HEALTH MANAGEMENT ASSOCIATES

Evaluation Series: Part 3
Assessing Your Results and Overcoming Challenges

Million Hearts Webinar
September 15, 2021

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HEALTH MANAGEMENT ASSOCIATES

Jodi M. Pekkala, MPH
Senior Consultant
New York, NY
jpekkala@healthmanagement.com

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EVALUATION LEARNING SERIES

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Measuring with Purpose and Alignment to Achieve Impact	Nuts and Bolts of Measurement and Evaluation Design
MHLC (July 21, 2021)	Recorded Webinar (August 2021)
Assessing Your Results and Overcoming Challenges	Leveraging the Evaluation: Making the Case and Promoting Sustainability
MHLC (September 15, 2021)	MHLC (October 20, 2021)

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AGENDA

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Measuring with Purpose and Alignment to Achieve Impact MHLC (July 21, 2021)	Nuts and Bolts of Measurement and Evaluation Design Recorded Webinar (August 2021)
Assessing Your Results and Overcoming Challenges MHLC (September 15, 2021)	Leveraging the Evaluation: Making the Case and Promoting Sustainability MHLC (October 20, 2021)

- Learn how to **assess results** and **determine improvement**
- Statistical methodologies for assessing results
- Pros and cons of different statistics
- Overcoming common challenges
- Next Steps: **putting learning to work**

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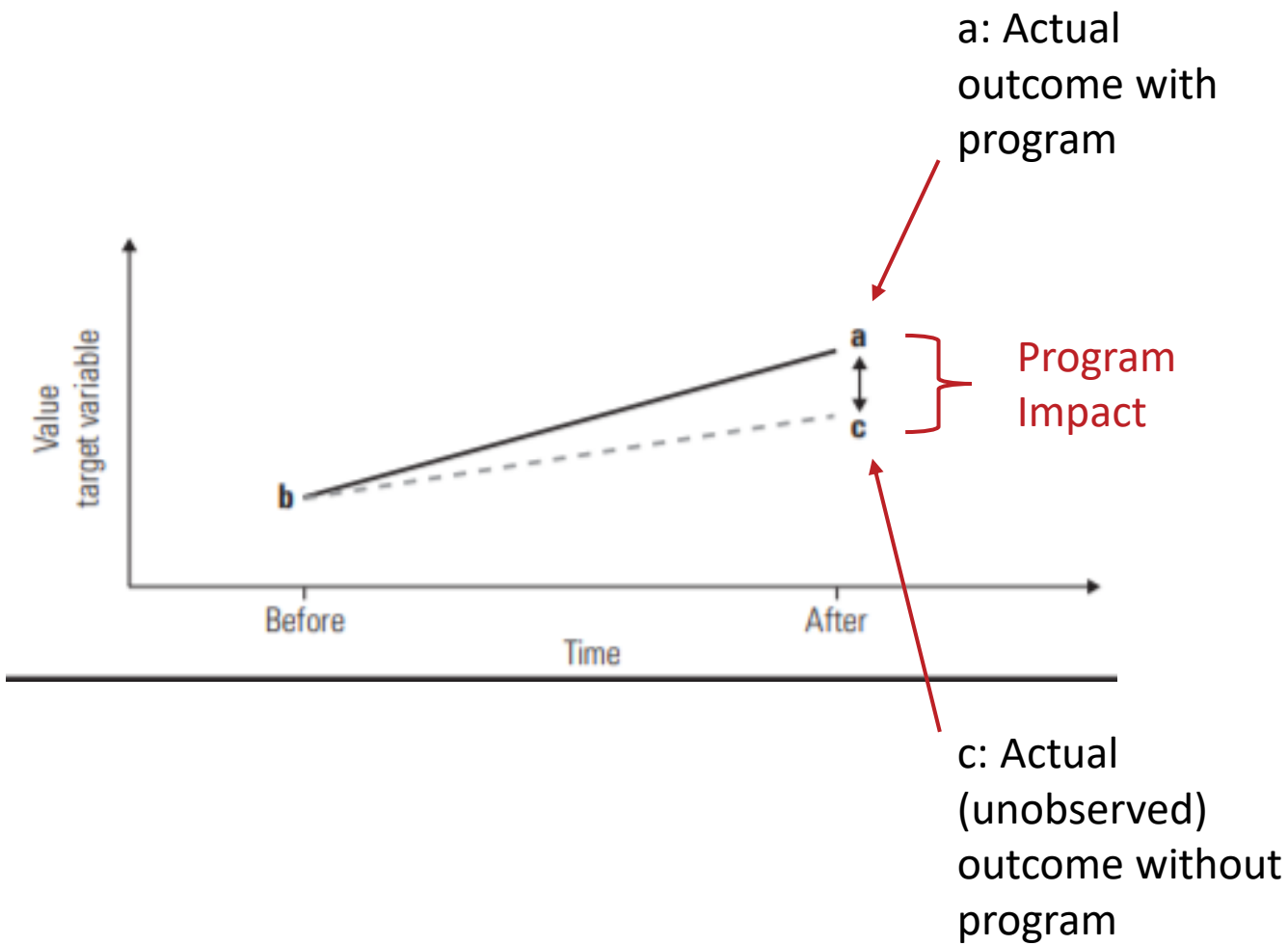
ACHIEVING RESULTS: ATTRIBUTION



