

Using formal program planning and evaluation methods to create a program to help diabetic patients self-manage

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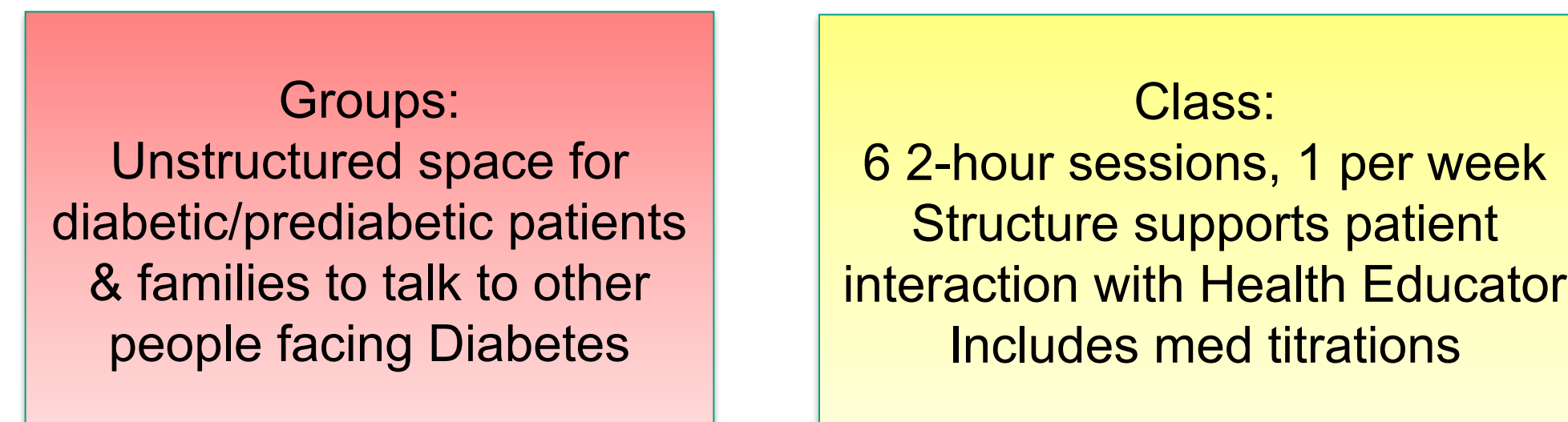


Background

In 2017, 9.4% of adults in the US had Diabetes, and 33% had prediabetes¹. By 2050, the CDC expects that one third to one seventh of adults in the US will have diabetes². Currently, 1 out of every 4 health care dollars spent in the US is on caring for patients with Diabetes, with 1 out of 7 being directly related to diabetes care³. Without developing interventions to address this increase in prevalence, 90-95% of which is due to type 2 diabetes¹, the US healthcare system will be unduly burdened by the cost of diabetes in the future.

Studies have shown that effective self-management can improve both health outcomes for the patient, and decrease costs associated with their care⁴. Kaiser Permanente Napa-Solano has implemented Diabetes Self-management classes (DMC) and Diabetes support groups to support that end, but anecdotal evidence suggests there may be ways to improve the program to better support patient health outcomes.

