Using Data to Drive Quality

Designed for Licensed Providers of Developmental Disability Waiver Services

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Learning Objectives

Participants will be able to:

- Explain why providers need to use data to track performance
- Describe important data related terminology
- List what data you have available
- Identify at least three ways to use data for your program
- Explain how to look at trends in data over time

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Hold on….
Why?

QUESTION: Why does a provider need to collect and track performance data, including serious incidents and other risk information?

Discuss!

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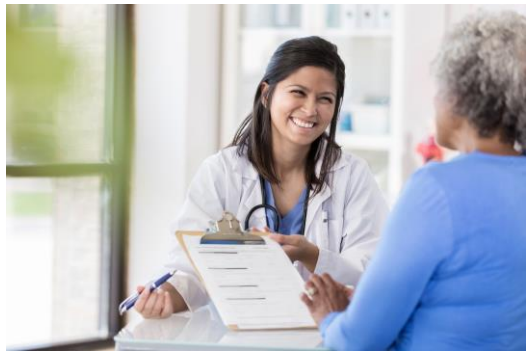
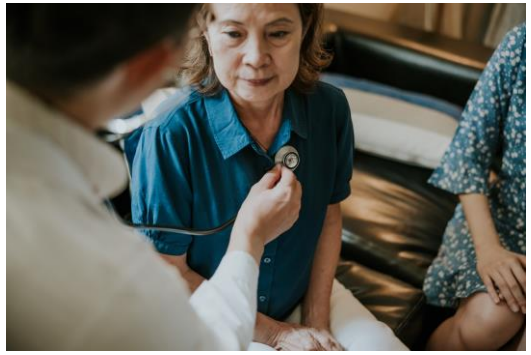
Hold on…. Why?

QUESTION: Why does a provider need to collect and track performance data, including serious incidents and other risk information?

ANSWER: To know what's working well and what isn't working well, so they can know what to focus on in order to improve programs and services.

- Feeds into Risk Management and Quality Improvement plans and activities.





A Helpful Analogy

- What does the doctor's office measure when you go in for a visit?
- Why do they measure these things?
- Why do they measure them at repeat visits?
- Similarly, a provider needs to measure things about their program to know if their program is doing well or needs improvement.

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Data Terminology

Key terminology

- Baseline data - Numerical data over a set time period that a team will use as a starting point. Multiple data points are preferable – e.g., multiple weeks, months. At least a year of data is ideal.
- Calculation - the process of using information and adding, taking away, multiplying, or dividing numbers to judge the number or amount of something. *Source: Cambridge Dictionary*
- Count – determine the total number of things.
- Data – numbers that represent information.
- Measurement - the process of associating numbers with physical quantities and phenomena. *Source: Britannica*
- Patterns - repeatable cycles within the data. For example, the data always increase at a certain time of year.

Key terminology

- Percent – a calculation that describes something in terms of a part per one hundred. Numerator = the part; Denominator = the whole; multiplied by 100. Example: 10% of individuals had a fall last year. *NOTE: You don't necessarily need 100 things to do a percent calculation.*
- Performance data - numerical information that tells you how well your programs and services are doing. For example, "Percent of individuals who had a fall/trip each quarter" is performance data.
- Qualitative Data - Descriptive data that uses words to describe information.
- Quantitative data - Numerical data that uses numbers to count things, such as how many or how often.
- Rate - a quantity, amount, or degree of something measured per unit of something else. *Source: Merriam Webster.* Example: The rate of falls is 68 per 1,000 individuals.
- Run Chart or Trend line - a line graph of data points over time to identify trends and patterns.
- Trends – describing how data points move over time. For example, it may go up, down or not change.

Example: Calculating a Percent

Numerator = top number

Denominator = bottom number

<u>23 people like rhubarb pie out of…</u>

A sample of 300 people

$\frac{23}{300}$ = 23 divided by 300 = .076

"For every one person, 0.076 people like rhubarb pie."

This is an awkward way to say it so… **we make it into a percent.**

0.076 x 100 = 7.6 out of every 100 people like rhubarb pie

OR… **"7.6% of people like rhubarb pie."**

Calculating a Percent

Those in the numerator must have an opportunity to be in the denominator.

5 Serious Incident Reports / 25 people = 20% of people have serious incident reports

3 people had at least one serious incident / 25 people = 12% of people have had at least one serious incident

Those in the numerator must have an opportunity to be in the denominator.

Numerator = top number

Denominator = bottom number

Percent vs. Rate

Numerator = top number

Denominator = bottom number

A percentage is a part per 100.

NOTE: You don't necessarily need 100 things to do a percent calculation.

- **Example: The percent of individuals experiencing falls.**
- **If you have 25 individuals experiencing a fall, out of 75 total individuals:**
- **25/75=0.33 x 100 = 33.3% of individuals experienced a fall**

A rate is the number of things per some other number, *usually* 100 or 1,000 or some other multiple of 10.

- **Common example: Miles per hour.**
- **Example: Rate of fall incident reports per 1,000 individuals**
- **If you have 75 total individuals in a population, and 10 total fall incident reports:**
- **10 / 75 = 0.133 x 1,000 = 133 falls incident reports per 1,000 individuals**

Do a calculation!

- Out of a sample of 133 people, 25 said they like light blue cars.
- What percent of people like light blue cars?

Pause the video

Do a calculation!

- Out of a sample of 133 people, 25 said they like light blue cars.
- What percent of people like light blue cars?

25 **people** who like light blue cars

Divided by

133 total **people**

0.188 x 100 = **18.8%** of people like light blue cars

Do a calculation!

- A car traveled 260 miles in 5 hours. What was the miles per hour?

Is this a rate or a percent?

Do a calculation!

- A car traveled 260 miles in 5 hours. What was the miles per hour?

260 miles

Divided by

5 hours

= **52 miles / hour** **OR** **52 miles per hour**

Is this a rate or a percent?

It is a rate!

Do a calculation!

- There were 5 sepsis **incident reports** last year and 250 **people** were receiving services.

1. Is this a rate or a percent?
2. Calculate it.

Do a rate calculation!

- There were 5 sepsis **incident reports** last year and 250 **people** were receiving services.

1. Is this a rate or a percent?
2. Calculate it.

Rate

5 sepsis incident reports Divided by 250 total people	= 0.02 x 1000	=**20 sepsis incident reports per 1,000 people**

When would you use a count, percent, rate?

When would you use a count?

- Counts can be sufficient….
- …When the thing you are counting is less than ten.
- …When dealing with a small number of total items.
- …When comparing simple things between similar sized groups.
- …When you have a small, consistent number of people served over time.
- …If the number of occurrences is the primary concern.

When would you use a percent?

- When you know the actual number in the denominator, and, of those, the number with the condition you're interested in (numerator).
  - For example, you know there are 12,500 people and 500 of those people have pink cars. In this case, 4% have pink cars.
- When you need to make comparisons between larger groups, and/or over time.
- When it makes more sense to express it as a percent.
  - For example, saying 4% of people have pink cars may be more understandable than saying 40 per 1,000 have pink cars.

When would you use a rate?

- When your denominator is a different group or expression than your numerator.
  - For example, the number of miles per hour to measure rate of speed.
  - For example, the number of incident reports per 1,000 people.
- When you need to make comparisons between larger amounts, and/or over time.
- When a percent is a very small number. **For example**, if the percent of people with a rare disease is 0.07%, it may make more sense to express it as a rate: 0.7 per 1,000 or 7 per 10,000.
- When the standard or conventional measure is a rate. **For example,** standard way to measure speed is the rate of Miles Per Hour.

DBHDS Output vs. Outcome Measures

Output

- Outputs are the direct products of program activities/services.
- **"What did we do to try to make things better?"**
- **Examples such as:**

✓Number of classes taught
✓Number of class participants
✓Number of incidents reported on time
✓Number of counseling sessions
✓Number of people who received services
✓Number of hours of service delivered

Outcome

- Outcomes describe the impact of the activities/services provided.
- **"How are people better off than they were before?"**
- **Examples such as:**

✓Greater knowledge
✓Gained skills
✓Improved health status
✓Healthier behavior
✓Improved living conditions
✓Greater satisfaction

Using Data For Your Program

What do I need to do with data?

