

*An ebook from the healthcare experts at Primaris*

# 7 STAGES OF THE HEALTH DATA LIFE CYCLE

*Don't let your data flatline.*

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*Data here, data there,  
data going everywhere.  
Near and far, far or near,  
data going out my ear.*

(With apologies to Dr. Seuss.)

The digital age of healthcare is here, but the promising benefits, from electronic health records (EHRs) to wearable technology and other features intended to improve patient health and lower the cost of care, will occur only as a result of harvesting – and ultimately using – data that is accurate, reliable, and actionable. At this point, it's almost cliché – but truer than ever – to say that there's a veritable ocean of healthcare data flooding clinicians, Accountable Care Organizations (ACOs), hospitals, payers, and other vital sectors of the health care industry.

That ocean is getting deeper, and the role of healthcare data in improving quality, managing population health, and stemming rising costs (known as the Triple Aim) will only get more complex – and even more important for reimbursement. Those who connect their data to quality improvement will survive and thrive in the new era of value-based care. Those who do not make that connection will suffer the financial consequences.

The winding path towards value-based care requires a solid understanding of the health data life cycle. When it comes to quality reporting under the Quality Payment Program (QPP), the Merit-based Incentive Payment System (MIPS), myriad registries, and core measures, the data life cycle has profound implications for both compliance and optimal reimbursement.



Every step of the data life cycle is crucial and must move towards action. It's one thing to find, capture, normalize, aggregate, report, and understand the data. The data also must be ARTA – accurate, reliable, timely, and actionable - AND used in a meaningful way to achieve the Triple Aim.

The often-perplexing and overwhelming process from finding the data to using the data has several steps, each with its own challenges. We've developed a seven-stage health data life cycle list to break it down:

- 1. Find the data**
- 2. Capture the data**
- 3. Normalize the data**
- 4. Aggregate the data**
- 5. Report the data**
- 6. Understand the data**
- 7. Act upon the data**

Keep in mind that health IT departments will also put equally strong emphasis on securing, managing, and maintaining data.

Why is the health data life cycle essential in our new, value-based care environment, and how does each step of the data life cycle lead to the ultimate goal: better patient care? Great questions! You'll find the answers and examples in a description of each life cycle stage.

# FIND THE DATA

## **Where is it located?**

Paper charts? EHRs? Claims systems? Revenue cycle systems? And how many different EHRs are used by providers - from radiology to labs to primary care or specialists' offices to others providing care? This step is even more imposing now as providers locate the sources of data required for quality and other reporting. Analyzing data from different types of providers – like acute care hospitals and skilled-nursing facilities – is a formidable task. Each one will have different financial and clinical systems which need to be accessed independently.

It's no secret that interoperability hampers this step, because the data needs to be integrated to allow effective management of risk and reward. For example, ACOs often have dozens of EHRs. And some clinical data is only available on paper. One ACO that partnered with Primaris for data abstraction was a group of many ambulatory practices with more than 50 EHRs. Capturing that data required access to each EHR including security and access rights as well as knowing the configuration of that EHR.

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# CAPTURE THE DATA



## What's next?

Some data will be available electronically and some can be acquired electronically, but some will require manual abstraction. If a provider, health system, or ACO outsources that important work, it is imperative that the abstraction partner understand how to get into each EHR or paper-recording system.

And there is structured and unstructured data. A structured item in the EHR like a check box or treatment/diagnosis code can be captured electronically; however, a qualitative clinician note must be abstracted manually. A patient presenting with frequent headaches will have details noted on a chart that might be digitally extracted, but the clinician's note, "Patient was tense due to job situation," requires manual retrieval.

Once you know where the data is, the next step is getting it from the source system into a common system for analytics. A "common" system? Remember, interoperability is a massive challenge. Not all systems connect to each other. For example, even if you can connect to the multiple clinical systems being used, what about an older custom-developed system? Or the clinical information on paper? Staggering amounts of patient information are regularly accumulated from disparate systems, many with their own terminology frameworks.