Fig 1. Group vs. Class structure



Program Planning & Evaluation Principles

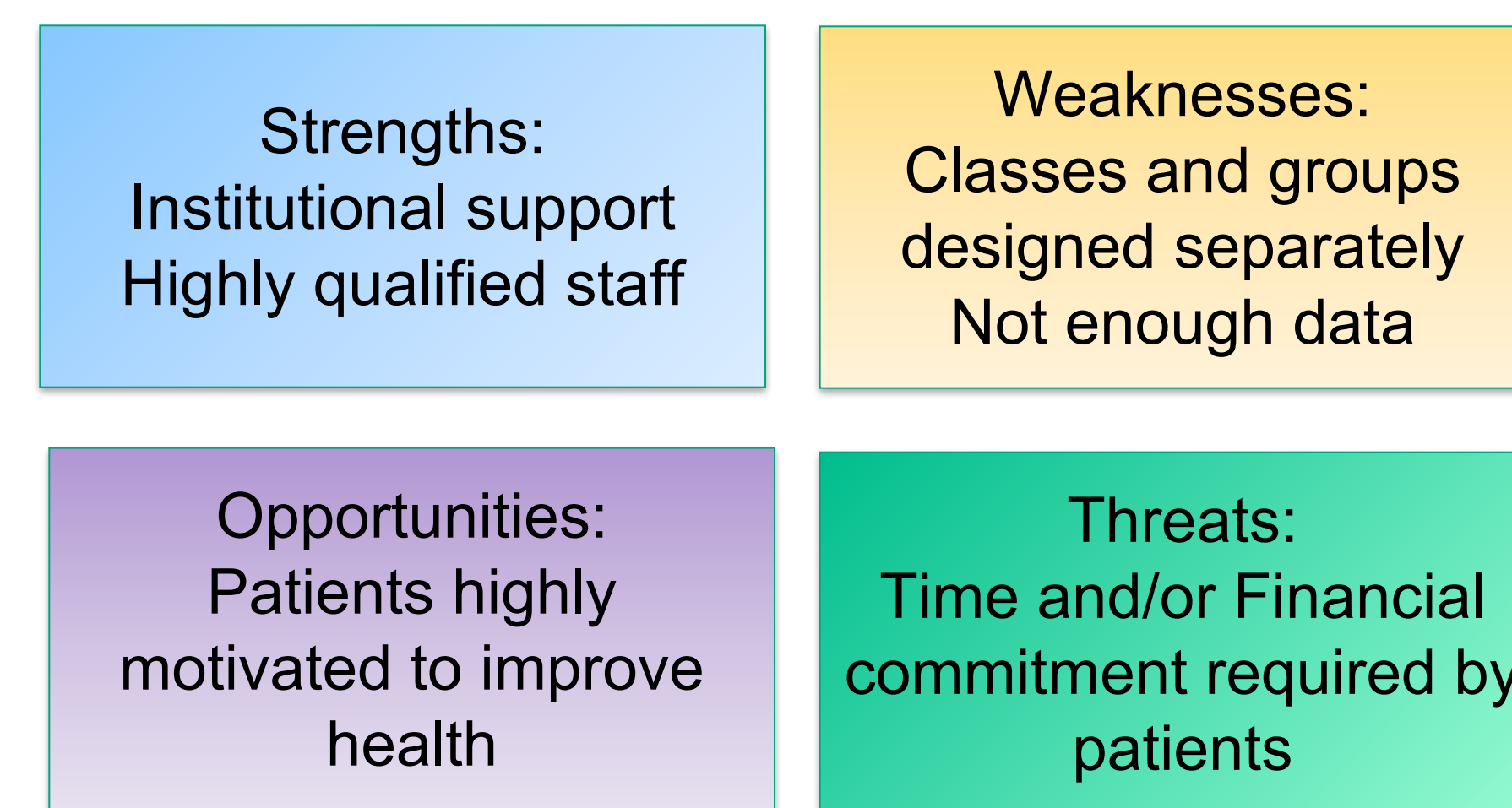
Program planning is a structured approach to designing health interventions, while Program Evaluation is a systematic method of collecting, analyzing, and using information to evaluate if a program was effective and/or efficient. Both Planning & Evaluation require data collection & analysis, stakeholder engagement, and goal setting--often symbiotically. Ideally, the evaluation and program plans should be made in conjunction with each other, because the process of clarifying the vision and concrete goals for one plan will often shape the other. Though there are many formalized models for program planning and evaluation (e.g. PRECEDE-PROCEED)⁵, most of them can be distilled into 5 major components:

- 1: Understand the status quo
- 2: Stakeholder Engagement
- 3: Set Goals
- 4: Create and Implement the plan
- 5: Review.

1. Understand the Status Quo

To understand the status quo, we conducted a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats)⁶ on the existing structure of Kaiser's diabetes self-management program using input from stakeholders. We also conducted a literature review of existing diabetes self-management interventions that were structured to support group interaction, began to analyze pre-post surveys of the Diabetes self-management classes, and developed a protocol for conducting a Video Ethnography project.

Fig. 1: SWOT Analysis



The literature review revealed the following: that programs operating within a hospital⁷ or existing health care system⁸ were more effective than those that did not have this institutional infrastructure; programs were most effective if they lasted six months or longer, and had 10 or more contact sessions⁹; health benefits of program participants were found to have decreased 6 months after the last contact session¹⁰; and classes were most effective if they had both support activities and education, rather than just education^{8, 9}.

2. Stakeholder Engagement

One mistake that program planners & evaluators may make is to not take the time to build trust & a relationship with the appropriate stakeholders. However, stakeholders are generally responsible for the implementation, continuation, and uptake of the program, and if they do not trust the program, the program is more likely to fail¹¹. We identified 3 stakeholders to engage: Kaiser's Napa-Solano health education department, patients and families, and primary care physicians, between June and August 2018.