"Multiple factors can effect the livelihoods of individuals or the capacities of institutions. For stakeholders it is important to know what the added value of the intervention is, apart from these other factors."

- Address the Attribution Problem, within the Nonie Guidance on Impact Evaluation

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ACHIEVING RESULTS: ATTRIBUTION

ATTRIBUTION QUESTION 1:

- What is the probability that a relationship exists?

  vs.

- What is the probability that what we think is a relationship between two variables is really just a chance occurrence?

ATTRIBUTION QUESTION 2:

- If the relationship does exist, how strong is the relationship?

CAREFUL SELECTION OF A STUDY DESIGN (PART 2) AND STATISTICS HELP OVERCOME THE ATTRIBUTION PROBLEM.

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CASE STUDY: ABC FQHC

The problem: ABC FQHC has a large population of uncontrolled diabetics, with HbA1c poor control rates in the 90th statewide percentile. These high rates impact the clinic's ability to achieve incentive payments from certain payers.

The project: ABC FQHC will contract with a CBO to provide a targeted, evidence-based diabetes self-management program to patients with HbA1c > 8%.

Goal: Reduce HbA1c poor control in patient population.

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STATISTICAL SIGNIFICANCE TESTING: STEPS

- **STATE THE RESEARCH HYPOTHESIS:** expected relationship between two variables.
  - General: providing a targeted diabetes self-management program to patients with HbA1c >8% is related to HbA1c control.
  - Direction: Greater diabetes self-management knowledge, the greater HbA1c control
  - Magnitude: Delivering a diabetes self-management program will result in 2x as many patients with HbA1c control.
- **STATE THE NULL HYPOTHESIS:** no relationship between two variables.
  - Null: Providing a targeted diabetes self-management program to patients will have no impact on their HbA1c control.
- **SELECT YOUR CONFIDENCE LEVEL IN THE RESULTS**
- **ORGANIZE YOUR DATA**
- **SELECT AND COMPUTE THE STATISTIC(S)**
- **INTERPRET THE RESULTS**

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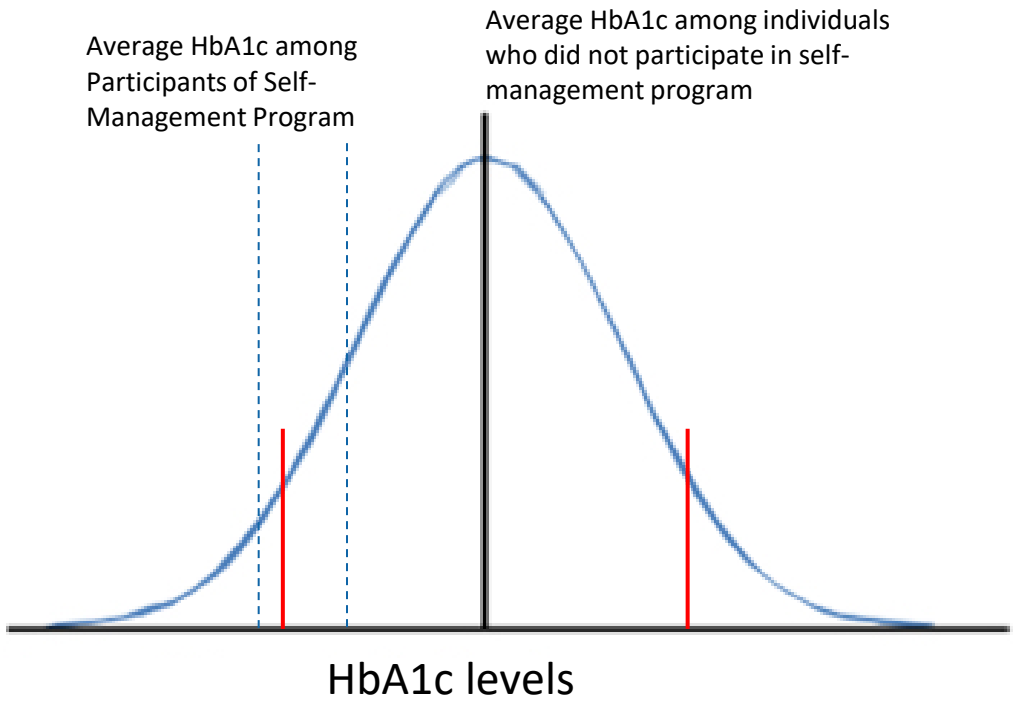
SELECTING YOUR CONFIDENCE LEVEL IN THE RESULTS

