



Your Home Care Agency Guide to REPORTING & INSIGHTS



“The home health care sector is expected to reach USD 349.8 Billion by 2020, up from USD 227.5 Billion in 2015.”¹

INTRODUCTION

Home and community care providers are transforming their businesses to adjust to the tectonic shifts in the industry. Some of those profound changes faced by providers are:

- Aging populations with complex chronic illnesses, which everything else remaining equal, demands more funds (which are difficult to come by)
- A shift to bundled reimbursement which demands quality and health outcome measures that are difficult to extract and report against
- Rising labor costs, inefficient utilization and lack of performance insight compound an industry under enormous margin compression

Providers need to leverage their systems to do more with less and the catalyst for this change is to be obsessed about data driven decision making. Thankfully, the rise of business intelligence (BI) is unlocking actionable insights that will dramatically improve home and community care organizations.

Business intelligence has been taking the reporting world by storm and is increasing evidence-based decision making in several industries.

In the home care industry, the shift to electronic medical records, digital office systems and cloud computing has made capturing and compiling large amounts of data much easier. However, despite having large amounts of data, home care providers are generally faced with the challenge of not knowing how to leverage the data beyond basic reporting. Moreover, in the home and community care sector in particular, visit, operational information, and clinical data is often stored in paper format -- or if it is digital the information resides in siloed databases. These system deficiencies make it difficult or near impossible to gain a holistic view of operations, and eliminates the ability to “pivot” data which can lead to actionable insights for providers.

A well-orchestrated end-to-end software solution with integrated BI technology enables your home care organization to produce meaningful reports and consequently actionable insights to improve business processes, make more informed decisions, and provide more personalized customer experiences. This guide will help you understand the role of BI in the home and community care sector and provide you with a few tips and tricks, to do's and what not to do's on how you can successfully implement a BI tool in your home care organization.



What is Business Intelligence (BI)?

Depending on who you ask, the definition of business intelligence tends to vary across different organizations. Here are a few examples of how BI is defined:

“Business intelligence”, or BI, is an umbrella term that refers to a variety of software applications used to analyze an organization’s raw data. BI as a discipline is made up of several related activities, including data mining, online analytical processing, querying and reporting. Companies use BI to improve decision making, cut costs and identify new business opportunities. BI is more than just corporate reporting and more than a set of tools to coax data out of enterprise systems. CIOs use BI to identify inefficient business processes that are ripe for re-engineering.”

- Ryan Mulcahy, CIO.com²

“Business intelligence is essentially timely, accurate, high-value, and actionable business insights, and the work processes and technologies used to obtain them.”

- Swain Scheps, Business Intelligence For Dummies³

“Business intelligence is defined as getting the right information to the right people at the right time. The term encompasses all the capabilities required to turn data into intelligence that everyone in an organization can trust and use for more effective decision making.”

- Bogza, R.M., Acad. of Econ. Studies of Bucharest, 2008.⁴

While the overall purpose of business intelligence is to simplify your agencies data analysis, there are still several complex technologies and processes involved in transforming your raw data into information you can easily analyze.

According to John Lloyd, Sr. Physical Design Engineer at Intel Corporation⁵, these are some of the key components of a typical BI deployment:

Source Data

Business intelligence begins with all the data you're collecting in your home care agency. As mentioned previously, home care organizations can now collect large amounts of data. Source data is all your data that has yet to be processed. This data could be coming from sheets of paper, CRM, EHR, billing and payroll solutions, scheduling and clinical documentation solution, or if you're ahead of the curve, your single, fully integrated home care software solution. Data used for BI could also be coming from external sources such as social media, health systems, content and clinical pathway data or ICD databases.

Data Warehouse

A data warehouse is defined as the storage unit for all the source data from your agency systems and applications,

as well as any external data you intend to analyze. In order to gather a holistic view of your organizations data, it first needs to be compiled from all your sources in one single container in order to be efficiently analyzed. If you are constantly pulling all your data from a variety of sources for your reporting needs, which is the general functionality of

most home care software solutions, it can be disruptive of your operations and very difficult and inefficient to analyze.

