
2019	126 (45.5)	61 (15.2)
<b>Index year, n (%)</b>		
2008-2012	12 (4.3)	22 (5.5)
2013-2016	28 (10.1)	59 (14.7)
2017-2018	42 (15.2)	62 (15.4)
2019-2020	195 (70.4)	259 (64.4)
<b>Days from BC diagnosis to Index date, mean (SD)</b>	<b>452 (774)</b>	<b>973 (849)</b>
<b>Tumor stage, n (%)</b>		
T1	113 (40.8)	178 (44.3)
Ta	138 (49.8)	162 (40.3)
Tis	26 (9.4)	62 (15.4)
<b>NCI Comorbidity Index*, mean (SD)</b>	<b>0.78 (0.68)</b>	<b>0.80 (0.70)</b>
<b>Comorbid conditions, n (%)</b>		
Diabetes	87 (31.4)	118 (29.4)
Peripheral vascular disease	86 (31.0)	124 (30.8)
Chronic Pulmonary Disease	84 (30.3)	126 (31.3)
Renal disease	71 (25.6)	153 (38.1)
Cerebrovascular disease	53 (19.1)	78 (19.4)
Congestive Heart Failure	52 (18.8)	82 (20.4)
Liver disease	37 (13.4)	37 (9.2)
Myocardial infarction history	28 (10.1)	41 (10.2)
<b>Intravesical chemotherapy treatments, n %</b>		
Any†	76 (27.4)	145 (36.1)
Mitomycin	32 (11.6)	69 (17.2)
Docetaxel	48 (17.3)	82 (20.4)

BC: bladder cancer; BCG: Bacillus Calmette-Guérin; BCG-Exp: BCG exposed; BCG-N: BCG naïve; NCI: National Cancer Institute; SD, standard deviation.

\*Reference: <https://healthcaredelivery.cancer.gov/seermedicare/considerations/comorbidity.html>

†Includes mitomycin, docetaxel, valrubicin, epirubicin.

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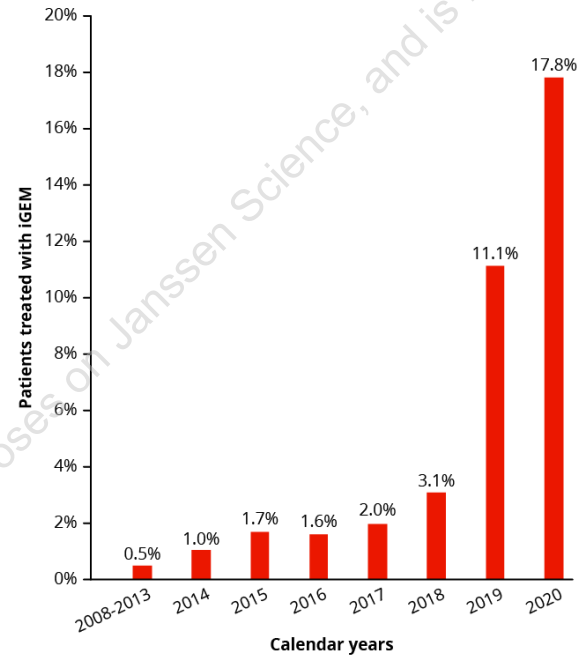
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## RESULTS (4 of 6)

### iGEM initiation

**FIGURE 3: Proportion of HR NMIBC patients treated with iGEM among the HR NMIBC population receiving intravesical therapy\*, by year**

- From 2008-2020, use of iGEM increased over the study period, most notably, since 2019. (Figure 3).



Calendar year	2008-2013	2014	2015	2016	2017	2018	2019	2020	Total*
HR NMIBC patients treated with iGEM, n	55	25	44	44	60	90	305	308	679
HR NMIBC patients treated with any intravesical therapy <sup>†</sup> , n	10,301	2,470	2,526	2,765	2,966	2,938	2,742	1,735	14,539

BCG: Bacillus Calmette-Guérin; iGEM: intravesical gemcitabine.

\*The total represents the number of unique patients over the entire 2008-2020 period. Patients may have received treatment in multiple calendar years.

<sup>†</sup>BCG, iGEM, mitomycin, docetaxel, valrubicin, epirubicin.

