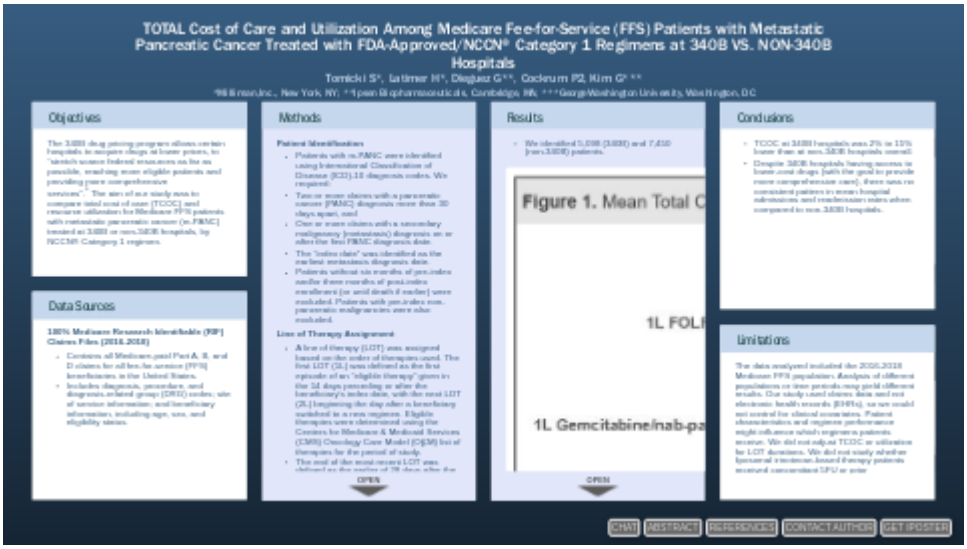
TOTAL Cost of Care and Utilization Among Medicare Fee-for-Service (FFS) Patients with Metastatic Pancreatic Cancer Treated with FDA-Approved/NCCN® Category 1 Regimens at 340B VS. NON-340B Hospitals



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OBJECTIVES

The 340B drug pricing program allows certain hospitals to acquire drugs at lower prices, to "stretch scarce federal resources as far as possible, reaching more eligible patients and providing more comprehensive

services".[1] The aim of our study was to compare total cost of care (TCOC) and resource utilization for Medicare FFS patients with metastatic pancreatic cancer (m-PANC) treated at 340B or non-340B hospitals, by NCCN® Category 1 regimen.

DATA SOURCES

100% Medicare Research Identifiable (RIF) Claims Files (2016-2018)

- Contains all Medicare-paid Part A, B, and D claims for all fee-for-service (FFS) beneficiaries in the United States.
- Includes diagnosis, procedure, and diagnosis-related group (DRG) codes; site of service information; and beneficiary information, including age, sex, and eligibility status.

METHODS

Patient Identification

- Patients with m-PANC were identified using International Classification of Disease (ICD)-10 diagnosis codes. We required:
- Two or more claims with a pancreatic cancer (PANC) diagnosis more than 30 days apart, and
- One or more claims with a secondary malignancy (metastasis) diagnosis on or after the first PANC diagnosis date.
- The "index date" was identified as the earliest metastasis diagnosis date.
- Patients without six months of pre-index and/or three months of post-index enrollment (or until death if earlier) were excluded. Patients with pre-index non-pancreatic malignancies were also excluded.

Line of Therapy Assignment

- A line of therapy (LOT) was assigned based on the order of therapies used. The first LOT (1L) was defined as the first episode of an "eligible therapy" given in the 14 days preceding or after the beneficiary's index date, with the next LOT (2L) beginning the day after a beneficiary switched to a new regimen. Eligible therapies were determined using the Centers for Medicare & Medicaid Services (CMS) Oncology Care Model (OCM) list of therapies for the period of study.[2]
- The end of the most recent LOT was defined as the earlier of 28 days after the most recent administration, visit date, or order for oral therapy (after the first date of chemotherapy), or date of death, if applicable.