Extract, Transform, Load (ETL)

Before you go ahead and throw all your data into a data warehouse, there is a process referred to as Extract, Transform, Load (ETL), which



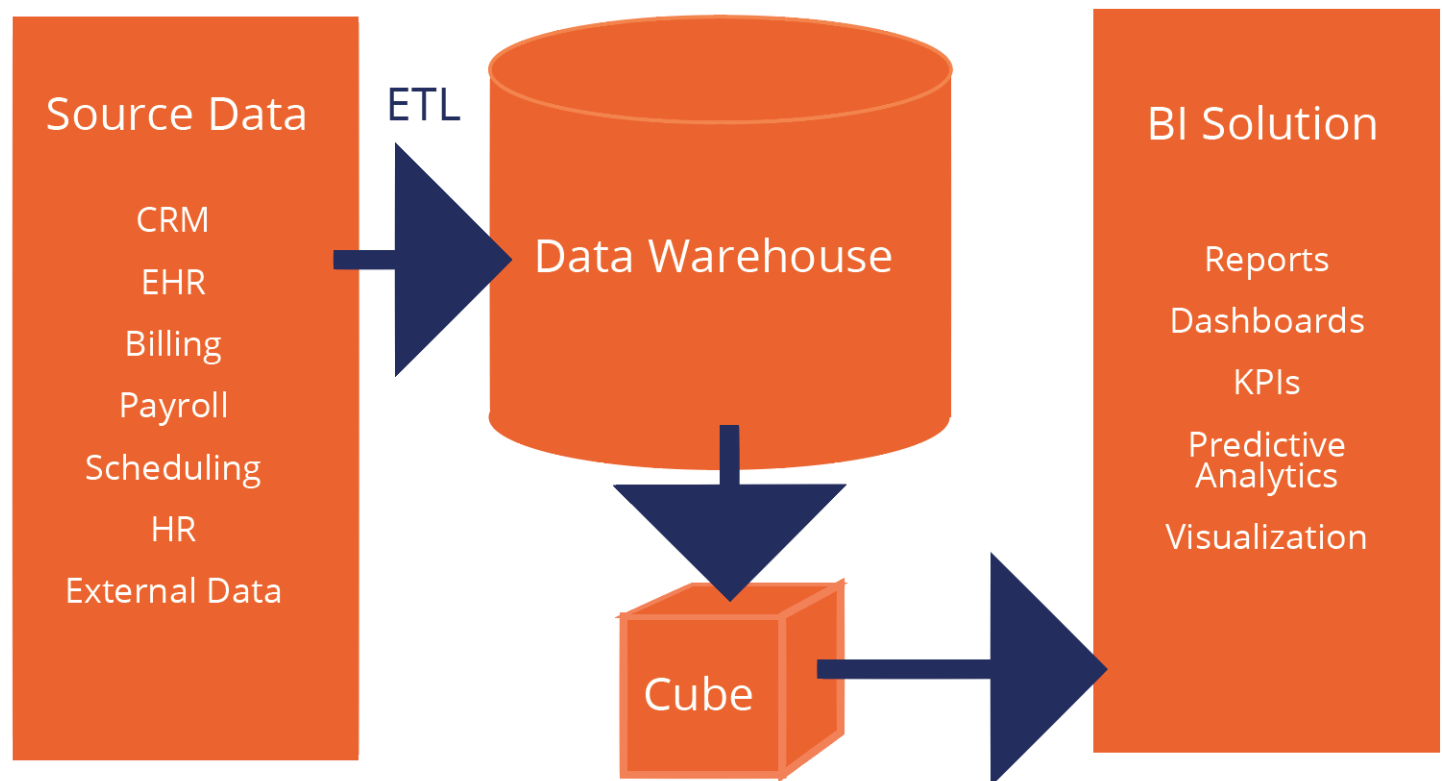
defines the steps you need take to prepare your data for analysis. The process involves exactly what it's named after, starting with extracting your agency data from both your internal and external sources, followed by transforming all your data into a similar format, and then loading the data into your data warehouse.