Strategies for stakeholder engagement include:

- Constant communication, through soliciting feedback and accepting "reality checks," which are explanations from the stakeholder that the program planner's expectations are too high.
- Use evidence--project proposals without evidence are less likely to be taken seriously by stakeholders. Evidence can include things like data, intervention evidence, or formal theory.
- Present a clear vision of the program structure and goals.
- Use the Appreciative Inquiry methodology which focuses on creating institutional change through building on strengths and focusing on the positive⁹.

Putting these strategies to the test, we held many meetings with stakeholders. The program planner attended DMC with patients, and led the final class. She presented literature review findings to the Health Education department, nesting the evidence with formal theory (such as the Health Belief Model and Social Cognitive theory), and presented a vision for what a fully realized program could be. She used this time to solicit feedback, answer questions, and promote collaborative discussion.

Fig 2: Vision for Completed Program

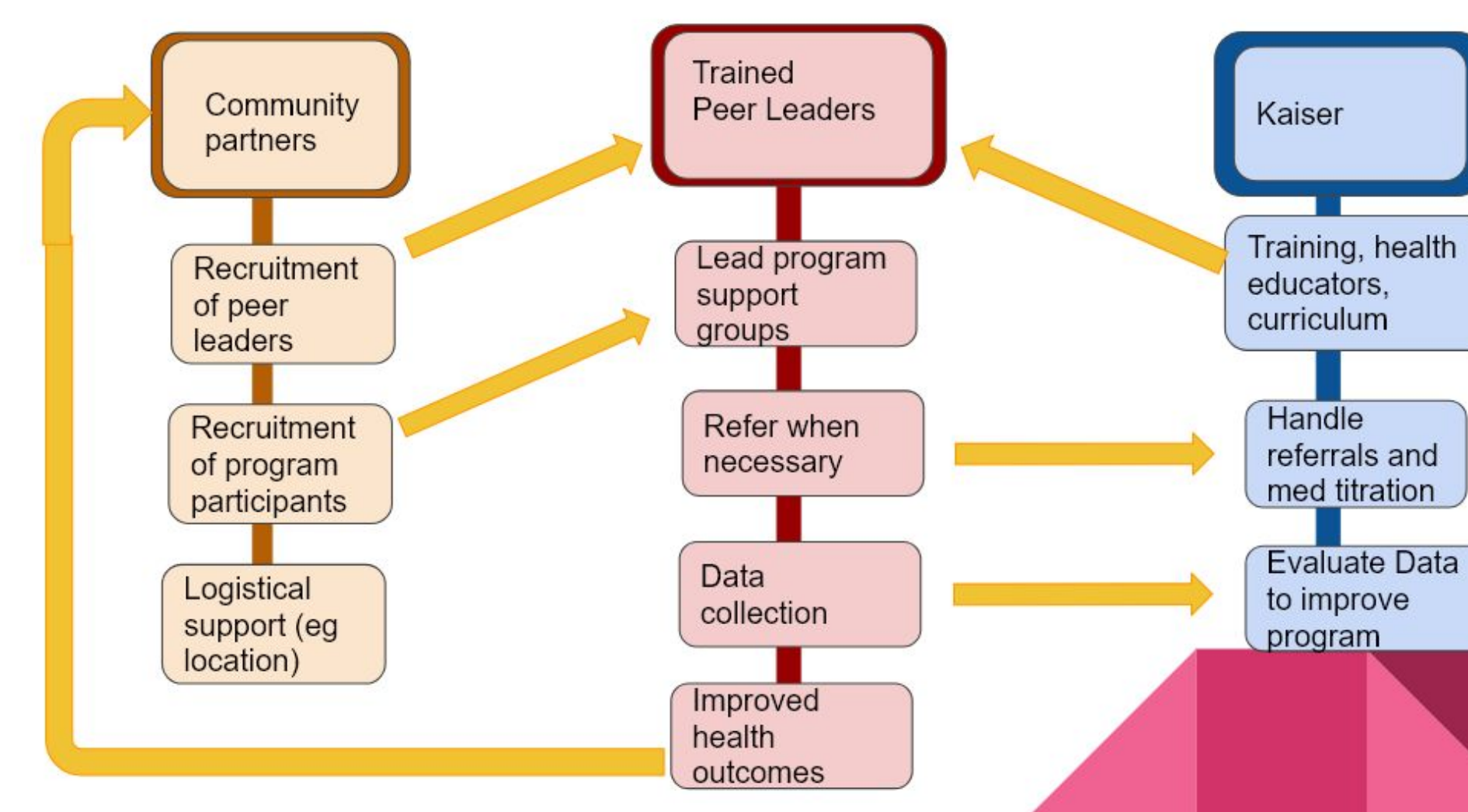
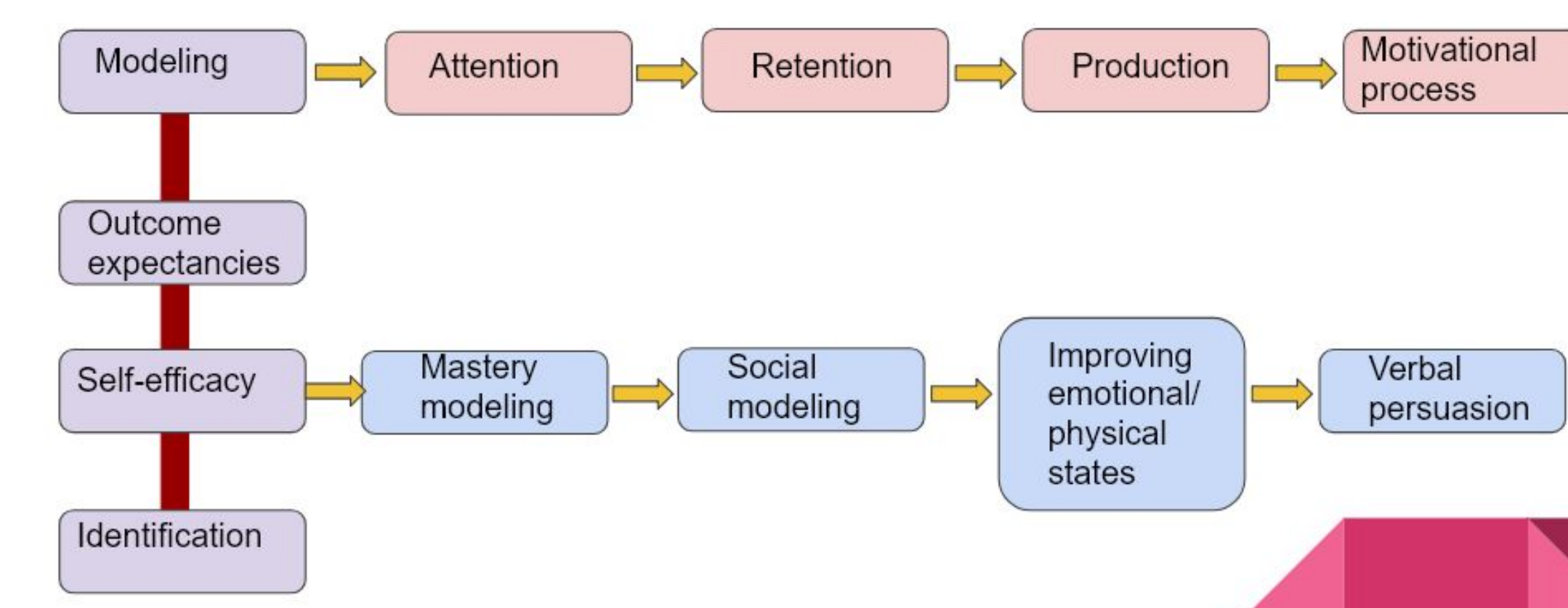