Collect and record data

- Get the data you need
- Put it in a usable format
- Example: Risk Tracking Tool

Analyze and discuss data

- Develop measures
- Create graphs and tables
- Talk about what it means

Use data for improvement

- Set measurable goals and objectives
- Monitor data over time and track progress

Collect and Record data: Getting the Data We Need

How to Get Data

- Get a structured system to collect data
  - Electronic Health Record (EHR)
  - Database
  - Paper log / tracking system

How Often to Get and Review Data

- Get accurate, up-to-date data.
- Avoid waiting to collect data- this could impact reliability and validity.
- Review data as often as makes sense for the measure.
  - At a minimum – Quarterly.
- Options: Hourly, daily, weekly, monthly, quarterly, annually.

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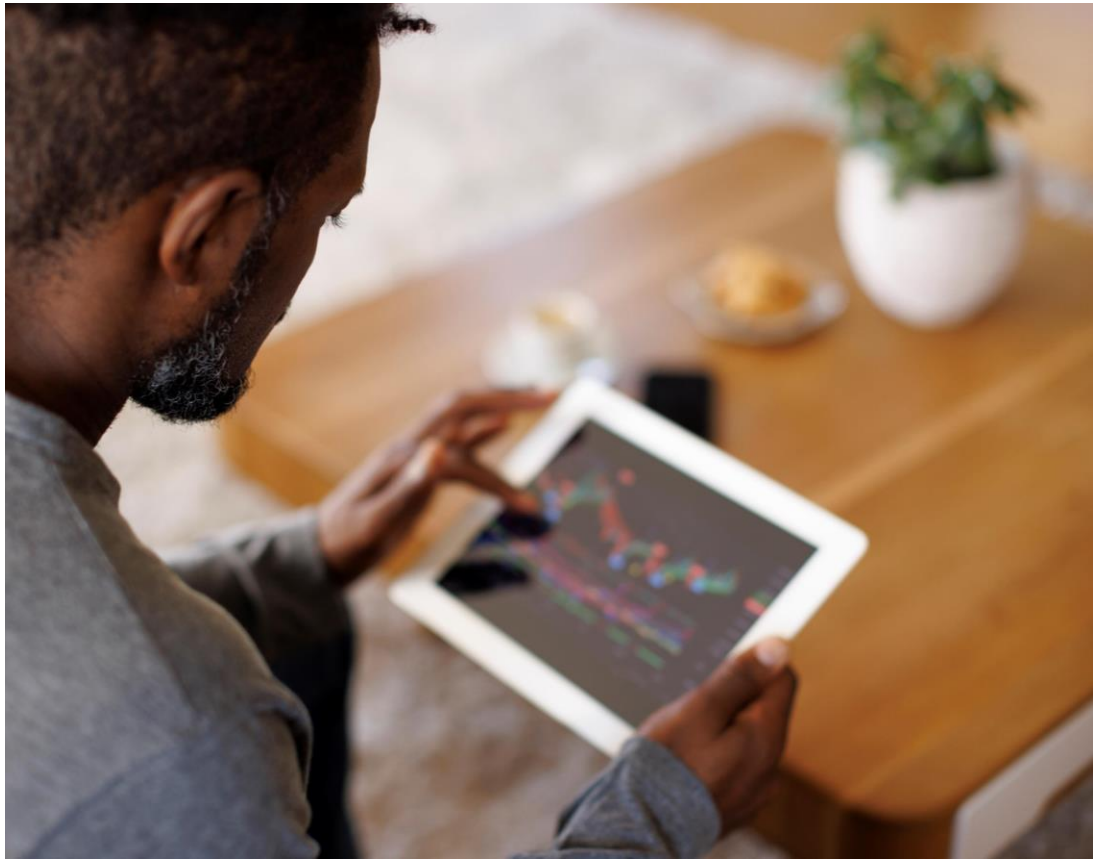
Data You Have Available



Cheat Sheet: List of Data and Sources

*Align with licensing regulations

- CHRIS / Serious incidents
  - Serious Incidents (Level 2, 3)*
  - Incident Reports (Level 1)*
  - Abuse and Neglect*
  - Care Concerns/Risk Triggers and Thresholds*
- WaMS - ISP data
  - Discussions, Outcomes
  - Community Inclusion*
  - Meaningful Work*
- Administrative Data
  - Training Completion
  - Staff Retention / Turnover
  - Staff absences / no-shows
  - Hiring
  - Orientation
  - Background Checks, Inspector General Checks
  - Performance Evaluations
  - Staff vaccinations
  - Denied claims

What else can you think of?

- Tracking Logs
  - Medication Errors*
  - Peer to Peer incidents*
  - Staff and visitor injuries*
  - Transportation problems
  - Regional Support Team referrals
- Family and Individual Survey*
- Safety Inspection*
- Individual Health and Safety Records
  - Primary Care visits
  - Dental visits
  - Missed medical appointments
  - Behaviors that do not rise to the level of an incident report, but are documenter in progress notes (e.g., PICA)
  - Discharges due to the individual requiring higher level of care
  - Crisis requiring REACH or law enforcement intervention
  - Tracking logs: Bowel movement, voiding, nutrition, seizure, water intake

Sample calculations to measure performance.

- Serious Incidents
  - %/Rate of ____ (serious incident type), e.g., falls/trips, UTIs, etc.
  - %/Rate of Care Concerns or Risk Triggers and Thresholds
- Abuse/ Neglect
  - %/Rate of Allegations, by Type (e.g., neglect, peer-to-peer, etc.)
  - %/Rate of Substantiations, by Type (e.g., neglect, peer-to-peer, etc.)
- Seclusion / Restraint
  - %/Rate of Physical Restraints
  - %/Rate of Mechanical Restraints
  - %/Rate of Pharmacological Restraints
  - %/Rate of Seclusion
- Participation in community activities
  - % of individuals with employment outcomes in the ISP
  - % of individuals with Integrated Community Involvement outcomes in the ISP
  - % of individuals participating in desired community activities each week/month
- Other
  - Staff training completion rate
  - Staff retention or turnover rate
  - #/Rate of Medication errors

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Key Questions to Help Use Data for Performance Monitoring and Improvement

What data do you have?

What data do you not have that you need?

What is your data telling you? What's going well, and what needs to get better?

How frequently can you review the data? Is that frequent enough?

Who is going to collect data and track improvements?

What does success look like?

How can your data be made transparent to internal and external stakeholders?

Measure

A measure helps to monitor your progress towards your goals and objectives.

- Example:
- Goal: Improve **staff retention from 50% in 2024 to 75% in 2025.**
  - The **denominator** is number of staff who were in their position as of Time 1 (January 1, 2025).
  - The **numerator** is the number of those same staff who were still in their position as of Time 2 (December 31, 2025).

Numerator = top number

Denominator = bottom number

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Key Questions to Help Use Data for Performance Monitoring and Improvement

What data do you have?

We have the number of staff in their positions as of January 1, 2025.

What data do you not have that you need?

We need to start tracking, in an ongoing fashion, the staff who leave and why they leave.

What is your data telling you? What's going well, and what needs to get better?

Our data is telling us that in 2025, 50% (half) of the staff left during the year.

How frequently can you review the data? Is this frequent enough?

We looked at the data for a one-year period. We want to start calculating it at least quarterly.

Who is going to collect data and track improvements?

We have an improvement team. We will track staff retention and do the calculations at the team meetings.

