

# Optimizing Oncology Services Through Pre-Infusion Phlebotomy

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## Abstract:

Every year 650,000 individuals battle cancer and receive chemotherapy treatment. As a part of their clinical protocols, these patients must receive a simple venipuncture and diagnostic to evaluate their complete blood count and general chemistry. These markers influence medical decision making for oncologists, and consequently the treatment center, to administer the chemotherapy treatment for the patient.

Chemotherapy treatments are costly to a system to administer without certainty the patient is eligible to receive the treatment on their specific day and time. Therefore, health systems have built processes and workflows in and around scheduled appointments to ensure patients have the necessary variables approved prior to receiving their treatment. As a result, the average wait time in America for a patient to receive their treatment, after arrival at the treatment center, can range from forty-five minutes (as a barometer of excellence) to two hours (common). Combined with the duration of treatment (ranging from one hour to four hours depending on the chemotherapy) and the drive time to and from the treatment center, the average cancer patient has to dedicate nearly an entire day to receiving treatment.

While hospitals and health systems around the country are working to reduce waste in cancer treatment centers, they have inadvertently built processes that are leading to throughput inefficiencies and poor patient experience. Given the current status of delivering chemotherapy in U.S. healthcare facilities, Iggbo set out to disrupt this inefficient and ineffective model with one of the world-class leaders in cancer-care delivery. This case study demonstrates how Iggbo was able to reduce wait times, increase patient satisfaction, and simultaneously reduce costs within one of the leading cancer treatment centers in the U.S.

### Background:

Iggbo is an on-demand network of highly qualified healthcare professionals ranging from phlebotomists to college trained registered nurses. While Iggbo primarily offers on-demand venipunctures, the network is comprised of various skillsets including but not limited to, blood pressure collection, weight collection, and drug screening amongst others. Iggbo's on-demand network of healthcare professionals give market segments, ranging from health systems to laboratories to point-of-care device companies, instant reach and access with a sustainable variable cost model.

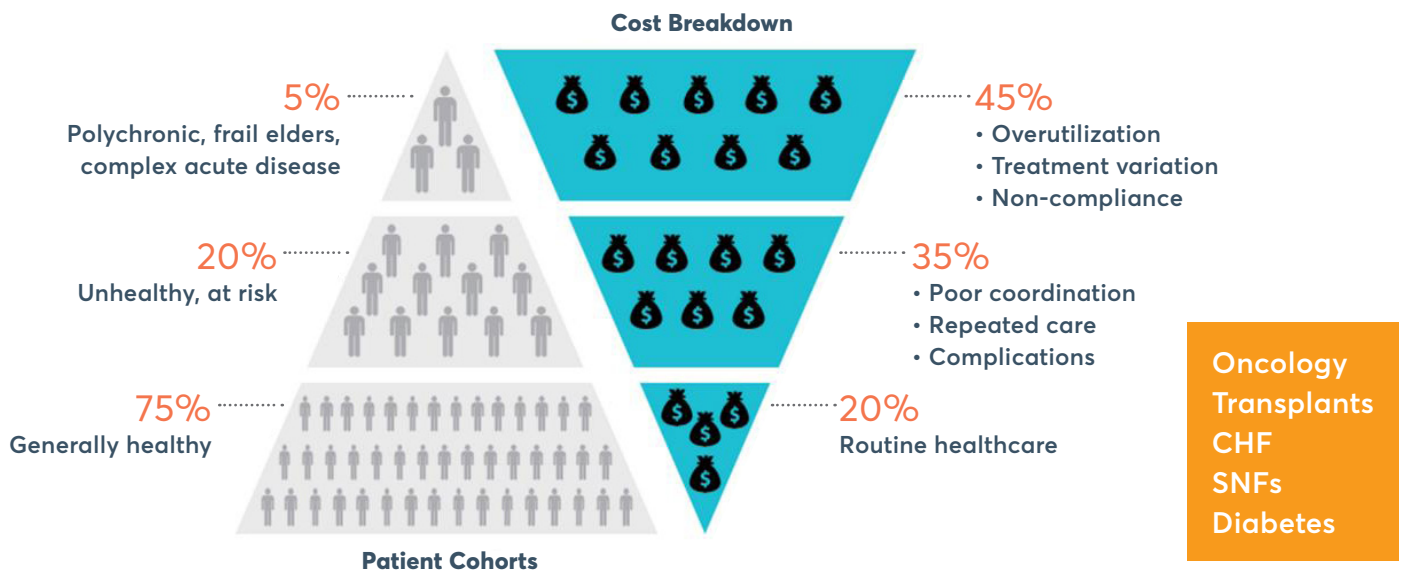
# Problem Statement:

Health systems commonly devise workflows and processes built around 5% of their patient population (polychronic, frail elders, complex acute disease). It is the management of these patients that unlocks savings across the organization and often unlocks opportunities to increase revenue and improve efficiency by optimizing throughput.

As exhibited below in Figure 1, health systems spend a disproportionate amount of their resources and labor focused on a small percentage of their total population. The at-risk population, including those battling cancer, are the individuals whose blood draws, and thus their diagnostics, are the most important. Without their diagnostics performed in a timely and efficient manner, 70% of medical decision making cannot occur.

FIGURE 1:

**Iggbo is purpose built to tackle healthcare’s biggest problems.**



The precedent is to couple visits and treatments with blood draws. The result is an inefficient model that could be disintermediated by simply collecting the blood draw in advance of the treatment or physician visit. Now, equipped with the necessary diagnostic information, the system can accelerate their decision making and unlock efficiencies at the point-of-service and downstream across other business units within the system including but not limited to the laboratory, pharmacy and floor nurses.