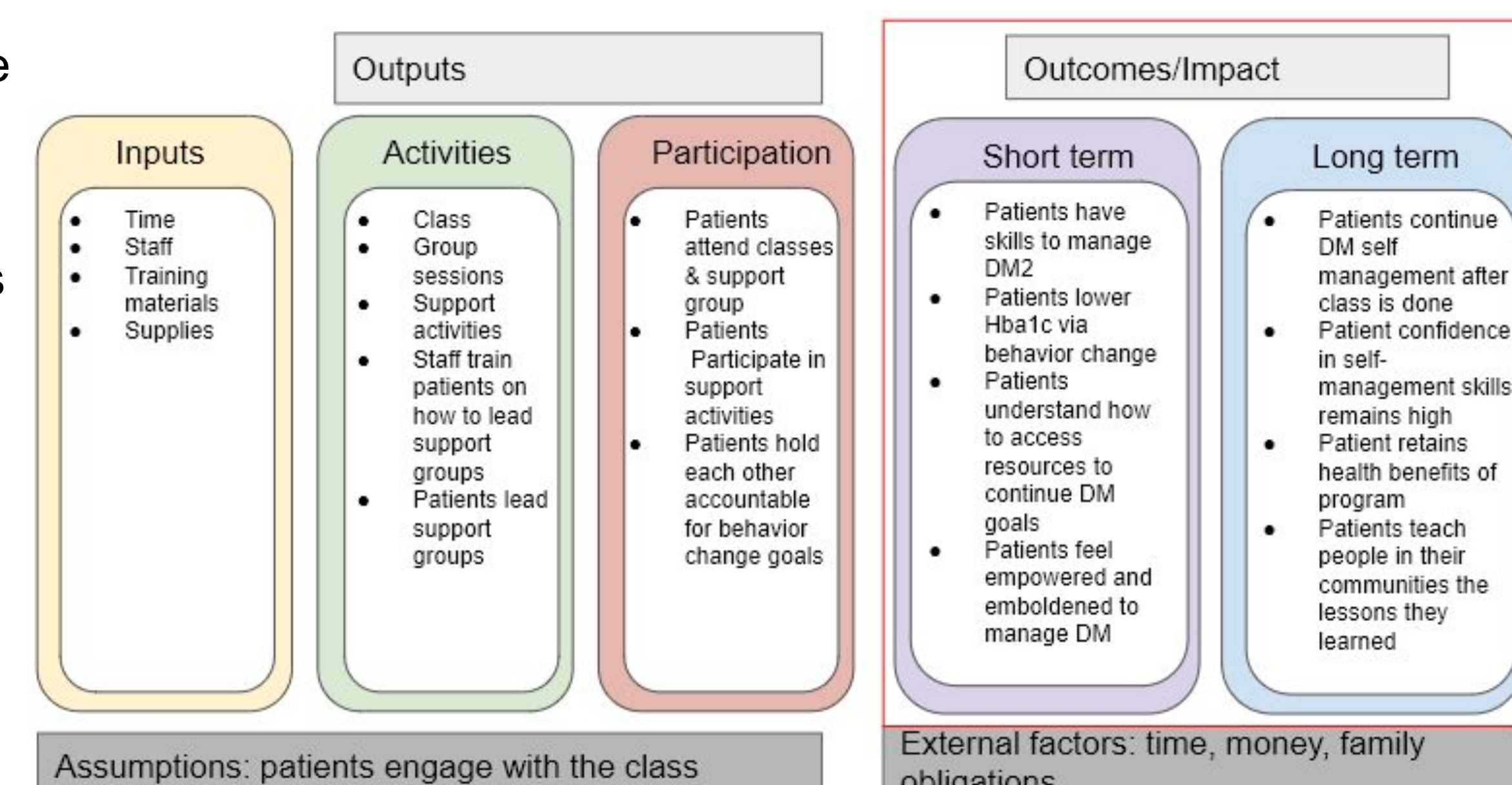
Fig 3: Bandura's Social Cognitive Theory¹³