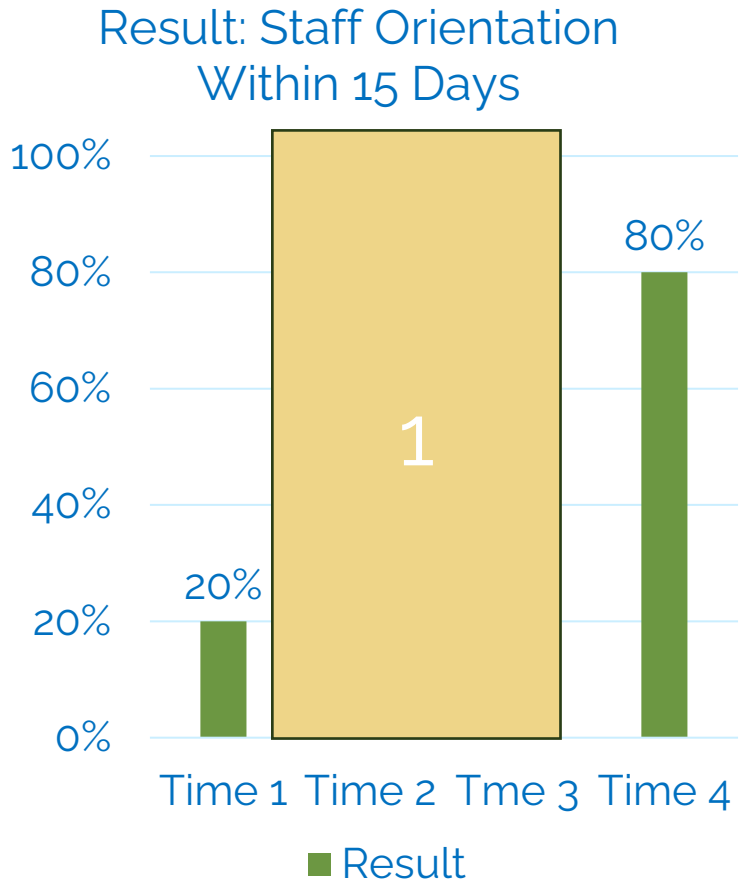
What does success look like?

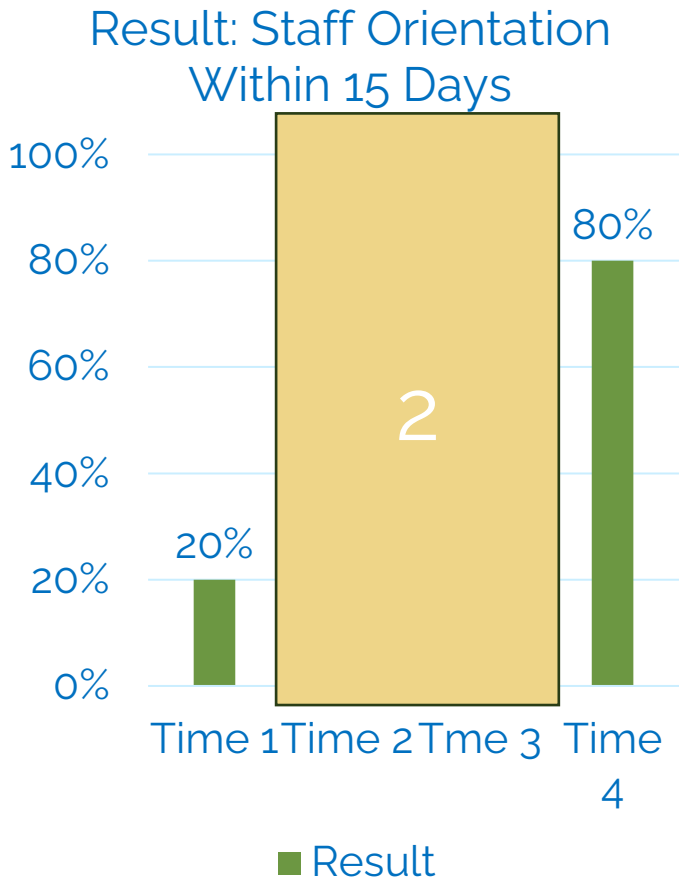
Achieving 75% of staff staying at the organization.

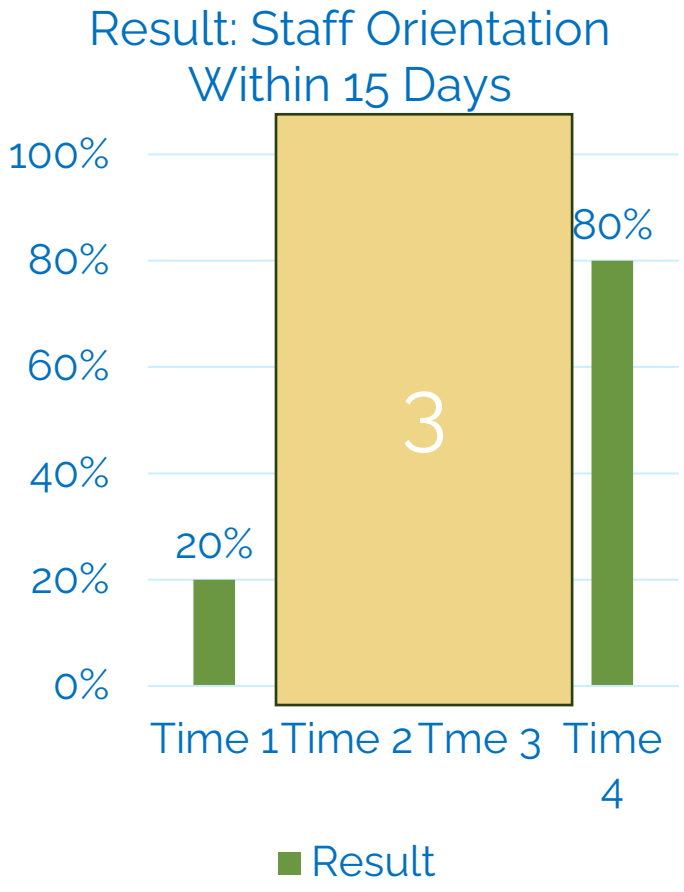
How can your data be made transparent to internal and external stakeholders?

We will make this data transparent by sharing it the staff meetings.

Why review data as frequently as possible?







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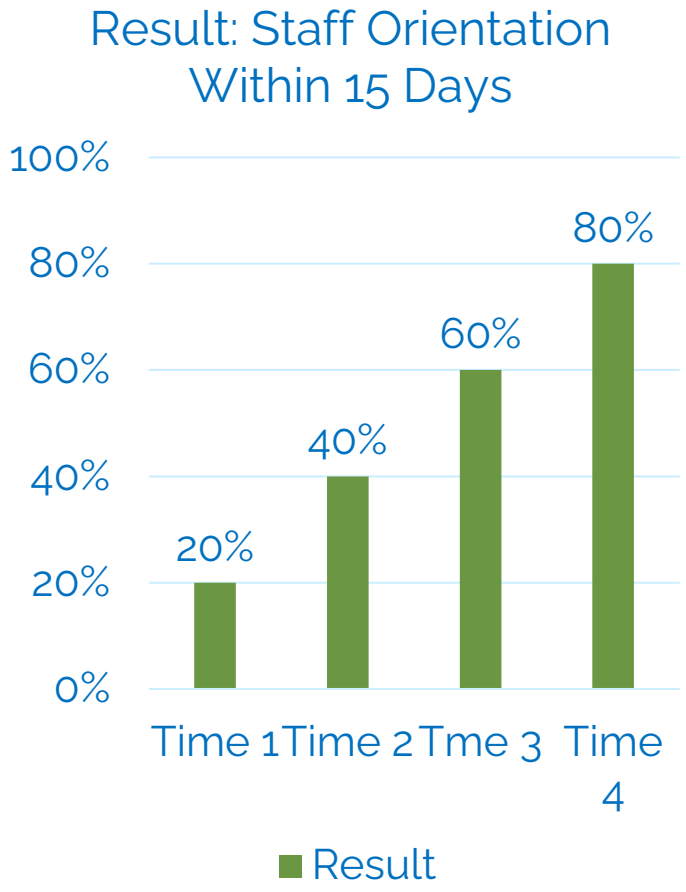

