

# Medically Integrated Dispensing of Oral Oncolytics: Real-World Cost of Care Comparison to Traditional Dispensing

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## BACKGROUND

- In the United States (U.S.), cancer care represents a rapidly rising and disproportionate share of overall health care spend.<sup>1</sup>
- Overall spending on cancer medications in the U.S. increased by 51.7% between 2018 and 2022, with total spend reaching \$88 billion.<sup>2</sup>
- Due to the rising cost of oral oncolytics (OO), payers have added alternative dispensing models to specialty drug coverage policies.<sup>3</sup>
- While traditional specialty pharmacies, often affiliated with wholesalers or PBMs, dominate the landscape, medically integrated dispensing (MID) within health systems and specialty care clinics offers unique benefits.<sup>4,5</sup>
- Medically integrated dispensing, consisting of multidisciplinary care teams dispensing drugs within clinics, has been associated with better outcomes, lower waste and better patient care experiences for members receiving OO.<sup>6,7</sup>
- Recognizing this value, payers have developed integrated dispensing networks to supplement traditional dispensing sites; however, little information is available comparing total cost of care (TCC), defined as total medical benefit costs and pharmacy benefit costs, between these channels.

## OBJECTIVE

To compare six-month pre/post cost of care differences between integrated and non-integrated dispensing channels among commercially insured members initiating OO therapy.

## METHODS

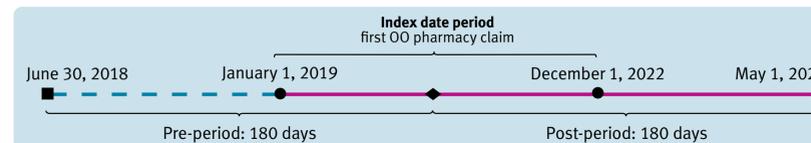
- The Prime Therapeutics commercially insured pharmacy and medical claims database was used to identify members newly initiating an OO drug of interest between 1/1/2019 and 12/1/2022. (Figure 1)
- The list of study drugs included both brand and generic OO indicated for various tumor types and treatment stages (e.g., adjuvant, first-line, second-line, etc.).
- For study inclusion, members were required to be continuously enrolled six months before and after index, had a cancer diagnosis and had at least some medical spending.
- Dispensing channel was assigned using index OO fill:
  - Integrated health system specialty pharmacy (Int-HSSP)
  - Integrated physician office (Int-Phys)
  - Non-integrated channel (Non-Int)
- Study measures included total cost of care (TCC), total medical benefit spend and total pharmacy benefit spend. All measures were calculated across the pre and post study periods, with pre-to-post spend differences calculated. Period-specific TCC was obtained by summing medical and pharmacy benefit cost paid amounts. Costs were obtained from medical and pharmacy claim paid allowed amounts, including member share, after all network provider discounts were applied.
- Members were excluded if pre or post total medical spend exceeded the 99th percentile.
- Descriptive statistics were used to summarize pre and post costs for each cost measure by dispensing channel.
- Regression analysis was used to compare change within a person across time periods for each cost measure by dispensing channel, adjusting for demographics, Charlson comorbidity index (CCI) score<sup>8</sup> and cancer condition type.
- Cancer condition types were based on Surveillance Research Program (SEER) cancer condition categories,<sup>9</sup> using medical claims data from six months prior to and one month following index date.
- Regression coefficients for Int-HSSP and Int-Phys were obtained by including Non-Int as a reference to allow for comparison of spend differences to the Non-Int dispensing channel.