3. Goal Setting

While the full evaluation plan we intend to make should incorporate the data that we will collect, we can jump-start the process by making initial SMART (Specific, Measurable, Achievable, Relevant, Time-bound)¹⁴ goals based on current feedback from stakeholders, and edit them later as the data merits. SMART goals help the program planner identify what they want to measure, so they can ensure that the program they build will support measuring those goals. To develop the SMART goals, we created a Logic Model, emphasizing the impact and outcomes the program should ideally achieve.

Fig 3. Logic Model



Based on stakeholder analysis, the short-term goals of the program that we identified are that patients will improve their Hba1c levels, weight, physical activity levels and meal planning. Based on the literature review, we determined that the desired long-term outcomes of the program are that patients will be able to continue effective self-management after they complete the program, and that they will share the lessons they learned with people in their community.

With these aspirations in mind, we created the following provisional short-term and long-term SMART goals, including "reality checks" from the stakeholders: By the end of the program, 75% of enrolled patients will have decreased their Hba1c levels by 15% or more, and patients with a BMI of over 28 will have lost 5 pounds or more. Six months after the program has ended, 50% of patients that met the short-term goals will have retained 75% of their health outcomes (i.e. reduced Hba1c levels and weight loss), and patients will have shared at least one self-management best practice they learned with 5 people.

Future Direction: Steps 4 and 5

For the next phase of the program development, we will: complete the video ethnography and analysis (which is currently going through the approval process); complete pre-post survey analysis; use collected data to create the program plan and evaluation plan; implement both the program and evaluation plans; develop and implement a survey instrument to measure program effectiveness; and identify components for improvement.

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