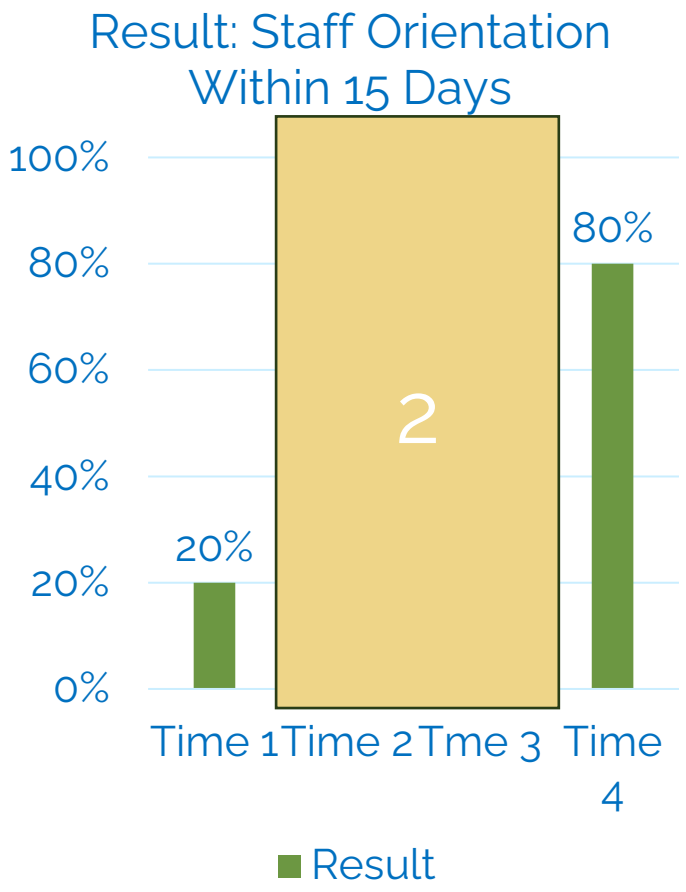

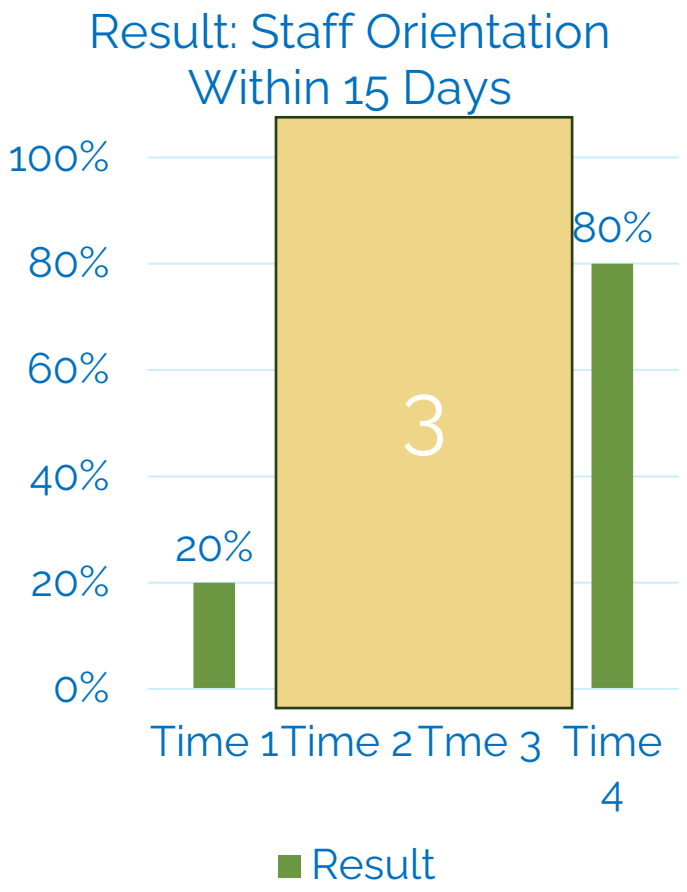

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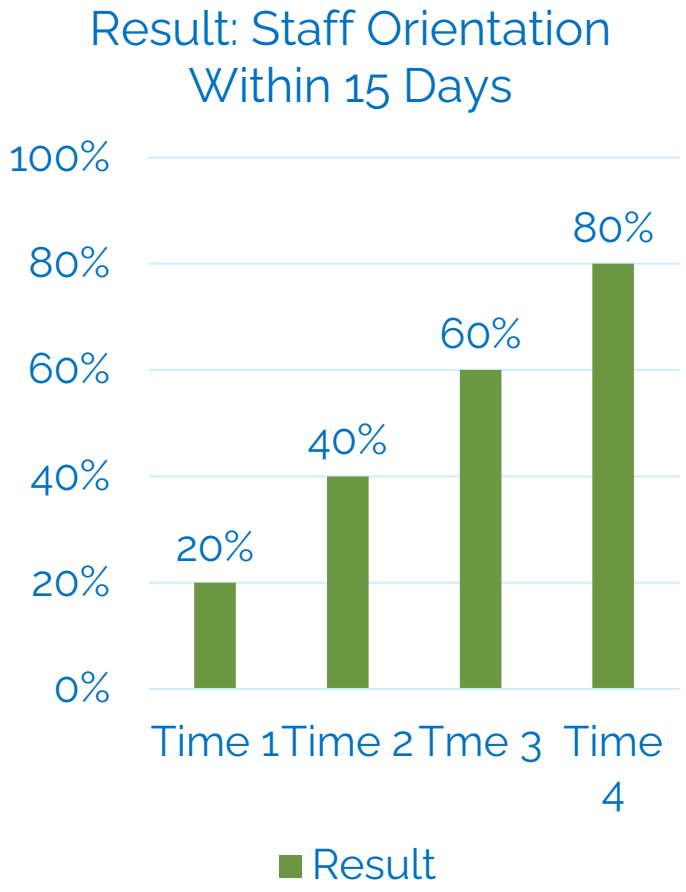