Costs and resource utilization were summarized for the following NCCN® Category 1 drugs or regimens:

- 1L Gemcitabine monotherapy
- 1L Gemcitabine + nab-paclitaxel
- 1L Folinic acid + 5-fluorouracil + irinotecan + oxaliplatin (FOLFIRINOX)
- 2L Liposomal irinotecan + 5FU (5FU was not included in this analysis; see Limitations for further details.)

340B Hospital Identification

- 340B hospitals were identified using the 340B OPAIS database.[3]
- Patients were attributed to 340B or non-340B hospitals based on plurality of chemotherapy claims.

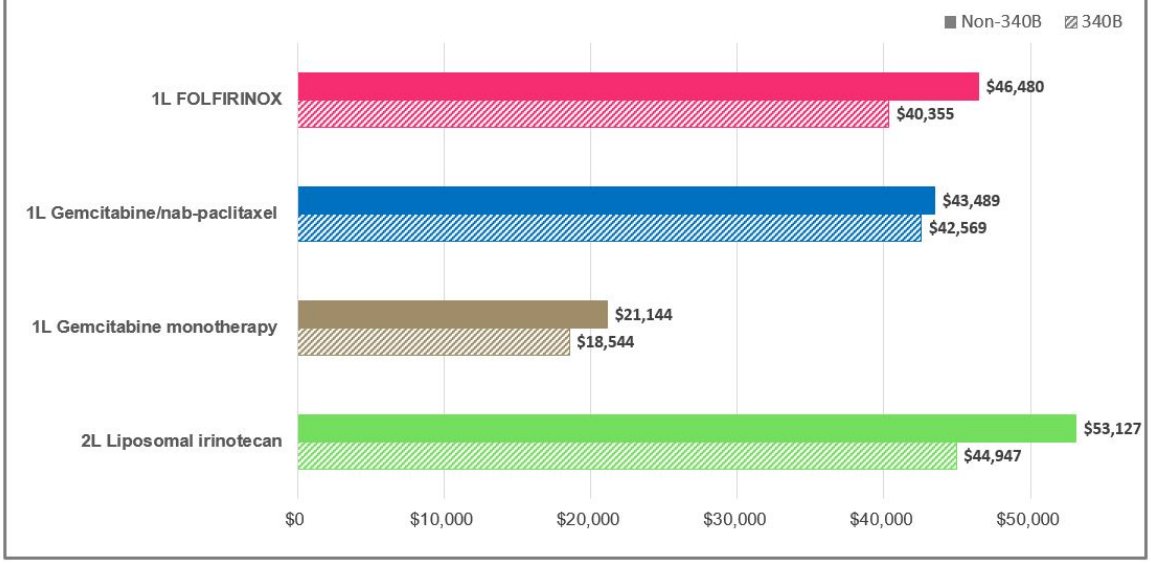
Cost Analysis and Resource Utilization

- Mean total cost of care (TCOC) was calculated as the average of the insurer paid amount excluding the patient cost-sharing per regimen/LOT.
- Mean hospital admissions were calculated as admissions per patient per regimen/LOT.
- Readmission rates were calculated as a percentage of total hospital admissions.
- We performed Tukey's Honestly Significant Difference (HSD) pairwise statistical testing for each regimen/LOT at 95% level of significance.

RESULTS

- We identified 5,098 (340B) and 7,450 (non-340B) patients.