- **RESEARCH HYPOTHESIS:** HbA1c for patients in program **differs** from HbA1c of patients not in program.
- **NULL HYPOTHESIS:** HbA1c for patients in program **does not differ** from HbA1c of patients not in program.

Significance Level (alpha = 0.05) meaning 5% risk of concluding that a difference exists when a difference does not exist



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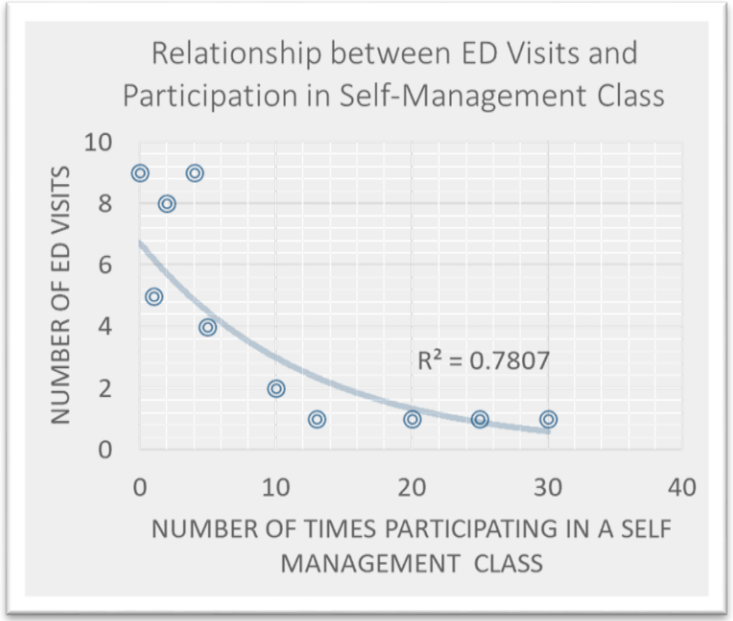
ORGANIZE YOUR DATA

- **INDEPENDENT VARIABLE:** the one variable changed as part of the program (i.e., participation in the diabetes self-management program).
- **DEPENDENT VARIABLE:** the change that happens because of the independent variable (i.e., HbA1c levels).
- **CONTROL VARIABLE:** the variables that stay the same (i.e., demographics).

- **FOCUS: BIVARIATE ANALYSIS**
  - Goal: to determine whether variables are associated with each other; compare between two groups.
  - Example tests: T-Tests, Z-Tests, Chi-Square.
  - Benefits: simple to use, applicable to most MH projects.
  - Shortcoming: indicate only if variables are significantly different or correlated; not the size of the program's effect. Not for more than two variables. Does not control for any other factors.



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SELECTED STATISTICAL TESTS FOR BIVARIATE ANALYSIS

	Z-TEST	PAIRED T-TEST	CHI-SQUARED
WHAT IT DOES	- Compares 2 variables from the same group	- Compares 2 time points (pre/post intervention)	- Compares 2 independent groups
WHEN TO USE	- Samples >30	- Samples <30	- When variables are categorical (eg, yes/no)
HOW TO INTERPRET	- If p <0.05, there is a statistically significant difference between the two groups	- If p <0.05, there is a statistically significant difference between the two time periods	- If p <0.05, there is a significant evidence of a relationship between the two variables
	$z = \frac{[p2-p1]}{\sqrt{(p1*((1-p1)/n1))+(p2*((1-p2)/n2))}}$	$t = \frac{[p1-p2]}{\sqrt{[((s1)^2/n1)+(s2)^2/n2)}}$	$\kappa^2 = \frac{[(ad-bc)^2 n]}{r_1 r_2 c_1 c_2}$