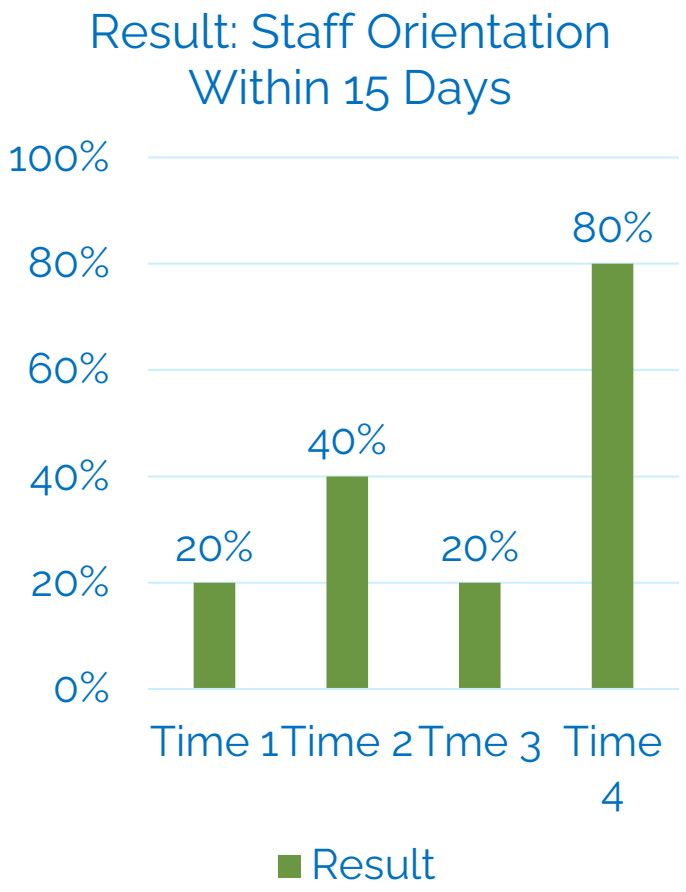

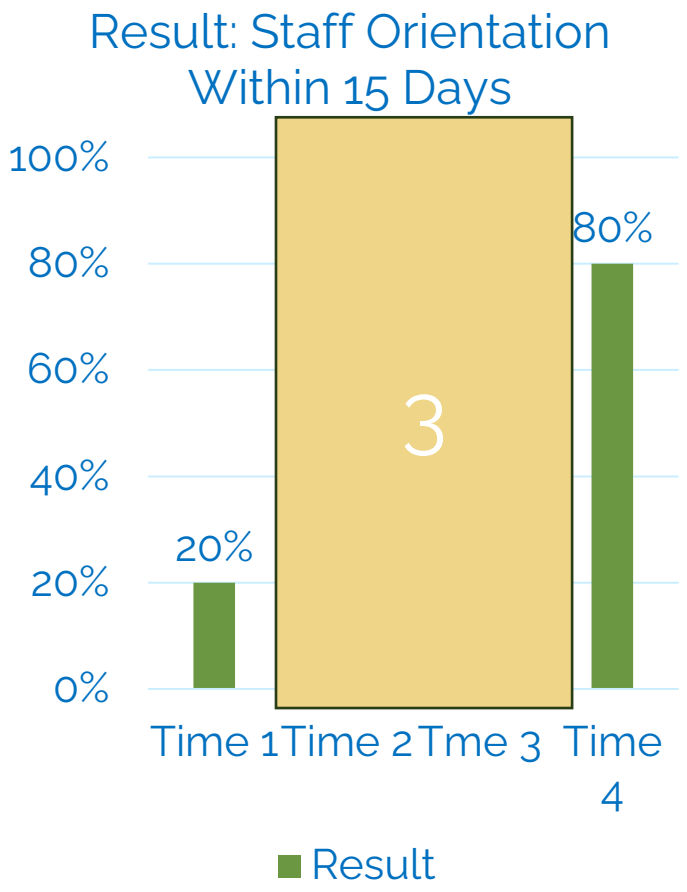

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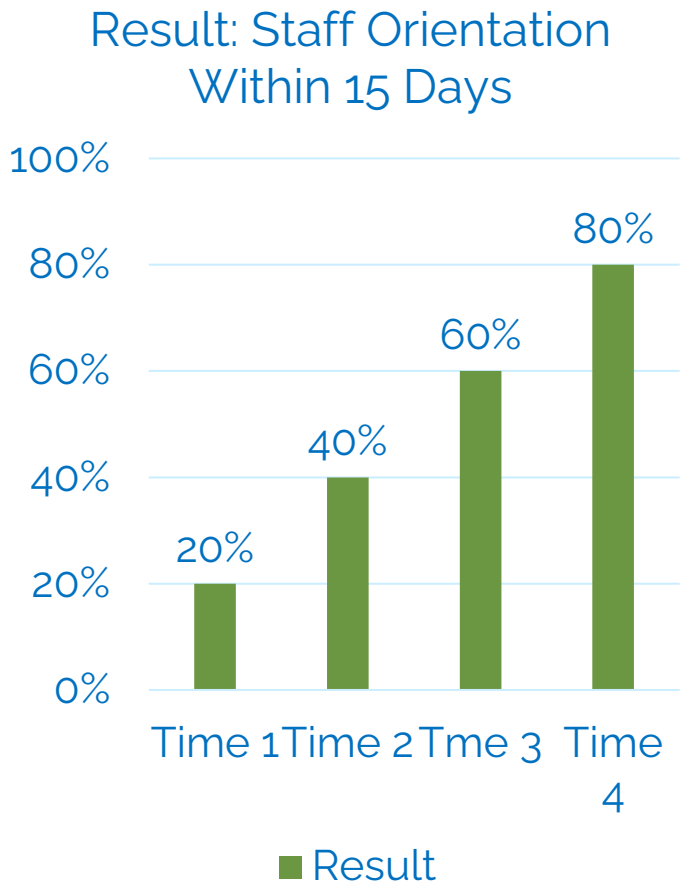

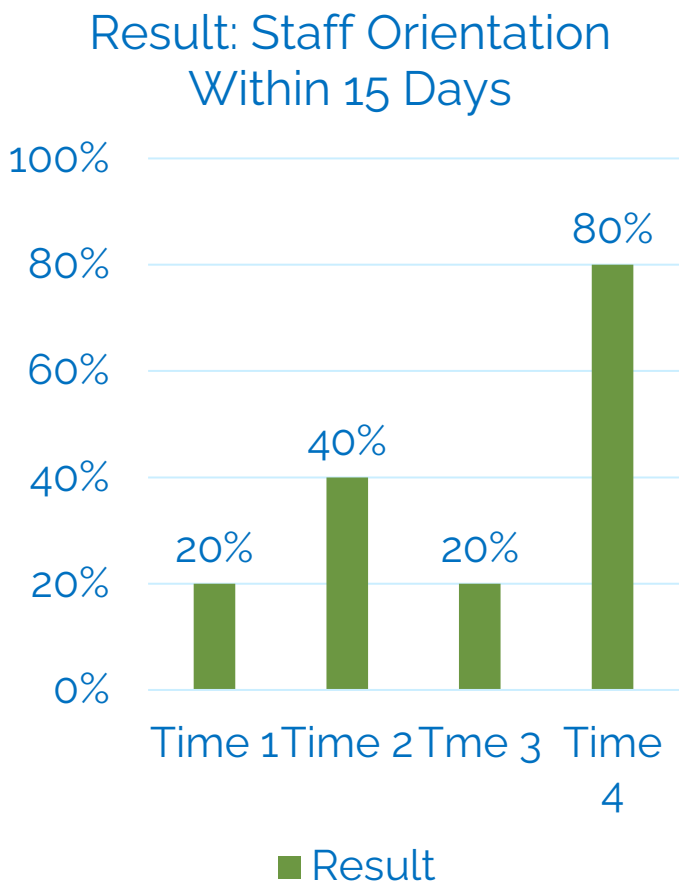

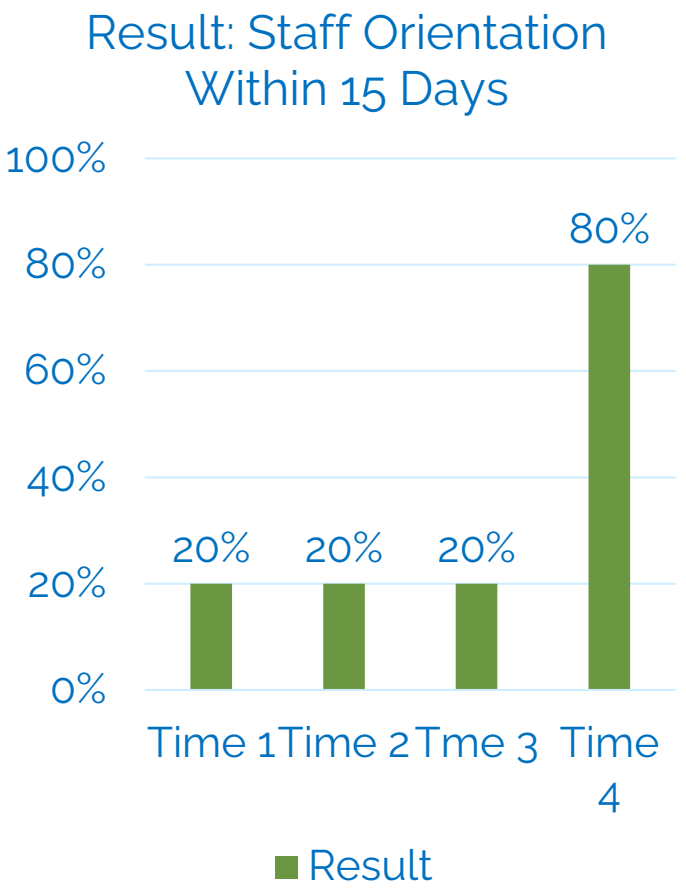

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Measurable Goals and Objectives: SMART Goals

Problem	Example: In 2023, 10 out of 50 individuals (20%) experienced a Fall related serious incident. [FAKE DATA]

S	Specific	**Let's develop a SMART Aim statement.** **Fill in the blanks:** By ___date_____ we want to improve _____(problem) from __data___(baseline) to ____data_____(goal).
M	Measurable	
A	Achievable	
R	Relevant	By December 31, 2025, we want to reduce the percent of individuals who experience a Fall related serious incident from 20% to 10% or less.
T	Time-bound	

Resource: QAPI Goal Setting Worksheet: https://www.cms.gov/medicare/provider-enrollment-and-certification/qapi/downloads/qapigoalsetting.pdf

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Activity

Make it Smart!

→ Why is it not SMART? How can you make it better?

UN-SMART Objectives	SMARTer Objectives
All new staff will complete orientation.	
Reduce the rate of serious incidents.	
Achieve zero allegations of abuse, neglect and exploitation.	