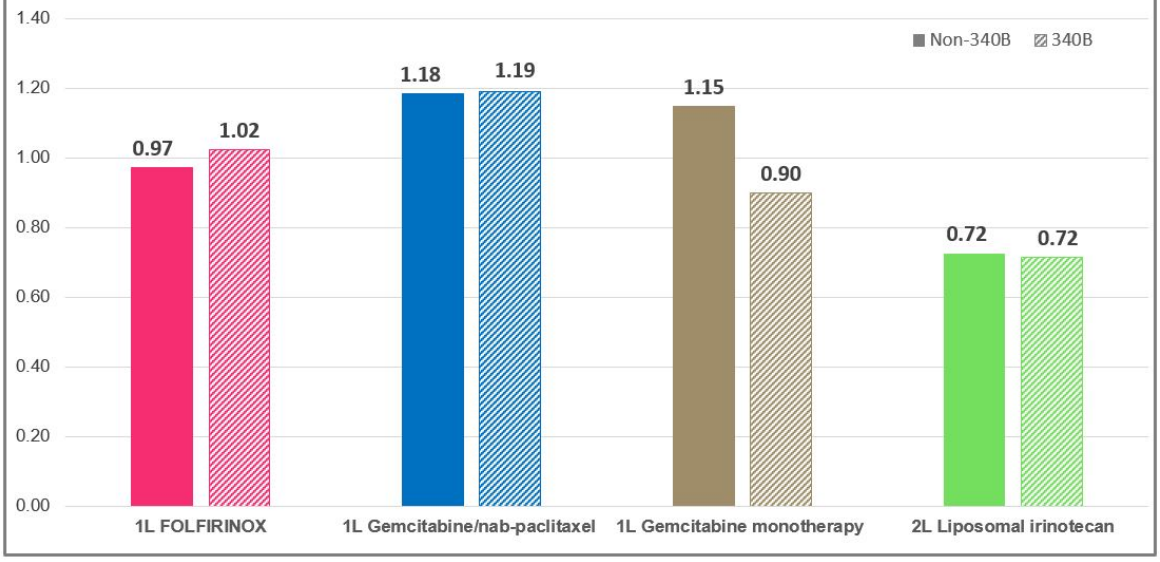
Figure 1. Mean Total Cost of Care Per Patient Receiving Chemotherapy at 340B Hospitals vs. Non-340B Hospitals



- Across regimens, TCOC was higher at non-340B ($21,144-$53,127) than at 340B hospitals ($18,544-$44,947). **[Figure 1]**

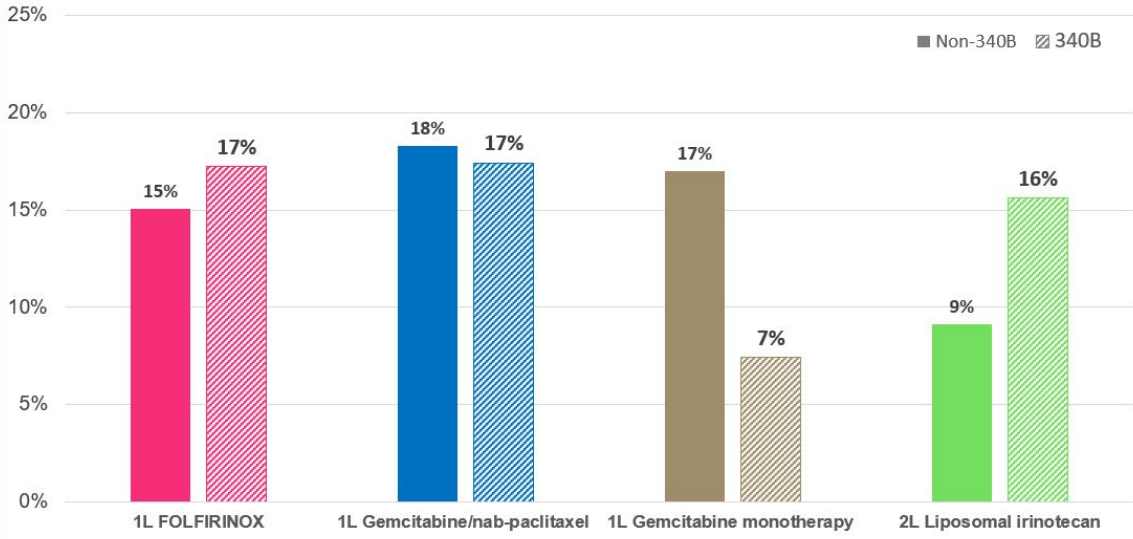
- Patients receiving 1L gemcitabine monotherapy had the lowest TCOC (340B: $18,544*, non-340B: $21,144*) in both cohorts, while patients receiving 2L liposomal irinotecan had the highest (340B: $44,947, non-340B: $53,127*). **[Figure 1]**