Online Analytical Processing (OLAP)

OLAP (online analytical processing) is a BI technology that performs reporting and multidimensional analysis. According to TechTarget, OLAP is defined as the technology behind business intelligence that “enables a user to easily and selectively extract and view data from different points of view.”⁶ For example, a home care CFO could request that data be analyzed to display a spreadsheet showing all of the employees who worked overtime in Manhattan in the month of February, compared to revenue figures for the agency in January, and then see a comparison of the remaining hour reports in Manhattan for the same time period. This complex analysis is achieved by creating a cube, defined as, “a data structure that aggregates measures/facts by every level and hierarchy in the dimensions which need to be analysed.”⁷

Figure 1.0

The flow of data within your agency from the source data to your business intelligence solution. While the overall purpose of business intelligence is to simplify your agencies data analysis, there is still several complex technologies and processes involved in transforming your raw data into information you can easily analyze.



Why you should need a BI Tool?



“Companies using analytics are 5X more likely to make faster decisions.”⁸

Leading home care providers are recognizing their data is a treasure trove of insights and meaningful information for population health, performance management, benchmarking and work optimization. In order to locate the right information, it's not uncommon for agencies and organizations to perform tedious and extensive searches through numerous Excel workbooks, databases, and a variety of solutions that don't yield near the same results. With the demand for home care increasing, agencies and home care organizations are required to make decisions at a much faster pace in order to keep up.

With a fully integrated BI tool, agencies can now access and can pull reports on more information, faster than ever before. While most agencies have started

collecting data through their electronic solutions, they often question how to efficiently analyze this data in order to make effective business decisions. This is where BI comes into play. BI tools allow agencies to stop sifting through all of their digital or literal paperwork and focus on understanding their data. Key stakeholders can visualize KPIs (Key Performance Indicators) and critical metrics on a dashboard, create ad hoc custom reports, and quickly find the information they need.

Here are a few benefits of BI that have captured the attention of home care professionals:

Provides new insights

Having an integrated business intelligence solution can give key decision makers across all your agency departments access to insights they've never had before. Important data and customizable reports that could otherwise take hours and hours to produce can be brought to the forefront in minutes, providing actionable information to the right person at the right time.

Performance improvement tool

From a senior or managerial perspective, business intelligence tools provide insight into individual department or employee performance. This information can be used to help optimize processes or workflows and to facilitate improved decision making.

Reduces costs

With insights developed from your business intelligence tool, management will have visibility into the weaknesses of your business such as identifying wasteful spending, excessive overtime, excess inventory etc. BI will present your decision makers the information they need in order to improve efficiencies and otherwise reduce agency costs.

Enables evidence-based approach

As the home care industry shifts to a value-based reimbursement model, having the appropriate tools in place to effectively report your outcome or evidence-focused data couldn't be more important for your agency. A business intelligence tool brings important information to the forefront through KPIs, and allows you to set priorities and tasks based on your data to ensure you're delivering the best possible outcomes. Producing evidence-based reports has never been simpler.