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Activity

Make it Smart!

→ Why is it not SMART? How can you make it better?

UN-SMART Objectives	SMARTer Objectives
All new staff will complete orientation.	By June 30, 2025, 100% of new staff will complete DBHDS required orientation within 15 business days of hire. The baseline in 2024 was 60%.
Reduce the rate of serious incidents.	Reduce the rate of serious incidents (Levels II and III) related to falls from 10 per month (during 2024) to 5 or fewer per month by December 31, 2025.
Achieve zero allegations of abuse, neglect and exploitation.	Achieve **three or fewer** allegations of abuse, neglect and exploitation due to elopement by December 31, 2025. In 2024, there were 8 allegations of this type.

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Activity

Make it Smart!

→ Why is it not SMART? How can you make it better?

UN-SMART Objectives	SMARTer Objectives
All new staff will complete orientation.	By June 30, 2025, 100% of new staff will complete DBHDS required orientation within 15 business days of hire. The baseline in 2024 was 60%.
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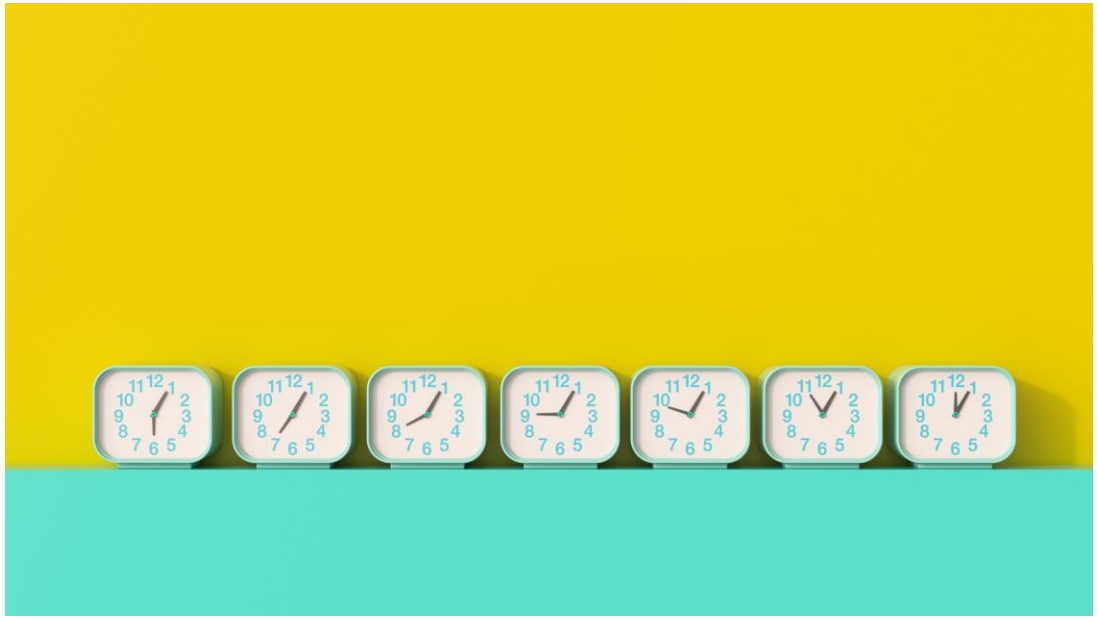
Achieve zero allegations of abuse, neglect and exploitation.	Achieve **three or fewer** allegations of abuse, neglect and exploitation due to elopement by December 31, 2025. In 2024, there were 8 allegations of this type.

A percent!

A rate!

A count!

Trends Over Time



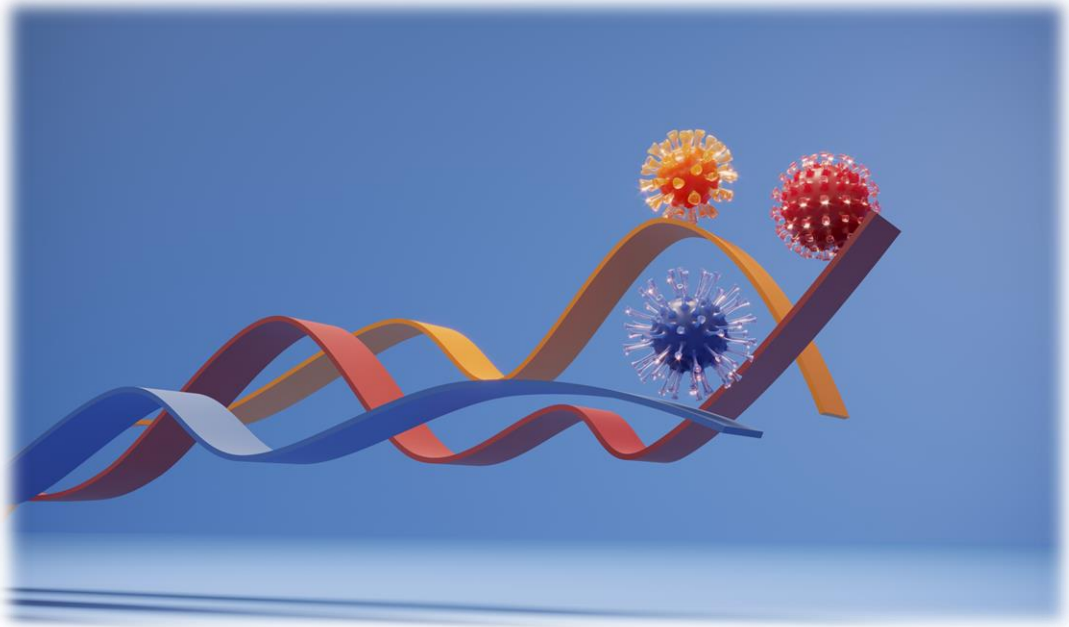
- In data analysis, "trends" refer to the overall direction or movement of data over time, indicating a general increase or decrease.
- “Patterns" describe recurring or consistent behaviors or characteristics within the data, such as repeated sequences or seasonal changes.

Why are 'trends over time' important?

- Allows you to detect patterns in your data.
  - Is the issue staying the same? Getting better? Getting worse?
- Allows you to compare it to other things that may have happened over time that could help explain patterns you detect.
  - Could weather or time of year play a factor?
  - Did something happen during a certain time that could impact your issue?
    - An organizational change or transition.
    - A staffing change.
    - Etc.

Baseline data + Run chart / trend line

- **A Run Chart or Trend line** is a line graph of data points over time.
- Baseline data: Numerical data over a set time period that a team will use as a starting point.
  - Multiple data points are preferable – e.g., multiple weeks, months.
  - At least a year of data is ideal.



Examples: Baseline Data and SMART Goals for DD Providers

VERY SMALL Provider: 4 individuals served.

- Baseline, FY24: Two out of four (2/4) individuals have employment outcomes.
- Goal: By 12/31/25, three out of four (3/4) individuals will have employment outcomes.

SMALL Provider: 24 individuals served.

- Baseline, FY24 OPTION 1: 8 Level II serious incident reports.
- Goal Option 1: By 12/31/25, our goal is to have 5 or fewer Level II serious incident reports.

- Baseline, FY24 OPTION 2: Rate of 3.3 serious incident reports per 10 individuals.
- Goal Option 2: Rate of 2.1 per 10 individuals.

MEDIUM/LARGE Providers: 250 individuals served

- Baseline, FY24: 20 Fall related serious incidents, for a rate of 80 per 1,000 individuals.
- Goal: By 12/31/25, our goal is to reduce fall-related SIRs to 50 per 1,000 individuals, or fewer.