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# NORMALIZE THE DATA



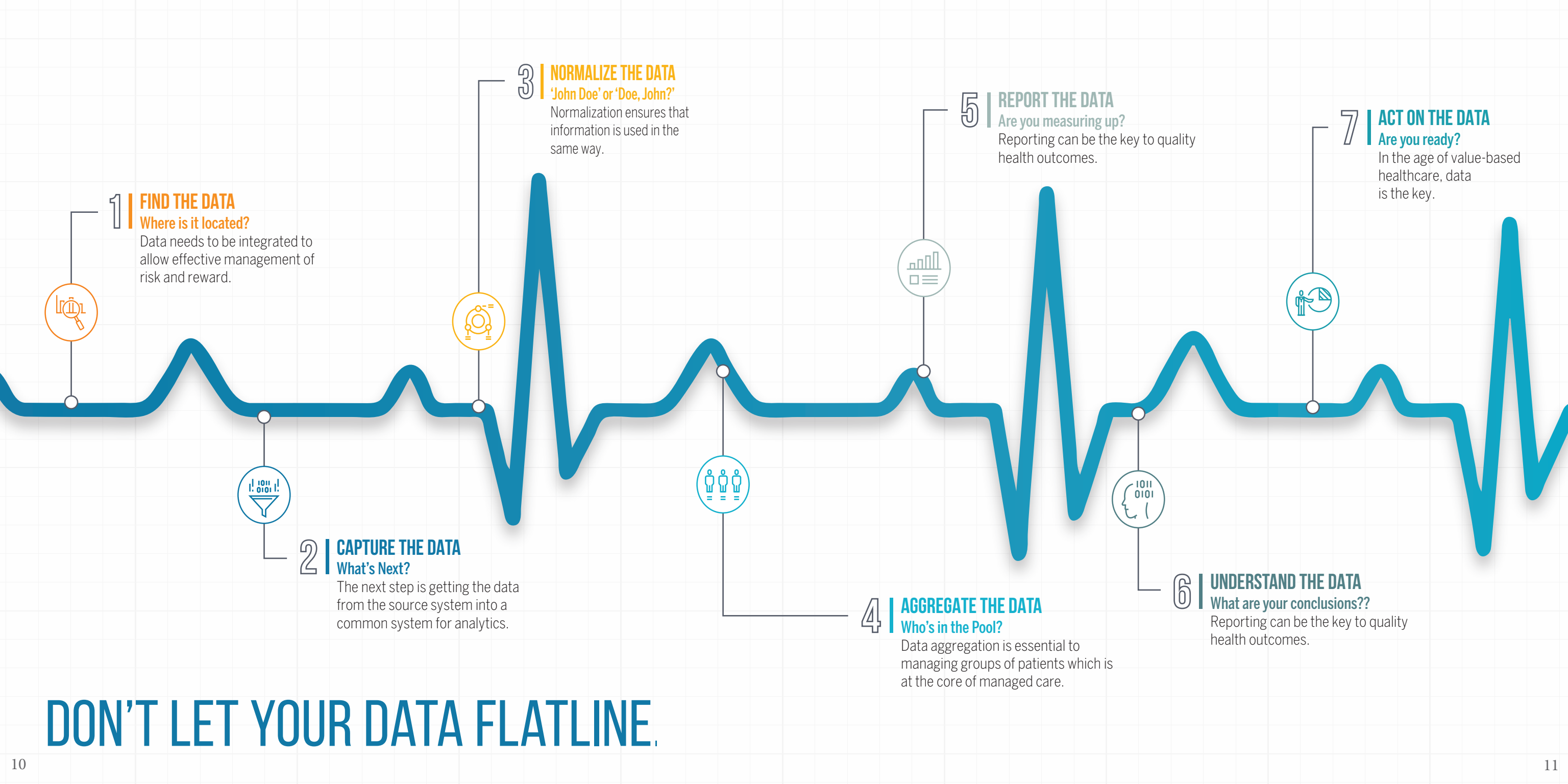
## 'John Doe' or 'Doe, John?'