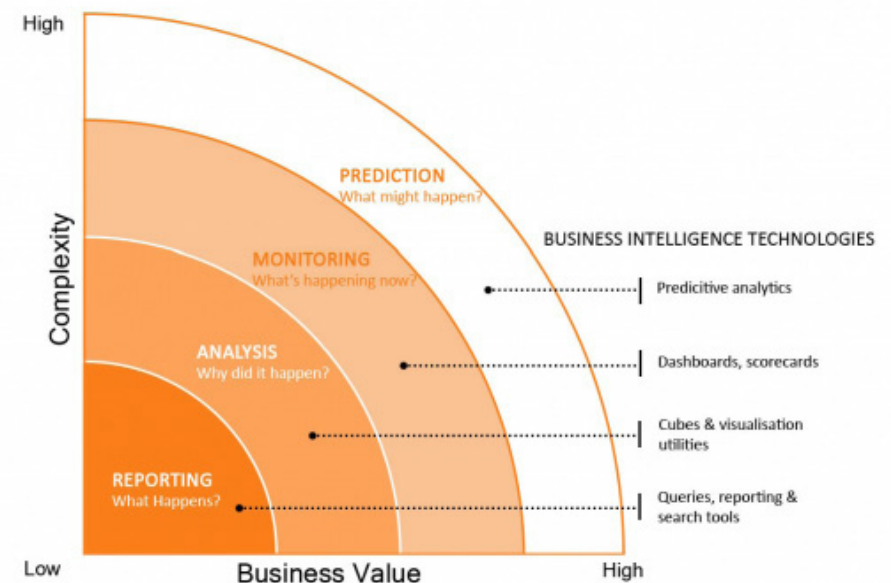
Predictive outcomes and prevention

Business intelligence technologies have the ability to take your data analysis to the next level through the use of predictive analytics and artificial intelligence. Sophisticated solutions will enable your agency to take a preventative approach to outcomes through trends, threshold alerts and risk scores, not only giving key stakeholders visibility into what's currently happening, but also what might happen in the future. With predictive decision-support in place you can rest assured that you're taking every measure possible to deliver better outcomes to your clients.

See the complete spectrum of BI technologies available in Figure 2.0.



Complete Spectrum of BI Technologies



<http://centrix.co.za/business-intelligence-bi-spectrum/>

Signs your agency needs a BI solution

It can sometimes be difficult to spot the signs that your home care agency needs and could benefit greatly from BI tools, when you're busy running a business and delivering quality care to your clients.

Here are some of the common indicators that it might be time to start looking into a new solution:

Reporting takes too long

How long does it take you to run a report in your solution today? Standard home care software solutions can take hours to push out a report, and can slow down the entire system along with other agency operations in the process. If you dream of the idea of pulling reports in seconds, while your agency continues to run seamlessly on the same solution, an integrated BI tool could be right for your organization.

Inconsistent reports across departments

Without the appropriate tools in place, creating reports that include information across multiple departments can be a nightmare for most agencies. Systems and formats tend to vary for different functions and take forever to combine with traditional reporting tools. If you're lacking the freedom to pivot data in meaningful ways between functions, and be creative with cross-functional reporting, business intelligence is your solution. Furthermore, inconsistent reports will inevitably create doubt and the integrity of the report or insight will be scrutinized.

Inability to perform in-depth data analysis

Typical home care software solutions are very limited when it comes to their reporting functionality. Home care agencies struggle with technology that only offers precompiled reports with little to no flexibility on the data they report on. If you're struggling to get the information you need out of the solution you have today, and are restricted to basic queries and search tools, it's time to consider looking into a solution with BI integration.

Agency data is too difficult to compile

If you're wasting time collecting data from disparate sources and trying to recompile the data into spreadsheets just to run a report, this is a very good sign that your agency is ready for business intelligence. With BI tools, data from all of your sources and applications live in a single data warehouse and can be pulled and compiled with just a few clicks.

Reports don't use real-time data.

With legacy reporting solutions, chances are the data you're reporting on isn't the most current data. Traditional solutions can take hours to compile data and fail to include data that's collected during the time of processing. With BI solutions, your raw data is pulled in real-time, ensuring you're generating and analyzing the most up-to-date information.

Where do I start?

So, you've decided BI is something your agency could greatly benefit from – now what? Here are a few steps to get you started:

Assess your environment

Before jumping head first into searching for a BI solution, take some time to assess your agency environment and your current processes to establish whether or not business intelligence is right for your organization. Build a team of cross functional and gather requirements.

Standardize systems

It's no surprise that having a variety of different systems and solutions in place can create a massive headache when it comes to data analysis. Often the more source data you have, the more complex your reporting becomes. Having one standard system to run your agency on might sound impossible now, but there are fully integrated solutions on the market that can make your life much easier – especially when it comes to reporting and business intelligence. Having a limited number of standardized systems and processes in place will make implementing a BI solution that much easier.


Engage executives and key stakeholders

Implementing a BI solution is a big step towards improving your agency's data analysis, but you still need to ensure that the people in your organization truly understand the value of these tools and how beneficial the visualization of data can be for several stakeholders.

When you're evaluating your software options, it's especially important to consider the usability of the systems and how easy it is for different departments to use on a regular basis.