Figure 2. Mean Admissions Per Patient Receiving Chemotherapy at 340B Hospitals vs. Non-340B Hospitals



- 2L liposomal irinotecan also had the lowest mean hospital admissions (340B: 0.72, non-340B: 0.72), while 1L gemcitabine/nab-paclitaxel had the highest (340B: 1.19, non-340B: 1.18). **[Figure 2]**

Figure 3. Mean Readmissions Per Patient Receiving Chemotherapy at 340B Hospitals vs. Non-340B Hospitals



- Patients receiving 1L gemcitabine monotherapy and 2L liposomal irinotecan had the lowest readmission rates at 340B (7%) and non-340B (9%), respectively. **[Figure 3]** There were no consistent differences in mean hospital admissions and readmission rates between cohorts. **[Figures 2 & 3]**

Values with an * indicate statistical significance at $\alpha = 0.05$.

CONCLUSIONS

- TCOC at 340B hospitals was 2% to 15% lower than at non-340B hospitals overall.
- Despite 340B hospitals having access to lower-cost drugs (with the goal to provide more comprehensive care), there was no consistent pattern in mean hospital admissions and readmission rates when compared to non-340B hospitals.

LIMITATIONS

The data analyzed included the 2016-2018 Medicare FFS population. Analysis of different populations or time periods may yield different results. Our study used claims data and not electronic health records (EHRs), so we could not control for clinical covariates. Patient characteristics and regimen performance might influence which regimens patients receive. We did not adjust TCOC or utilization for LOT durations. We did not study whether liposomal irinotecan-based therapy patients received concomitant 5FU or prior gemcitabine-based therapy.

ABSTRACT

OBJECTIVES: To compare total cost of care (TCOC) and utilization for Medicare FFS patients (pts) with metastatic pancreatic cancer (m-PANC) treated at 340B or non-340B hospitals, by NCCN® Category 1 regimen.

METHODS: We identified pts with m-PANC using ICD-9/10 diagnosis codes in the 2016-18 Medicare Parts A/B/D 100% Research Identifiable Files. Study pts had 2+ claims with a pancreatic cancer diagnosis and Medicare FFS coverage for 6 months pre- and 3 months post-metastasis diagnosis. 340B hospitals were identified using the 340B OPAIS database. Pts were attributed to 340B or non-340B hospitals based on plurality of chemotherapy claims. Mean TCOC includes all insurer-paid services per line of therapy (excluding patient cost share). We calculated mean rates of hospital admissions (admits/pt) and readmissions. Study pts were treated with NCCN® Category 1 regimens: 1L gemcitabine monotherapy (gem-mono), 1L gemcitabine/nab-paclitaxel (gem-nab), 1L FOLFIRINOX (FFX), and 2L liposomal irinotecan-based regimen (Nal-IRI).

RESULTS: We identified 5,098 (340B) and 7,450 (non-340B) pts. Across regimens, TCOC was higher at non-340B ($21,144-$53,127) than at 340B hospitals ($18,544-$44,947). There were no consistent differences in admits/pt and readmission rate between cohorts. Gem-mono had the lowest TCOC (340B: $18,544, P<.05; non-340B: $21,144, P<.05) in both cohorts, while Nal-IRI had the highest (340B: $44,947, P>.05, non-340B: $53,127, P<.05); Nal-IRI pts also had the lowest admits/pt (340B: 0.72, P>.05; non-340B: 0.72, P>.05), while gem-nab had the highest (340B: 1.19, P>.05; non-340B: 1.18, P>.05). Gem-mono and Nal-IRI had the lowest readmission rate at 340B (7%, P>.05) and non-340B (9%, P>.05).

CONCLUSION: While TCOC at 340B hospitals was 2%-15% lower than at non-340B hospitals overall, there was no consistent pattern of admits/pt and readmission rates. Among regimens, there were consistencies in both cohorts: TCOC was lowest for gem-mono and highest for Nal-IRI, while admits/pt were lowest for 2L Nal-IRI and highest for gem-nab.

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