## RESULTS

- A total of 30,810 (Int-HSSP: N=5,485; Int-Phys: N=2,543; Non-Int: N=22,782) commercially insured members met all study criteria. (Figure 2)
  - Mean age ranged from 54.5 (Int-HSSP) to 56.2 years (Non-Int). (Table 1)
  - A majority of members were female across all dispensing channels (Int-HSSP [52.9%] and Int-Phys [54.1%]), except for Non-Int (45.4%). (Table 1)
  - Mean CCI score ranged from 4.5 (Non-Int) to 4.7 (Int-Phys). (Table 1)
  - Breast, digestive, lymphoma/hematologic and prostate cancer conditions were observed at a rate of 10% or higher across the entire study cohort. The four cancer conditions combined represented 77.7% (Int-HSSP), 81.9% (Int-Phys) and 83.3% (Non-Int) of the study cohort.
  - Across all three dispensing channels, pre-to-post care cost increased. (Table 2)
- Total cost of care**
- Non-Int – Pre: \$62,882 Post: \$111,267 (76.9% increase)
  - Int-HSSP – Pre: \$75,985 Post: \$124,504 (63.9% increase)
  - Int-Phys – Pre: \$71,010 Post: \$112,989 (59.1% increase)
- Medical benefit spend**
- Non-Int – Pre: \$54,091 Post: \$67,051 (24.0% increase)
  - Int-HSSP – Pre: \$66,154 Post: \$75,465 (14.1% increase)
  - Int-Phys – Pre: \$62,661 Post: \$64,655 (3.2% increase)
- Pharmacy benefit spend**
- Non-Int – Pre: \$8,790 Post: \$44,216 (403.0% increase)
  - Int-HSSP – Pre: \$9,831 Post: \$49,038 (398.9% increase)
  - Int-Phys – Pre: \$8,348 Post: \$48,334 (479.0% increase)
- After covariate adjustment, comparison to the Non-Int channel showed Int-Phys dispensing channel had significantly lower TCC (Pre: \$71,010, Post: \$112,989; adj. diff. –\$5,379 [–\$9,406 to –\$1,351; p=.008]) and medical benefit spend (Pre: \$62,661, Post: \$64,655; adj. diff. –\$6,069 [–\$9,789 to –\$2,350; p=.001]). (Table 2)
  - No significant cost differences were observed in Int-HSSP compared to Non-Int for TCC (Pre: \$75,985, Post: \$124,504; adj. diff. –\$90 [–\$3,014 to \$2,833; p=.951]) and medical cost (Pre: \$66,154, Post: \$75,465; adj. diff. –\$849 [–\$3,549 to \$1,851; p=.537]). (Table 2)

## FIGURE 1

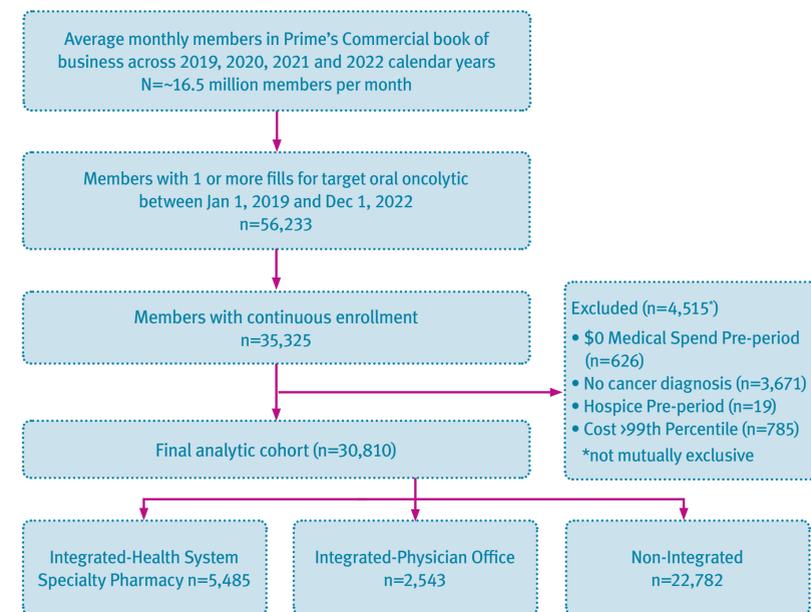
### Study Schematic



Note: OO=oral oncolytic. Index date (when OO drug of interest is initiated) may occur at any time during the index date period.

## FIGURE 2

### Member Attrition



Note: Final analytic cohort defined by members' dispensing channel used for initial oral oncolytic drug fill. Dispensing channel type included integrated delivery system, i.e., the HSSP=health system specialty pharmacy, an integrated physician oncology practice or a non-integrated delivery system.

## LIMITATIONS

- Our study examined a commercially insured membership, so findings are not generalizable to Medicare or Medicaid populations.
- We required one year of continuous enrollment to assess pre/post changes over six month periods, which further limited generalizability by requiring members to be enrolled and alive during the full six-month follow-up period.
- Costs were captured during the first six months following OO initiation only. Extended follow-up is necessary to compare cost differences across the three dispensing channels over a longer time horizon.
- All study outcomes were limited to direct, all-cause health care costs. An assessment of clinical outcomes or care quality was beyond the scope of this study but should be considered in future studies aimed at determining the value of integrated OO dispensing.