Decide what data you want to analyze

At AlayaCare we always ask our clients, if you had a crystal ball for your organization, what would you want to see? It's imperative to discuss with key stakeholders in each department what measurements matter to them and what data they want to see in order to help them improve outcomes. Having use cases in mind will be extremely handy when it comes to determining the tools you need to implement.



"By 2019, 90% of large organizations will hire a Chief Data Officer."¹⁰

Data Worksheet

Use this spreadsheet as a starting point to help you decide what it is you want to see within your data and throughout various departments of your agency. Consider having a kick-off meeting with key stakeholders to fill out this worksheet in order to get a better vision of your data use cases.

Note: Notice we provided some sample report metrics that could apply to various departments at your agency. Take into consideration what kind of decisions or action items you could develop or implement based on the reports and metrics each department pulls.

Persona	Sample Reports/Metrics	Decision/Action Item
CEO/Owner	<ul style="list-style-type: none">• Missed Care• Risk Compliance• Financial Metrics	
Supervisor	<ul style="list-style-type: none">• Task management reports• Proactive reporting on outstanding paperwork• Average travel time	
Finance/IT	<ul style="list-style-type: none">• Employee retention rate• Employee hour reports• Billing cycle reports	
Field Staff	<ul style="list-style-type: none">• Variance report on clock time vs. schedule time• Utilization metrics	
Scheduler/Coordinator	<ul style="list-style-type: none">• Referral processing velocity (how long does it take to process and coordinate referrals)• Overtime reports• Reports for resource planning and forecasting	



Conclusion

Business intelligence is a growing topic in the home care industry. However, with all of the buzz it's creating, many agencies have still not taken steps to implement it—or they have, but are not doing it well.

But don't worry. With the proper technology in place, and some time, effort and the commitment of your team—a BI strategy that is effective for your organization is more than achievable.

What the future of BI in homecare might look like

Consider this fictitious example of how a home care organization might benefit from a BI implementation. Agency A is responsible for managing 20,000 clients with a team of 600 staff and 400 volunteers. After generating and storing a very large amount of data, Agency A decided they wanted to start utilizing the information they had to make operational improvements across the company. With a new value-based regulation coming into effect in the new year, Agency A also needed a more efficient way of generating outcome-focused reports for payers, further validating the need for a BI solution.

With the help of an end-to-end home healthcare software solution with integrated business intelligence, Agency A can now collect and efficiently analyze all of its data in real time through a single source where they previously needed multiple inefficient platforms. The solution helped to eliminate time consuming data analysis from a variety of stakeholders, while adding depth and customization to the reports being generated. Agency A now has insight into both internal operations such as employee retention rates and referral processing velocity, and also outcome-focused reports such as wound care healing percentage and risk prediction reports.



ABOUT ALAYACARE

AlayaCare is a provider of revolutionary cloud-based home healthcare software. With a product spanning clinical documentation, back office functionality, client and family portals, remote patient monitoring, and mobile care worker functionality, AlayaCare offers a platform for agencies to propel towards innovation and home care of the future.

AlayaCare offers a new Data Exploration tool through the integration of Pentaho, the leader in data integration and analytics. Pentaho's open source-based platform for diverse data deployments enables AlayaCare to provide a suite of real-time data analytics and customizable reporting for clients and home healthcare agencies around the globe. Agencies are able to more effectively collect, store and manage growing volumes of health data, and make better business decisions by mining and analyzing this data faster and more efficiently than ever before.



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AlayaCare Toronto Office

4950 Yonge St., suite 2110
Toronto, ON, Canada M2N 6K1
(647) 477-4174

AlayaCare Montreal Office

4200 boul. St. Laurent, suite 445
Montréal, QC, Canada H2W 2R2
(514) 316-5606

AlayaCare USA Office

4380 Syracuse St., suite 601
Denver, CO 80237, USA
+1 (855) 858-5214 ext.201

AlayaCare Europe Office

A.H.G Fokkerstraat 22a
Assen, 9403Ap, Netherlands
+31(0)637167651
+31(0)592355355

AlayaCare Australia Office

5/205 Leitchs Rd
Brendale QLD 4500
1300 368 446