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## RESULTS (5 of 6)

### Treatment Patterns During Follow-up

- The median number of iGEM doses per patient in the BCG-N cohort was 6 (IQR 1,8) with mean (SD) retreatment interval of 28 (43) days. In BCG-Exp, the median number of iGEM doses was 6 (IQR 2,9) with mean (SD) of 23 (26) days of retreatment interval (**Table 2**).
- The percentages of patients who received 1, 2, 3, and 4 doses of iGEM are show in **Table 2**. Over 40% of the BCG-N cohort and over 30% of the BCG-Exp cohort did not receive a 4<sup>th</sup> dose.
- Docetaxel was used in combination with iGEM in 18.4% of the BCG-N cohort and in 21.4% of the BCG-Exp cohort (**Table 2**).

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## RESULTS (6 of 6)

TABLE 2: Treatment patterns during follow-up

	BCG-N (n=277)	BCG-Exp (n=402)
Post-index follow-up duration (months), mean (SD)	20 (19.8)	22 (21.6)
iGEM dosing up to 1-year post-index		
Doses per patient, mean (SD)	5.7 (4.4)	6.0 (4.2)
Doses per patient, median (IQR)	6 (1, 8)	6 (2, 9)
Days between any 2 consecutive doses, mean (SD)	28 (43)	23 (26)
<b>Patients who received only 1 dose of iGEM, n (%)</b>	<b>77 (27.8)</b>	<b>70 (17.4)</b>
<b>Patients with 2 doses of iGEM, n (%)</b>	<b>200 (72.2)</b>	<b>332 (82.6)</b>
Days between 1 <sup>st</sup> and 2 <sup>nd</sup> consecutive doses, mean (SD)	21 (46)	16 (27)
<b>Patients with 3 doses of iGEM, n (%)</b>	<b>181 (65.3)</b>	<b>301 (74.9)</b>
Days between 2 <sup>nd</sup> and 3 <sup>rd</sup> consecutive doses, mean (SD)	13 (27)	18 (32)
<b>Patients with 4 doses of iGEM, n (%)</b>	<b>165 (59.6)</b>	<b>270 (67.2)</b>
Days between 3 <sup>rd</sup> and 4 <sup>th</sup> consecutive doses, mean (SD)	14 (32)	19 (36)
<b>Patients who received iGEM in combination with docetaxel*, n (%)</b>	<b>51 (18.4)</b>	<b>86 (21.4)</b>
Combination doses per patient*, mean (SD)	8.9 (5.4)	7.3 (4.7)

BC: bladder cancer; BCG-Exp: BCG exposed; BCG-N: BCG naïve; iGEM: intravesical gemcitabine; IQR: interquartile range; SD, standard deviation.  
\*Combination therapy was defined as iGEM and intravesical docetaxel received on the same day.



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## LIMITATIONS

- The study was retrospective in nature with inherent limitations of administrative data, including potential inaccurate coding errors leading to misclassification of treatment and clinical outcomes.
- The study didn't account for induction and maintenance phase of the iGEM treatment cycle so results should be interpreted with this consideration.
- Data used in this study were limited by the information recorded and translated into structured data element, and may not have been generalizable to the entire US population.

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### REFERENCES:

1. Hall MC, Chang SS, Dalbagni G, et al. Guideline for the management of nonmuscle invasive bladder cancer (stages Ta, T1, and Tis): 2007 update. *J Urol*. 2007;178(6):2314-30. 2. Sylvester RJ, van der Meijden APM, Lamm DL. Intravesical bacillus Calmette-Guerin reduces the risk of progression in patients with superficial bladder cancer: a meta-analysis of the published results of randomized clinical trials. *J Urol*. 2002;168(5):1964-70. 3. Sternberg IA, Dalbagni G, Chen LY, et al. Intravesical gemcitabine for high-risk, nonmuscle invasive bladder cancer after bacillus Calmette-Guerin treatment failure. *J Urol*. 2013;190(5):1686-91. 4. Warren, J. L., Klabunde, C. N., Schrag, D., Bach, P. B., & Riley, G. F. (2002). Overview of the SEER-Medicare data: content, research applications, and generalizability to the United States elderly population. *Medical care*, IV3-IV18.

### DISCLOSURES:

Stephen Williams is a consultant to Johnson and Johnson, Merck, Photocure, Provepharm, UroToday and Valar Labs. Jinghua He, Andrea Ireland, Qian Shi, Hiremagalur Balaji, Lorie Ellis, Mukul Singhal are employees of Janssen Scientific Affairs, LLC and hold stock in Johnson & Johnson. Wenxi Huang is an employee of Janssen Scientific Affairs, LLC. Aeja Jackson was an employee of Janssen Scientific Affairs, LLC at the time of the study.

### ACKNOWLEDGMENTS:

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