



Created a census, demographics, and combined payroll, operations and finance dashboards for a healthcare organization

THE CUSTOMER

- The customer is a leading Florida(U.S) based hospice organization
- They provide expert 24x7 health care to people with a limited life expectancy

THE CONTEXT

Customer had data in 3 different data sources. Using one of the data sources, i.e patient records data, they wanted to track patient census by using KPI's like daily census, patient days, length of stay, patient distribution by demographics etc. and wanted to update the numbers on at least a daily basis.

Also, using all the 3 data sources, i.e. patient records, payroll and accounting data, they wanted to produce key insights from the KPI's which would blend the fields from all data sources. Currently they were generating reports and insights manually using excel spreadsheets and crystal reports, but those were very lengthy and inefficient process, and required significant man hours.

KEY HIGHLIGHTS



Streamlined the process starting from data extraction to dashboard refresh



Developed stored procedures for automatic refreshes of numbers



Developed dashboards with relevant KPI's and stunning visualizations



100% switch from manual intervention to automated refreshes

THE OBJECTIVE

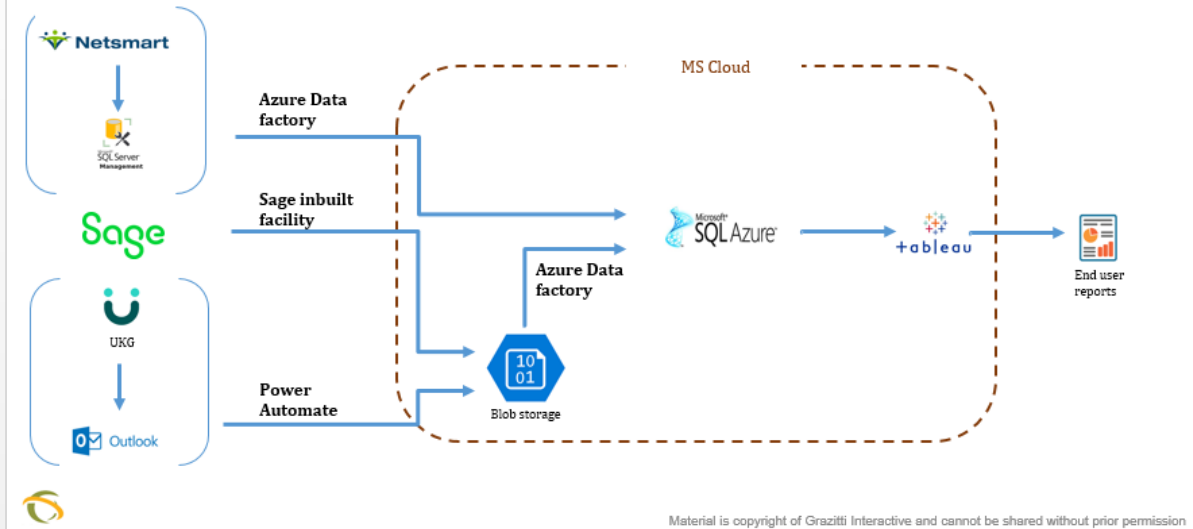
- Customer wanted to track daily census, month till date average length of stay, patient days etc. of all branches
- They were looking for a one stop platform to get insights from their patient data, payroll data and accounts data
- Currently they were generating reports and insights manually which was very lengthy, inefficient and required significant man hours
- They wanted to automate the whole process as much as possible