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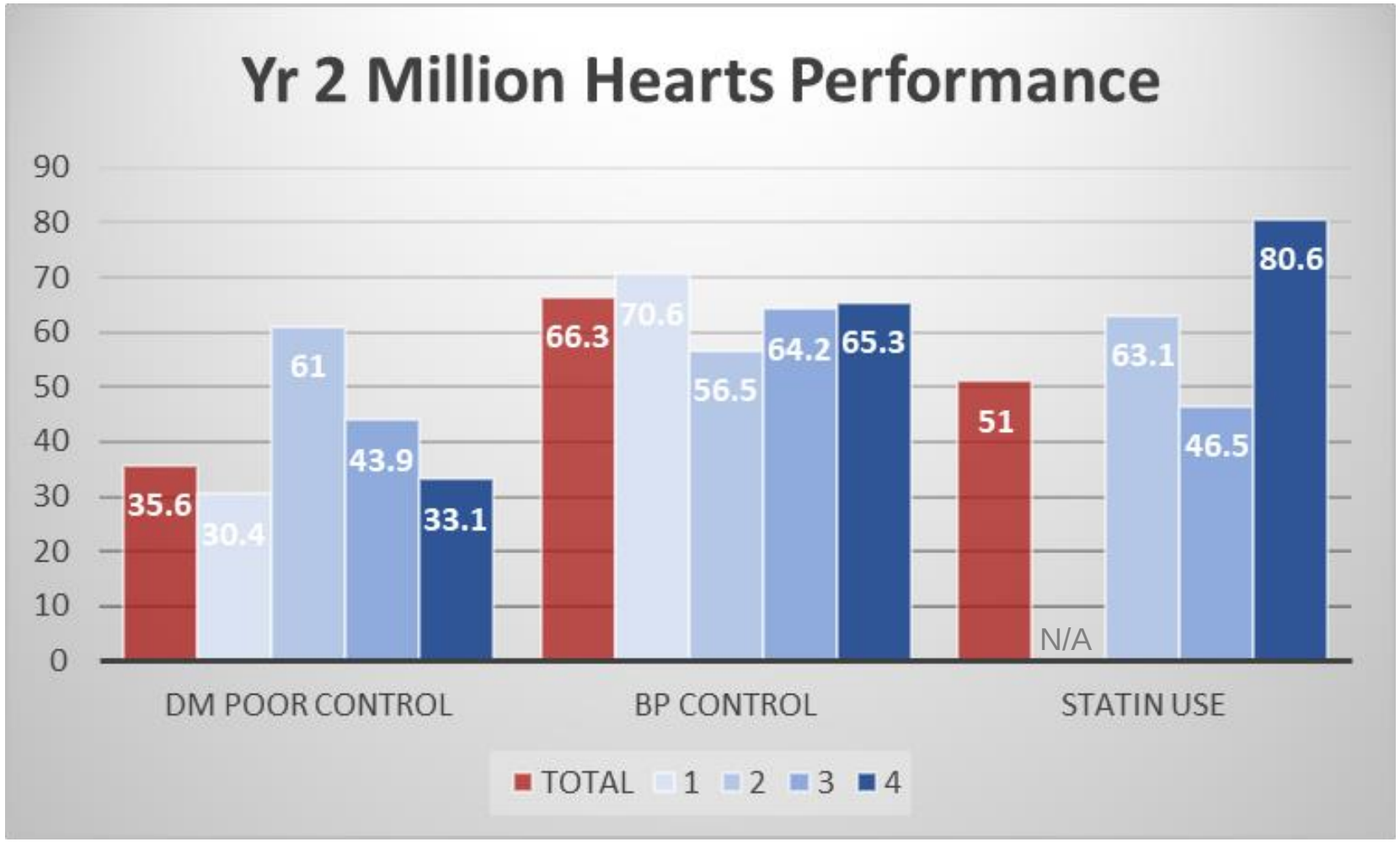
INTERPRET THE RESULTS



Yr 3 BM: 33% | **Yr 3 BM: 68%** | **Yr 3 BM: 53%**

- Year 2 data, June 30, 2019-June 29, 2020
- Based on data reported to DC Health by MH sites (or by DCPCA on behalf of sites)
- Total: All reporting MH sites
- Groups 1-4: individual sites/site groups
- Note: not all sites reported a full year of data. Some sites reported only Q3 and/or Q4.