## Solution:

Given the current status of delivering chemotherapy in most U.S. healthcare facilities, Iggbo set out to disrupt this inefficient and ineffective model with one of the United States' world-class leaders in cancer-care delivery. The goal was to reduce wait times, increase patient satisfaction, and simultaneously reduce costs.

Through Iggbo's project management team, the health system's standard operating procedures were assessed and assimilated into the technology through Iggbo Assist, a proprietary product that guides the phlebotomists through collection criteria specific to the system's internal laboratory. By leveraging Iggbo's platform, the health system had the ability to collect at the patient's home, occupation or place of choice in advance of their scheduled chemotherapy without contracting out to an external laboratory. All specimen collection was then delivered back to the health system and integrated with their oncologists' electronic medical records, providing a higher confidence in the values resulted from the diagnostics.

Iggbo's project management team leveraged its proprietary Population Health Management (PHM) True Wait Time calculator (Figure 2), included below, for the Oncology service line, to work through the health system's current true wait time and the true delta in efficiency pre-Iggbo and post-Iggbo. By working with a leading cancer treatment center for this pilot, Iggbo identified a wide range of reports the health system was using to track wait times. Together, Iggbo and the cancer treatment center pioneered one, true-wait time calculator to help both entities—and future customers—evaluate the end-to-end experience for patients.



FIGURE 2:

### Iggbo Population Health Management Calculator: True Wait Time

Iggbo Wait Time Calculator	Value	Metric
If they don't have their blood work performed yet, how long do they wait to get their blood drawn?	15	Min
How long does it take to get the results back from the lab?	10	Min
If the chemotherapy is not pre-mixed, how long does it take for the pharmacy to receive the order from the lab?	10	Min
How long, then, does it take for the pharmacy to deliver to the treatment center?	30	Min
<b>Total Minutes</b>	<b>65</b>	<b>Min</b>

Understanding the true wait time was vital for evaluating the downstream impacts Iggbo had on the pioneering cancer center. Once the center had generated their true wait time value, they could complete the remainder of the Iggbo PHM Calculator (Figure 3). Each individual question moved the center closer to a holistic, panoramic view of the problem at hand.

Ultimately, each individual pain point by the center was mitigated as a result of their implementation of the Iggbo solution.



**FIGURE 3:**  
**Iggbo PHM Calculator:**  
**Oncology Services**

<b>Administrative</b>	<b>Value</b>	<b>Metric</b>
Operating Day	5	Days
Operating Hours	9	Hours
Average Daily Patient Census	120	Number
Average Treatment Duration	240	Minutes
Number of Treatment Chairs	30	Number
Days of Operation per Year	260	
<b>Operations</b>		
Do you pre-mix your chemo for patients? (Y/N)	N	Y/N
If no, why not?	Do not want to waste chemo in case patients do not show up or their blood comes back adverse	Written
If yes, what % of pre-mixed chemo is discarded/wasted?	2	%
Do you receive any blood work in advance of chemo today?	N	Y/N
If yes, what is the current strategy (draw stations, partnerships with Quest, LabCorp, etc.)?	Patient comes back in the day before	Written
When a patient arrives for their chemotherapy, how long do they wait on average to receive treatment?*** Value generated from True Wait Time Calculator in Figure 2	65	Minutes
What % of patients are turned away because their lab values came back disallowing them to receive chemo that day?	7.50%	%

Through the due diligence and process engineering performed, in conjunction with the integration of their laboratory protocols into Iggbo's on-demand technology, Iggbo implemented an end-to-end solution built to:

- optimize throughput
- reduce waste
- increase patient quality and outcomes

## Results:

Iggbo's partnership with a leading cancer treatment center resulted in **a median wait time of zero minutes, a patient satisfaction rating of 100%, and 100% patients reported they would refer the Iggbo model to a friend.**

By leveraging Iggbo's on-demand workforce, the health system was able to provide a mobile, flexible catchment in one of America's densest metropolitan statistical areas that was both convenient for the patient and compliant with the system's laboratory protocols.

The Iggbo Solution Scorecard was built to illustrate the net-impact the Iggbo model had on the system.



**FIGURE 4:**  
**Iggbo Solution Scorecard**

✓ Adoption Rate (Assumption)	50%
✓ Average Time Saved by pre-infusion phlebotomy draw	30
✓ Total Patients Per Day	120
✓ Average duration of chemo	240
✓ Patients Turned Away Per Day	9
✓ Wasted Minutes For Patients Turned Away	225
✓ Total Minutes Saved Per Day	2025
✓ Net Increase in chemo appointments	8



Net-increase of  
**120**  
patients

The result of the Iggbo implementation was a **projected net-increase of 120 patients per day due to optimized throughput.**

## Conclusion:

The American health care system has set out to accomplish the Triple Aim for nearly two decades: reduce costs, increase quality and improve outcomes. Through Iggbo's on-demand network of healthcare labor, health systems can accomplish this goal, as proven by Iggbo's case study with a leading cancer treatment center. In this study, patients overwhelmingly selected Iggbo's phlebotomy model over the alternative, receiving a blood draw the same day as their chemotherapy. By using Iggbo, the health system was able to unlock thirty-three incremental hours to deliver more care to their population while outcomes improved as patients avoided unnecessary visits to their provider and providers received actionable insights into their patient population in advance of chemotherapy.

**For more information  
about how Iggbo  
can help you or  
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