THE SOLUTION

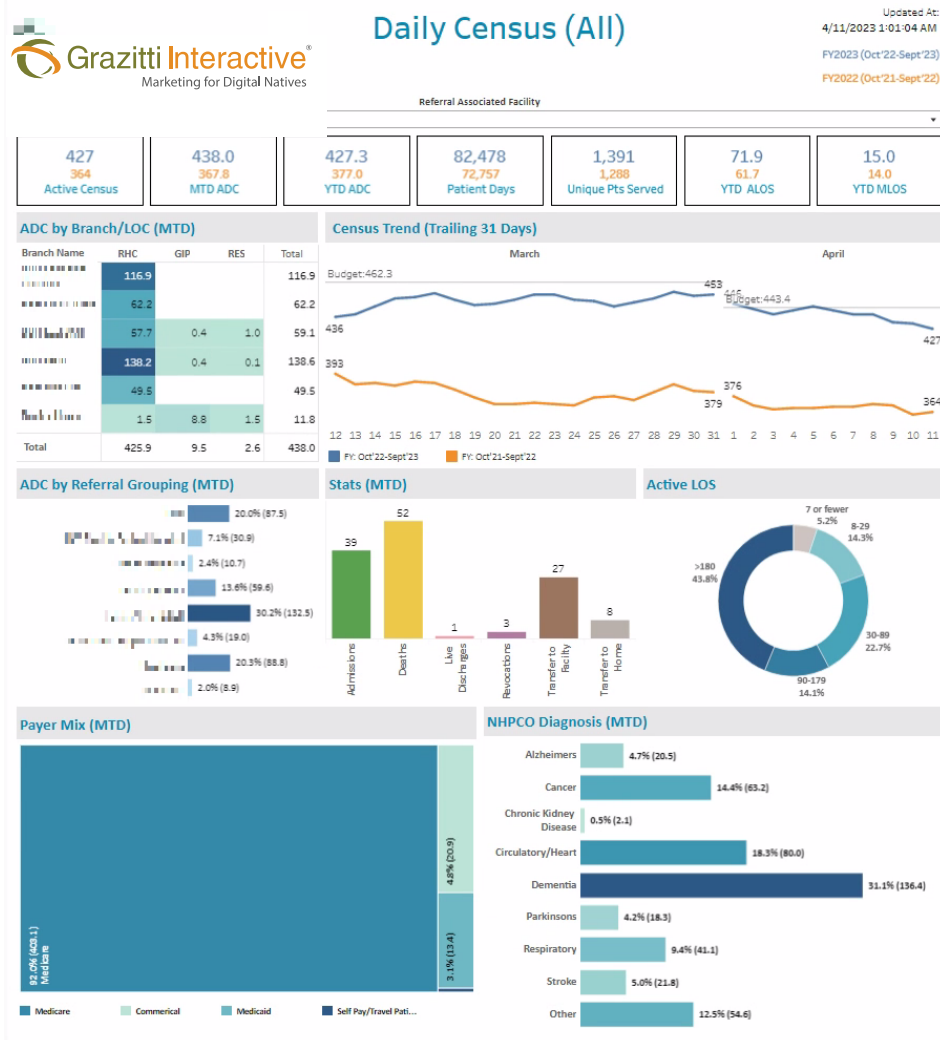
Census Dashboards

- Did data discovery of all 3 data sources and found relevant tables
- Built unique identifiers for all 3 datasets on the Azure SQL Server in order to have them related to each other
- Found out ways to bring all relevant data into Azure SQL server by making pipelines and data flows using Azure data factory and power automate
- Set up email alerts system in case of a failure in any pipeline or refresh schedule
- Automated the data flow process so as to update the numbers as required
- Connected the master table in Azure SQL Server with Tableau
- Built a relationship between the 3 data sources on Tableau
- Developed a master table for patient data by merging the base tables using SQL query, and automated the query using Stored Procedure
- Created dynamic and interactive dashboards, with capability of slicing the data using various dimensions and actions
- Built a relationship between the 3 data sources on Tableau

Data Management and Reporting Architecture

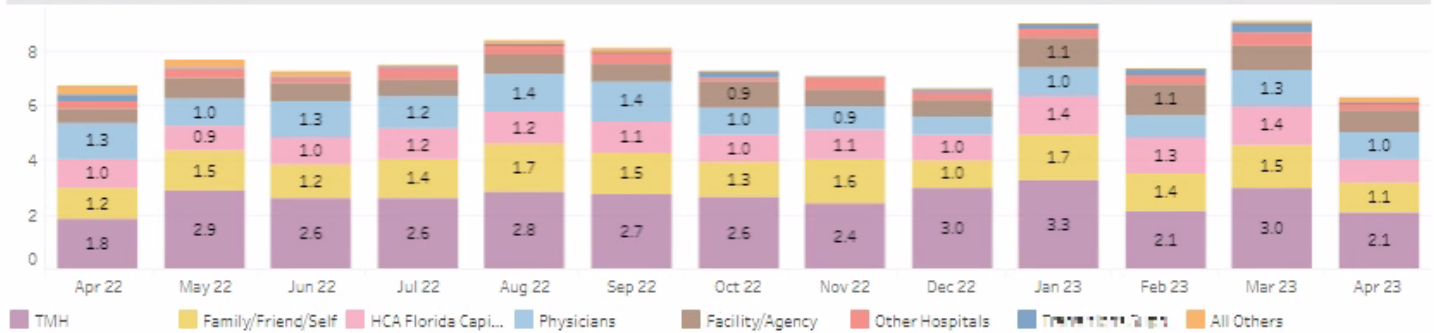


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34 29 Open Referrals	69 59 MTD Referrals	1,475 1,397 YTD Referrals	2 3 YTD Avg. Days on Referral	74.6% 76.5% YTD Conversion Rate (Adj.)
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Average Daily Referrals