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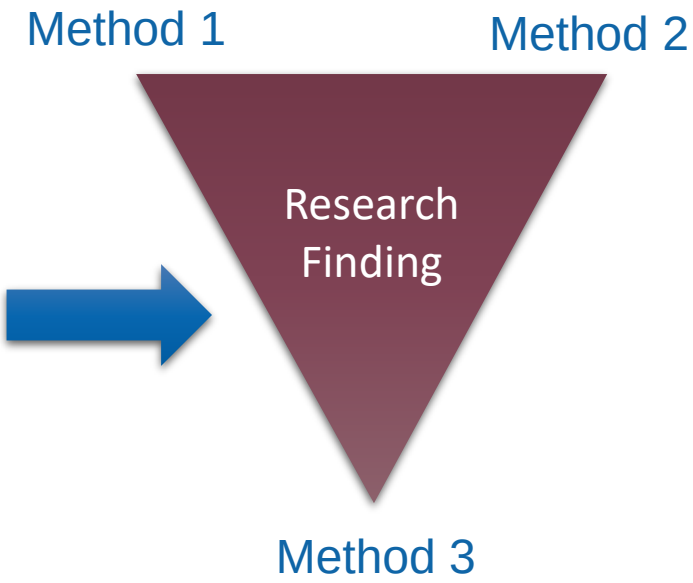
CHALLENGE #1: ASKING THE RIGHT QUESTIONS OF THE RIGHT SOURCE AT THE RIGHT TIME

Questions	Questions about…	Data Source
Needs Assessment	the need for the program	Community stakeholders, Public health data, census
Program Theory Assessment	the appropriateness of program design	Evidence based practices; Literature Review
Process Evaluation	the program implementation	Program Staff; Program Administration Data
Impact/Outcome Evaluation	**reaching the desired outcomes**	**Participants; Program Outcome Data**
Efficiency Assessment	program costs/ return on investment	Program cost data; program outcome data
Quality Improvement	whether program is being implemented as planned	Program staff; Program Administration Data Program cost data



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CHALLENGE #2: DATA SHARING

RECOMMENDED STEPS TO ESTABLISH A DATA SHARING AGREEMENT

1. Identify data needed to answer the research questions
2. Articulate benefit of data sharing to both organizations
3. Identify the organization that own, oversee, or manage the data
4. Identify individuals with responsibility for developing, reviewing, and approving DSA
5. Develop draft DSA
6. Share draft DSA (e.g. legal staff, organization leaders, staff, and researchers)
7. Finalize DSA and obtain signatures of approval from organizations and research partners

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CHALLENGE #3: MAKING SENSE OF WHAT YOU HEAR AND LEARN

INTERPRET THE DATA:

- What story does your data tell?
- What key findings would be of most interest to your stakeholders?
- What do the data say about your organization or program that might need attention?

EXAMINE AND DOCUMENT LIMITATIONS OF THE EVALUATION:

- What were you not able to control for?

DATA INTERPRETATION:

- Involve stakeholders to help you understand data significance and to justify conclusions
- Compare results: against targets set for the program, trends over time, with other similar programs, and/or against standards established by others
- Look for outliers and unexpected results and consider what these insights provide

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CHALLENGE #4: DEALING WITH CHANGE

When what you are doing isn't work

When funders / participants ask you to adjust program aspects

When issue or goal changes

When participants are dropping out at a high rate

When funding or other resources are reduced

Between cohorts/sessions

DEPENDING ON WHAT YOU'VE LEARNED FROM THE DATA, CONSIDER:

- Increase or strengthen your intervention in certain areas or with particular groups
- Change or eliminate elements of the intervention that didn't work well
- Adjust your intervention to changing conditions or needs in the community

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NEXT STEPS: PUTTING LEARNING TO WORK

❑ Bring it back to your team:

- ❑ Statistical methods for evaluating data and overcoming common challenges
- ❑ Try the tool: Stat test template

❑ Discuss with us/your fellow grantees

- ❑ Office hour: September 27, 12-1pm
- ❑ Individual technical assistance: available on request
- ❑ Review this (and other) tools, best practices

❑ Up Next: Evaluation Part 4

- ❑ October 20, 2021 (MHLC)
- ❑ Leveraging the evaluation to promote sustainability

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