Normalization ensures the data can be more than a number or a note but meaningful data that can form the basis for action. Normalizing data involves reconciling formats of the data. For example, you must reconcile a form that lists patients' last names first with a chart that lists the patients' first name first. Are you abstracting data for "Doe, John O." or "John O. Doe?" Different EHRs and other systems will have different ways of recording that information.

Normalization ensures that information is used in the same way. The accuracy and reliability that results from normalization is of paramount importance. Normalization makes the information unambiguous.

A misplaced or overlooked checkmark on a patient's chart and electronic health record can create a cascade of consequences – such as aggregate reports of "smoking babies" or "pregnant men." The bottom line is that omitted or extraneous patient information is also risky for the physician or health system' reimbursements.

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# DON'T LET YOUR DATA FLATLINE.



# AGGREGATE THE DATA

Data aggregation is essential to managing groups of patients which is at the core of managed care.

## Who's in the pool?

This step is crucial for value-based care because it consolidates the data from individual patients to groups or pools of patients. For example, if there is a pool of 100,000 lives, we can list ages, diagnoses, tests, clinical protocols and outcomes for each patient. Aggregating the data is necessary before healthcare providers can analyze the overall impact and performance of the whole pool.

If a healthcare organization has quality and cost responsibilities for a pool of patients, they must be able to closely identify the patients that will affect the patient pool's risks. Aggregation and analyzing provides that opportunity.

This is a crucial step – especially for managed care – since data aggregation is essential to managing groups of patients which is the core of managed care. Factors of successful data aggregation include: Selecting the right groups; matching and error-checking data aggregation; identifying and managing missing data elements; and using the right tools and systems.



# REPORT THE DATA



Reporting can be the key to quality health outcomes.



## Are you measuring up?

Reporting of healthcare data to registries and the Centers for Medicare and Medicaid Services (CMS) is not new, but it is a growing need. Required reporting will become even more integral to health care quality improvement as private payers follow the CMS lead towards value-based care.

Healthcare is a highly-regulated industry, with a wide range of required reports around quality, financial performance, safety and more. Reporting is increasingly tied to financial results – by CMS, private payers, and other organizations.

Reporting can be the key to quality health outcomes. For instance, repository reporting provides valuable information on which treatment protocols are the best.





# UNDERSTAND THE DATA



## What are your conclusions?

What was effective? What is the clinical point of view versus a dollars/cost point of view? How are these two points of view reconciled to get the “right” results?

When Drug B is half the price but equally as effective as Drug A, that is an example of evidence-based medicine, which was the result of the data life cycle. When healthcare organizations and providers have data they can understand, a root cause analysis is an ideal way to achieve sometimes conflicting goals of quality and cost — and move forward — on solving deficiencies or other problems flagged by the data.

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How do you draw conclusions from the analysis? Over what time frames? Handling outliers? Educating clinicians and staff about the data — and whether they also understand and use it?



# ACT ON THE DATA



In the age of value-based healthcare, data is the key.


## Are you ready?

There are other crucial facets of the data life cycle that must be dealt with, including data maintenance and management, and purging or destroying data in a way that is compliant with HIPAA. But the paramount function of data is using it to improve clinical processes and outcomes, the patient experience, and the financial bottom line.

Once you understand your data and use it to decide on improvement initiatives, you need to act effectively. In addition to the scope of patient care and quality improvement, the data is also valuable internally for good project management. The data can be used to identify, track, and achieve measurable goals; assemble the right team, communicate and educate, and can be used for risk management.

Data that is accurate and reliable is not all that useful until it is actionable. How is the data being used to manage quality of care and cost of care? The final stage in the data life cycle is certainly the most important. The data life cycle comes full circle.

In the age of value-based healthcare, data is the key that will allow providers to be financially successful in the future as payments become more heavily based on value, and patients seek providers that meet their growing expectations.



Many providers are drowning in their data and struggling to keep up with quality reporting demands. If that describes your practice, ACO, or health system, check out the trusted data abstraction services offered by Primaris, a pioneer in the nation's transition from fee-for-service to value-based care.

*Primaris takes care of your data, so you can take care of what matters most – **your patients.***



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