Referrals by Groups

Referral Grouping	MTD Referrals	YTD Referrals	YTD Referrals PY
Group 1	23	525	490
Group 2	9	228	187
Group 3	3	64	74
Group 4	9	167	84
Group 5	12	267	282
Group 6	0	34	4
Group 7	11	183	214
Group 8	2	7	62
Grand Total	69	1,475	1,397

Top Referral MDs

Referral MD	MTD Referrals	YTD Referrals	YTD Referrals PY
MD 1	4	75	0
MD 2	1	41	16
MD 3	2	40	19
MD 4	2	35	0
MD 5	0	31	8
MD 6	1	26	8
MD 7	1	24	37
MD 8	0	23	4
MD 9	1	22	18
MD 10	0	18	12
Grand Total	12	335	122

Yesterday's Referrals

Patient Code	Prospect Admit Date	Referral Type	Referral Facility	Referral Md Name	Description	Count
1	4/10/2023	Family Member/Friend	1	1	Referral - ready to schedule ADM RN	1
2	4/10/2023	Hospital	1	1	Referral - ready to schedule ADM RN	1
3	4/10/2023	Skilled Nursing Facility	1	1	Referral - ready to schedule ADM RN	1
4	4/10/2023	Hospital	1	1	Referral - ready to schedule ADM RN	1
5	4/10/2023	Hospital	1	1	Referral - ready to schedule ADM RN	1
6	4/10/2023	Skilled Nursing Facility	1	1	Referral - ready to schedule ADM RN	1
7	4/10/2023	Family Member/Friend	1	1	Referral - ready to schedule ADM RN	1
8	4/10/2023	Family Member/Friend	1	1	Referral - ready to schedule ADM RN	1
9	4/10/2023	Physician	1	1	Referral - ready to schedule ADM RN	1
Grand Total						9

KPI Dashboard

Last Refresh Time
4/10/2023 2:30:27 AM

Parent Department: (All) | Department Name: (All) | Start Date: Mar'23 | End Date: Mar'23

13,680 Patient Days	441.3 ADC	\$48,600 Salaries per Calendar Days	\$32.6 Average Rate (Hourly)	\$0.8 Patient Revenue PPD (Gross)	-413.5% Revenue Adjustment % of Gross Revenue	(\$10.2) Clinical Expenses PPD	-265.7% OpEx % of Net Revenue
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Patient Days by Acuity

Acuity	ADC	Patient Days	Revenue PPD
GIP	8.5	263	
RES	4.0	123	
RHC	428.8	13,294	\$1

Clinical Expenses per Patient Day (PPD)

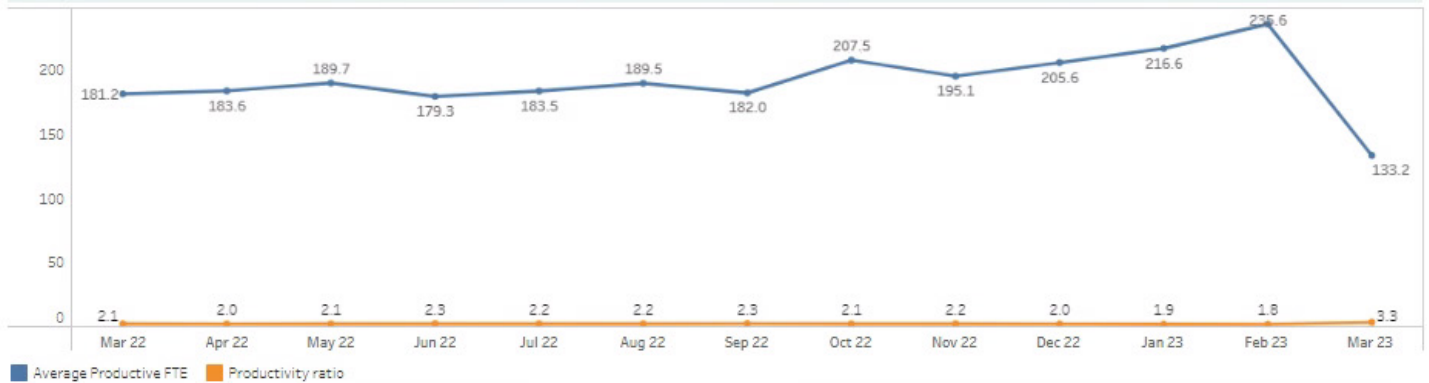
Clinical Expenses	Account description	Value
DME	Durable Medical Equipme..	(\$0.53)
Medications	Medications	\$1.62
Medical Supplies	Contract Linen	\$0.17
	Medical Supplies	\$2.17
	Oxygen	\$0.32
Other Exp.	Bio Hazardous Waste	\$0.07
	Contracted Labor	\$0.37
	General Inpatient	(\$13.11)
	General Outpatient	(\$0.30)
	Laboratory Fees	(\$0.05)
	Medical Transport	(\$0.03)
	Mileage	\$3.70
	Nursing Home R&B	(\$9.91)
	Pass-Through Income	\$5.32
Total Clinical exp. (PPD)		(\$10.20)