Examples of ‘trends over time’

Table

Objective: By December 31, 2025, 90% of new staff will complete orientation training within 15 days.					
FY2024:	**Q1**	**Q2**	**Q3**	**Q4**	**FY2024**
New staff completing orientation in 15 days	3/5 = 60%	1/2= 50%	4/6= 66%	4/5= 80%	12/18= 66%

Time

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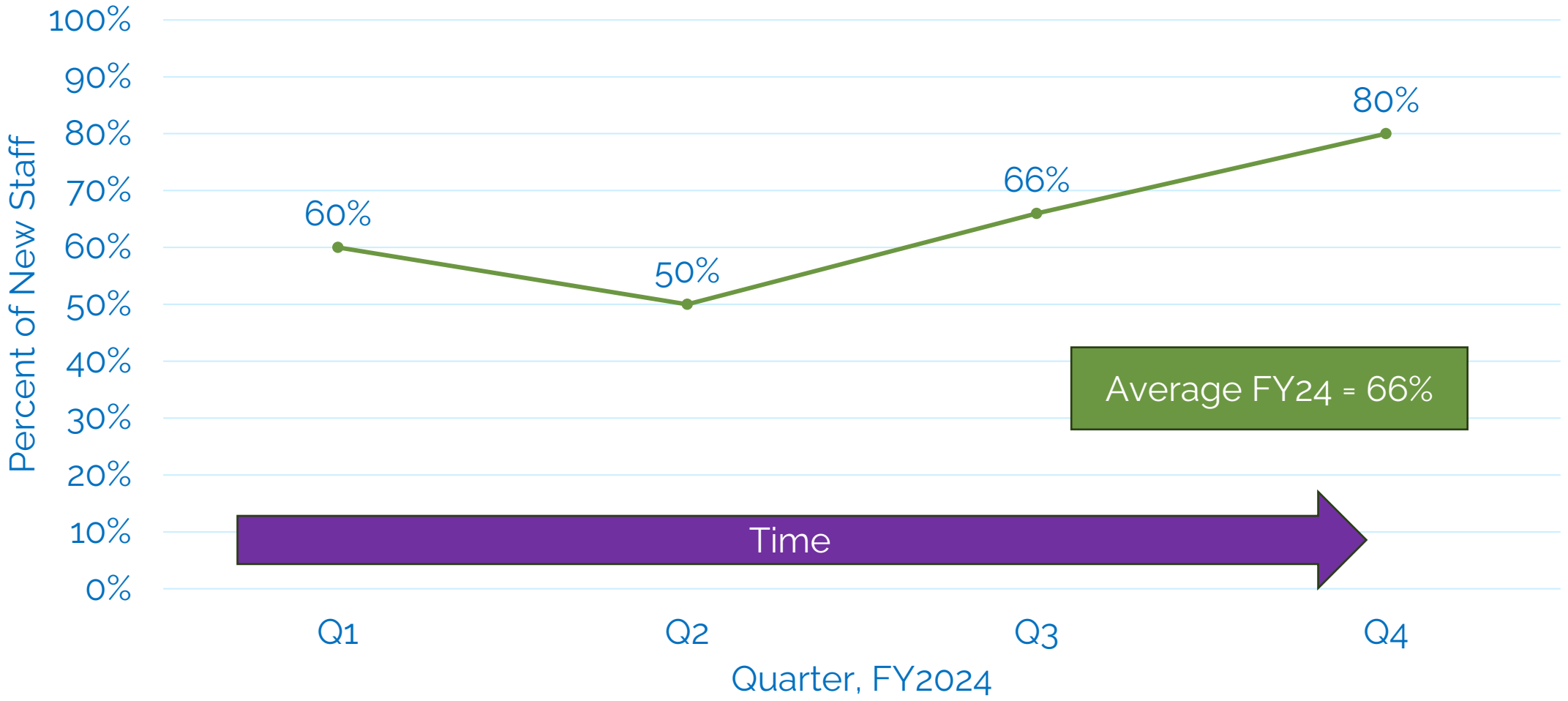
Objective: By December 31, 2025, 90% of new staff will complete orientation training within 15 days.

Line Graph

Percent of New staff completing orientation in 15 days



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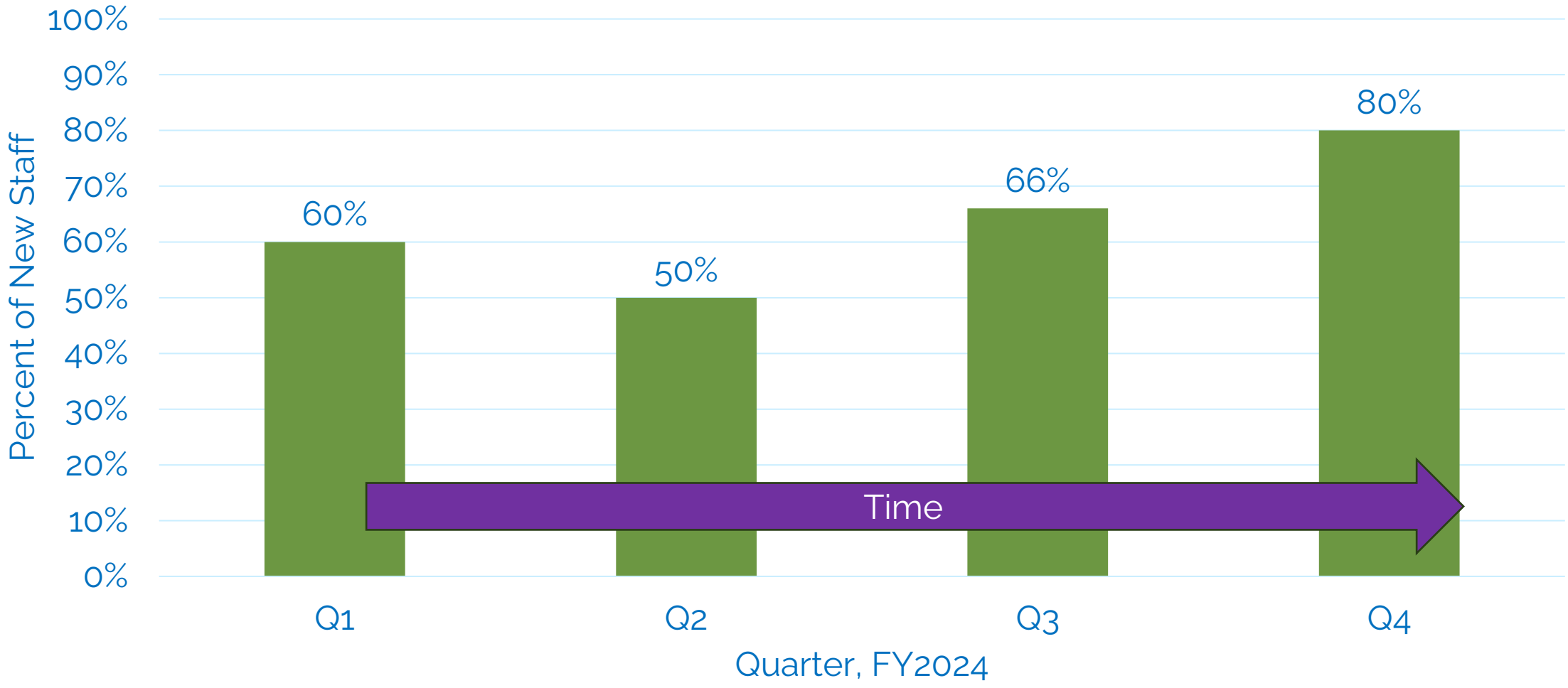
Objective: By December 31, 2025, 90% of new staff will complete orientation training within 15 days.