## TABLE 1

### Demographic and Clinical Characteristics of Study Sample

	Integrated-HSSP N=5,485	Integrated-Physician N=2,453	Non-Integrated N=22,782
Age (mean)	54.5	55.7	56.2
Female [% (N)]	52.9 (2,904)	54.1 (1,376)	45.4 (10,339)
CCI Score (mean)	4.6	4.7	4.5
Cancer Condition [% (N)]*			
Digestive	19.5 (1,068)	24.5 (622)	17.7 (4,026)
Lymphoma and Hematologic	21.5 (1,179)	24.6 (626)	19.7 (4,494)
Breast	27.9 (1,532)	24.9 (633)	25.7 (5,850)
Prostate/Testicular	8.8 (485)	7.9 (202)	20.2 (4,592)

Note: CCI=Charlson comorbidity score; HSSP=health system specialty pharmacy.

\*Cancer conditions with 10% or higher prevalence

Study sample defined by members' dispensing channel used for initial oral oncolytic drug fill. Dispensing channel type included integrated delivery system, i.e., the HSSP=health system specialty pharmacy, an integrated physician oncology practice or a non-integrated delivery system.

## TABLE 2

### Unadjusted and Adjusted Cost Estimates By Oral Oncolytic Dispensing Channel

	Unadjusted			Statistically Adjusted Difference by Channel		
	Total Cost of Care	Medical Benefit	Pharmacy Benefit	Total Cost of Care	Medical Benefit	Pharmacy Benefit
Non-Integrated (N=22,782)	Pre: \$62,882 Post: \$111,267 Diff: \$48,385	Pre: \$54,091 Post: \$67,051 Diff: \$12,960	Pre: \$8,790 Post: \$44,216 Diff: \$35,425	Reference	Reference	Reference
Integrated-HSSP (N=5,485)	Pre: \$75,985 Post: \$124,504 Diff: \$48,518	Pre: \$66,154 Post: \$75,465 Diff: \$9,311	Pre: \$9,831 Post: \$49,038 Diff: \$39,207	-\$90 (-\$3,014 to \$2,833) p=0.951	-\$849 (-\$3,549 to \$1,851) p=0.537	\$758 (-\$407 to \$1,925) p=0.202
Integrated-Physician Office (N=2,543)	Pre: \$71,010 Post: \$112,989 Diff: \$41,979	Pre: \$62,661 Post: \$64,655 Diff: \$1,993	Pre: \$8,348 Post: \$48,334 Diff: \$39,985	-\$5,379 (-\$9,406 to -\$1,351) p=0.008 <b>-4.8%</b>	-\$6,069 (-\$9,789 to -\$2,350) p=0.001 <b>-9.4%</b>	\$690 (-\$915 to \$2,297) p=0.399

HSSP=health system specialty pharmacy; Diff=Difference

Point estimates, 95% confidence intervals, p values and percent difference are represented in the table. Percent difference formula: (adjusted difference estimate/unadjusted post cost) \*100.

Model covariates: age, gender, client, pre-period medical drug use, Charlson comorbidity score and cancer condition.

Members with pre or post period total medical cost at or above the 99th percentile were excluded.

Bolded values indicate statistical significance (p<0.05). Reference group=non-integrated dispensing channel.

Study sample defined by members' dispensing channel used for initial oral oncolytic drug fill. Dispensing channel type included integrated delivery system, i.e., the HSSP=health system specialty pharmacy, an integrated physician oncology practice or a non-integrated delivery system.

## CONCLUSIONS

- Integrated physician (Int-Phys) office dispensing including pharmacist care and medication dispensing channel for OO drugs was associated with 9.4% lower medical cost and a 4.8% lower total cost of care compared to the non-integrated (Non-Int) dispensing channel.
- Integrated health system specialty pharmacy (Int-HSSP) was cost neutral across TCC, medical and pharmacy benefit spend compared to Non-Int dispensing channel.
- The Int-Phys channel cost offsets supplement previously published clinical care and member experience benefits, supporting innovative network designs that increase member access to the Int-Phys dispensing channel.<sup>6,7</sup>
- This study finds a lower associated total cost of care when oral oncology medications are dispensed in the physician office by a multidisciplinary team to the patient, allowing for integrated care management. Future research should examine the long-term impact of in-office medication integrated dispensing on clinical and financial outcomes, as well as patient satisfaction.

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