FTE by Discipline

Average Productive FTE : 189.1

Discipline: (All)

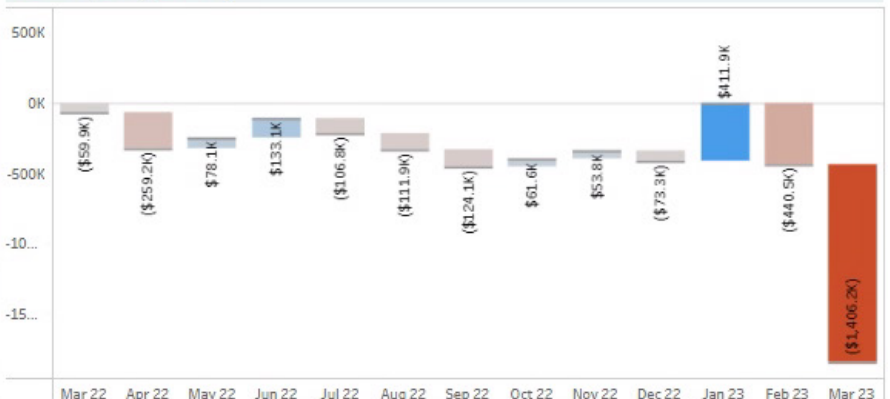
FTE Type: Average Productive FTE



OpEx as % of Net Revenue

Operating Expenses	CM	CM (PY)	YTD	TTM
Accounting	-21.5%	0.2%	0.4%	0.3%
Auto Expense	-7.7%	0.2%	0.2%	0.2%
Bank Service Char..	-0.5%	0.2%	0.2%	0.2%
Computer Softwar..	-51.5%	0.8%	0.4%	0.3%
Computer Support ..	52.5%	2.0%	0.8%	1.8%
Dues & Membership	-0.6%	0.3%	0.5%	0.5%
Education & Semin..	-37.3%	1.4%	1.2%	1.1%
Insurance	-29.4%	1.0%	0.9%	0.9%
Insurance Expense	0.0%	0.4%	0.3%	0.4%
Legal Fees	0.0%	0.6%	0.6%	0.4%
Licenses & Fees	0.0%	0.7%	0.7%	0.7%
Marketing	1.8%	0.6%	0.6%	0.6%
Meals & Entertain..	0.0%	0.1%	0.2%	0.2%
Other Operating E..	-5.2%	0.2%	0.2%	0.1%
Outside Services	-88.1%	2.0%	2.6%	2.1%
Postage/Mailings	-0.1%	0.0%	0.0%	0.0%

Net Surplus/(Deficit)



-88.1% | 52.5% | (\$1,406.2K) | \$411.9K

Statement of Activities

for period ending March, 2023

Last Refresh Time
4/10/2023 2:30:27 AM

Location Name	Parent Department	Department Name	Level of Care	Discipline	Period Ending
(All)	(Multiple values)	(All)	(All)	(All)	March, 2023

	CM	PM	Variance (#)	Variance (%)	CM	CM (PY)	Variance (#)	Variance (%)
EBITDA	(\$1,877,487)	(\$348,933)	-\$1,528,554 ▼	-438.1% ▼	(\$1,877,487)	\$56,317	-\$1,933,804 ▼	-3433.8% ▼
EBITDA %	5774.2%	-17.4%	-76.4% ▼	-438.1% ▼	5774.2%	2.8%	-97.4% ▼	-3433.8% ▼
Operating Margin	(\$1,877,361)	(\$398,343)	-\$1,479,018 ▼	-371.3% ▼	(\$1,877,361)	(\$952)	-\$1,876,409 ▼	-197031.4% ▼
Operating Margin %	5773.8%	-19.9%	-73.9% ▼	-371.3% ▼	5773.8%	0.0%	-94.5% ▼	-197031.4% ▼
Margin after Foundation F. (MAFF)	(\$1,410,999)	(\$304,065)	-\$1,106,935 ▼	-364.0% ▼	(\$1,410,999)	\$24,048	-\$1,435,047 ▼	-5967.5% ▼
(MAFF) %	4339.5%	-15.2%	-55.3% ▼	-364.0% ▼	4339.5%	1.2%	-72.3% ▼	-5967.5% ▼
Net Surplus/(Deficit)	(\$1,406,156)	(\$440,526)	-\$965,630 ▼	-219.2% ▼	(\$1,406,156)	(\$59,920)	-\$1,346,237 ▼	-2246.7% ▼
Net Surplus/(Deficit) %	4324.6%	-22.0%	-48.3% ▼	-219.2% ▼	4324.6%	-3.0%	-67.8% ▼	-2246.7% ▼