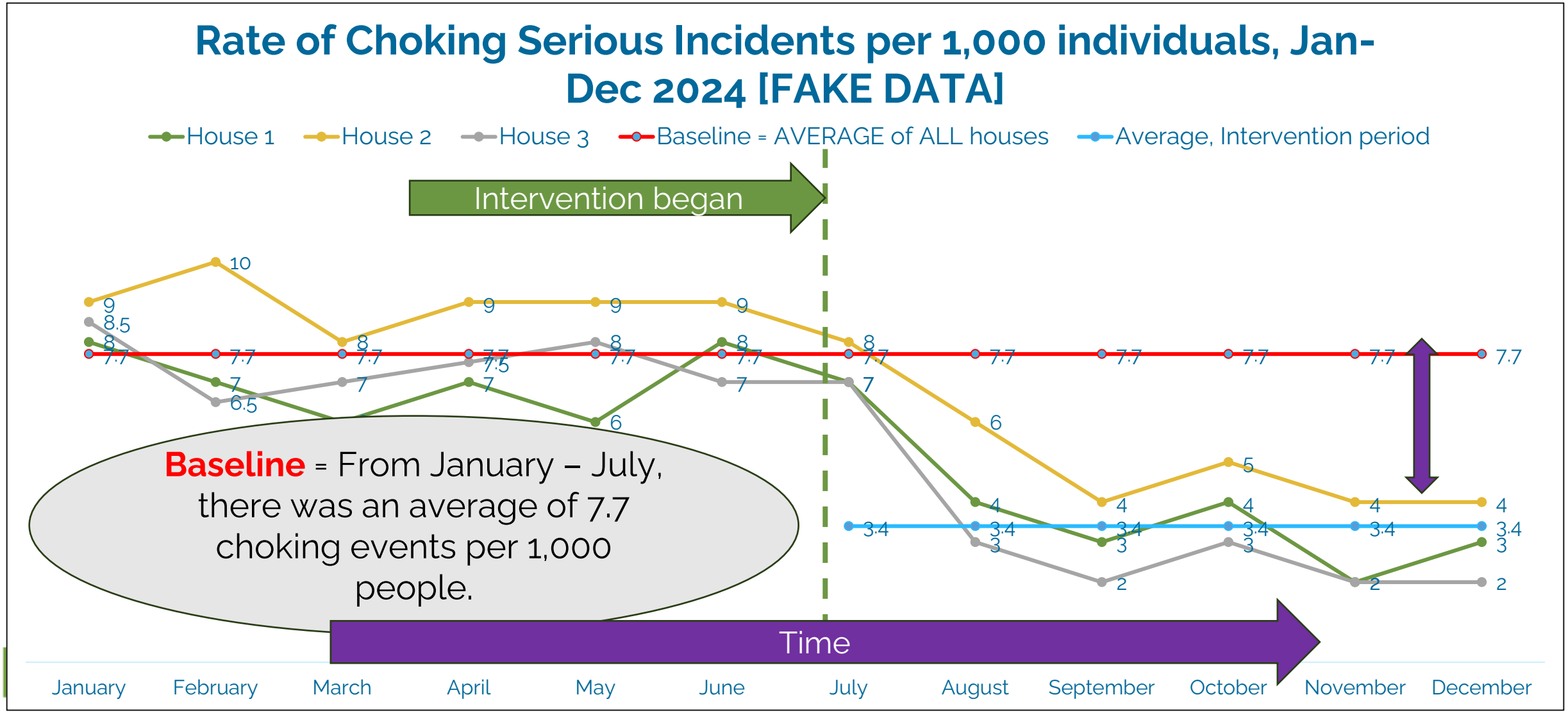
Bar chart

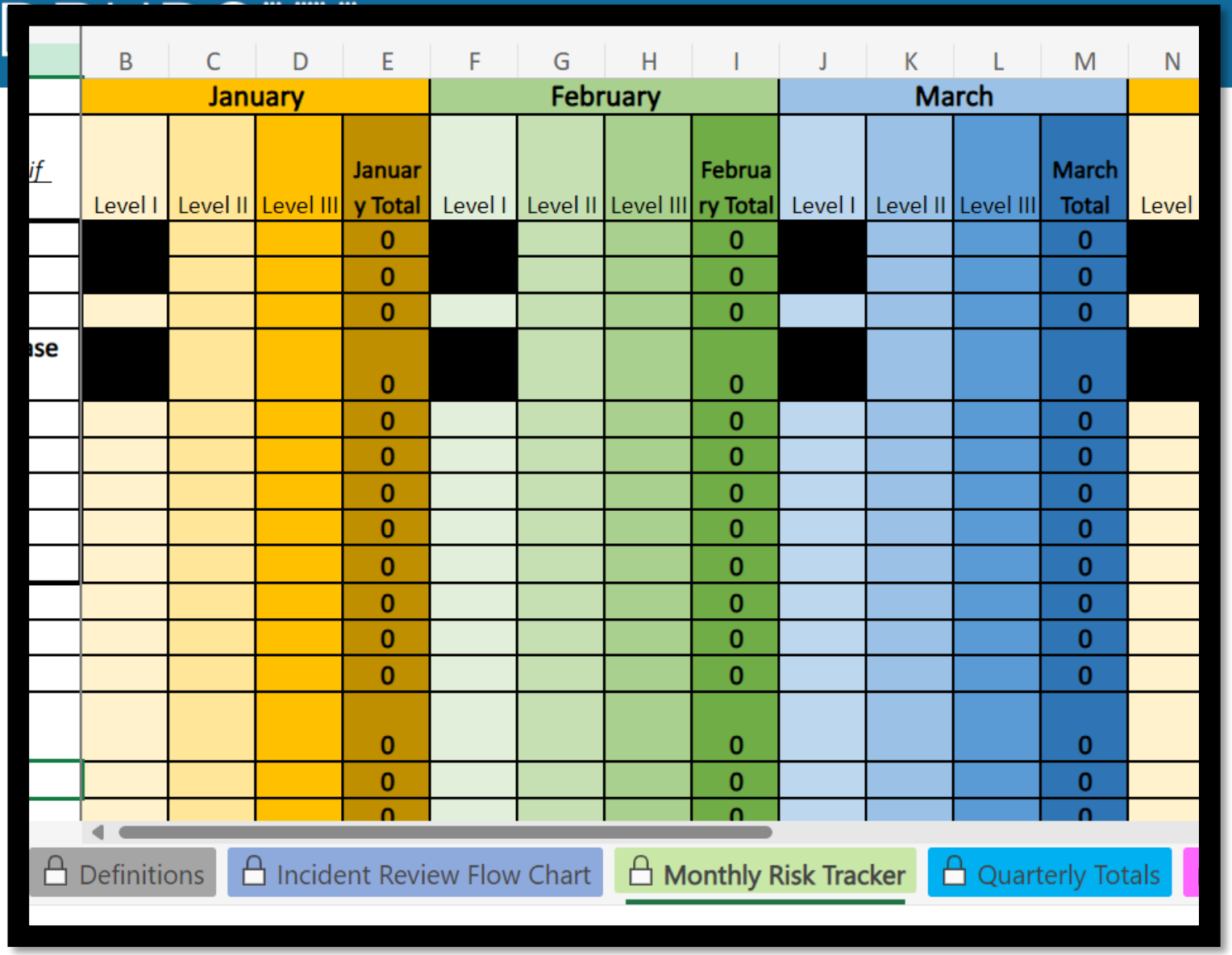


How to Discuss Data

Summary of Findings	What does the data tell you? What are the highest risks/incidents? What are the lowest? What do the risks/incidents in the middle tell you?
Analysis of Trends	What is happening with the data over time? Is there a pattern, or has a pattern changed? Is a particular risk getting better or worse? How do you know? What trends are concerning, or improving? Why?
Potential Systemic Issues or Causes	Why is a concerning risk or trend happening? Why is it getting better or worse? What are the potential causes? Have you done a root cause analysis (RCA)? What did it tell you?
Indicated Remediation	What needs to be done to remediate (address or improve) a problem? Why is this is a good solution? What other options do you have? How did you pick this solution, instead of something else? Is a more detailed RCA needed?
Steps Taken to Mitigate Potential for Future Incidents. Consider if you need to update your Quality Improvement and/or Risk Management Plans.	What have you done, or what will you do, to address this problem? Who, what, when, where, how did you/will you do it? What do you think will happen once these steps are taken? When do you expect to see improvement? Do you need to update your Quality Improvement and Risk Management Plans? How so?
Other Recommendations	Do you have other recommendations? Is anything working well that you think needs to spread to other locations?

Putting it all together
Example: Baseline data + Run Chart





Excel Risk Tracking Tool

- Located on Office of Licensing Website
- https://dbhds.virginia.gov/clinical-and-quality-management/office-of-licensing/
- Helps providers meet a number of licensing requirements
- List of tracked metrics is customizable
- Includes Level I, Level II, Level III serious incidents and Care Concerns and more.

Summary

Are you able to:

- ✓ Explain why providers need to use data to track performance
- ✓ Describe important data related terminology
- ✓ List what data you have available
- ✓ Identify at least three ways to use data for your program
- ✓ Explain how to look at trends in data over time

DBHDS

Thank you!