(\$2.033K) \$2.659K

Chart of Accounts

Account Type	Account Group 1	CM	PM	Variance (#)	Variance (%)	CM	CM (PY)	Variance (#)	Variance (%)
Revenue	Patient Revenue	\$10,723	\$2,028,045	-\$2,017,322 ▼	-99.5% ▼	\$10,723	\$1,989,297	-\$1,978,574 ▼	-99.5% ▼
	Physician Revenue	\$0	\$16,882	-\$16,882 ▼	-100.0% ▼	\$0	\$25,739	-\$25,739 ▼	-100.0% ▼
	Revenue Adjustments	(\$44,338)	(\$46,112)	+\$1,774 ▲	+3.8% ▲	(\$44,338)	(\$32,864)	-\$11,474 ▼	-34.9% ▼
	Transportation Revenue	\$1,100	\$1,652	-\$552 ▼	-33.4% ▼	\$1,100	\$2,475	-\$1,375 ▼	-55.6% ▼
	Total	(\$32,515)	\$2,000,467	-\$2,032,982 ▼	-101.6% ▼	(\$32,515)	\$1,984,647	-\$2,017,162 ▼	-101.6% ▼
Expenses	Salaries/Wages & Other Benefits	\$1,896,542	\$1,711,685	+\$184,857 ▲	+10.8% ▲	\$1,896,542	\$1,399,683	+\$496,859 ▲	+35.5% ▲
	Clinical Expenses	(\$139,560)	\$316,781	-\$456,341 ▼	-144.1% ▼	(\$139,560)	\$255,694	-\$395,254 ▲	-154.6% ▼
	Operating Expenses	\$87,990	\$320,934	-\$232,944 ▼	-72.6% ▼	\$87,990	\$272,953	-\$184,963 ▼	-67.8% ▼
	Depreciation Expense	(\$126)	\$49,410	-\$49,536 ▼	-100.3% ▼	(\$126)	\$57,269	-\$57,395 ▼	-100.2% ▼
	Total	\$1,844,846	\$2,398,810	-\$553,965 ▼	-23.1% ▼	\$1,844,846	\$1,985,599	-\$140,753 ▼	-7.1% ▼
Foundation Funding	Foundation Funding	\$466,362	\$94,279	+\$372,083 ▲	+394.7% ▲	\$466,362	\$25,000	+\$441,362 ▲	+1765.4% ▲
	Total	\$466,362	\$94,279	+\$372,083 ▲	+394.7% ▲	\$466,362	\$25,000	+\$441,362 ▲	+1765.4% ▲
Others	Other (Revenue)/Expenses	(\$4,843)	\$137,007	-\$141,850 ▼	-103.5% ▼	(\$4,843)	\$83,967	-\$88,810 ▼	-105.8% ▼
	Total	(\$4,843)	\$137,007	-\$141,850 ▼	-103.5% ▼	(\$4,843)	\$83,967	-\$88,810 ▼	-105.8% ▼

THE OUTCOME

The customer was able to get rid of all the manually updated dashboards and reports which provided restricted insights and was cumbersome to operate. Instead, they now have automated tableau based dashboards with a variety of different visualizations and ability to drill down the charts using different filters and actions, thereby unlocking a whole new range of insights and ability to take better business decisions. Additionally, the whole process not only get updated on twice a daily basis for census dashboards and daily for combined data dashboards, it also has automated refreshes of numbers and an alert system has been put in place in case the numbers do not get refreshed on time.

REACH US AT

Website: www.grazitti.com

Email: info@graziiti.com

CALL US AT

India: +91 991 459 3366

Singapore: +65 8621 4995

Australia: +61 451 827 272

USA: +1 650 585 6640

Canada: +1 650 585 6640

SCAN CODE

