

# **HOW TO APPLY THE MULTIPHASE OPTIMIZATION STRATEGY (MOST) IN YOUR INTERVENTION DEVELOPMENT RESEARCH**

## **Module 6**

**Completing the optimization phase and  
identifying your next steps**

**Lesson 4: Beyond the optimized intervention**



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# In the previous lesson you learned how to:

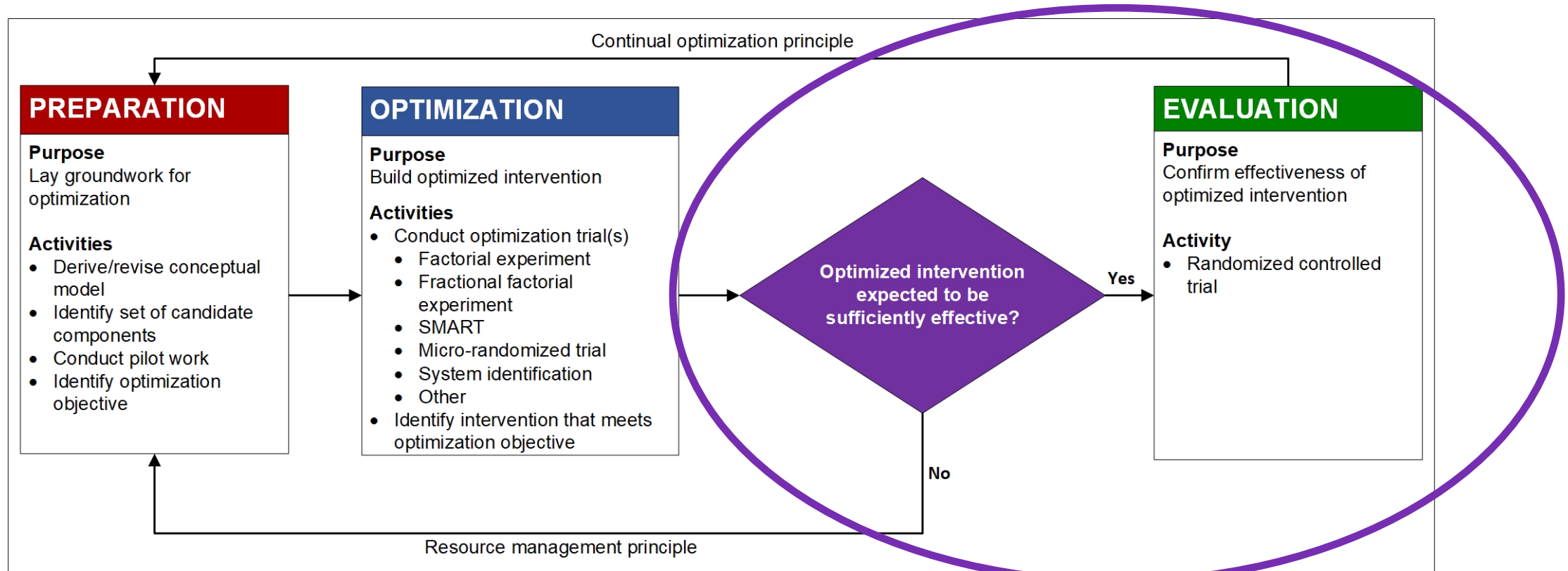
- Implement current practices in an example
- Relate the decision-priority perspective to identification of the optimized intervention



# In this lesson you will learn how to:

- Understand the alternative possibilities for next steps
- Relate the resource management and continual optimization principles to the decisions about next steps





**Flow chart of the three phases of the multiphase optimization strategy (MOST). Rectangle = action. Diamond = decision.**

Figure adapted from Collins, L.M. (2018)

# **You've completed the optimization phase of MOST. Now what???**

- The optimized intervention

will

or

will not

be sufficiently promising to go on to the evaluation phase and scaling up the intervention.

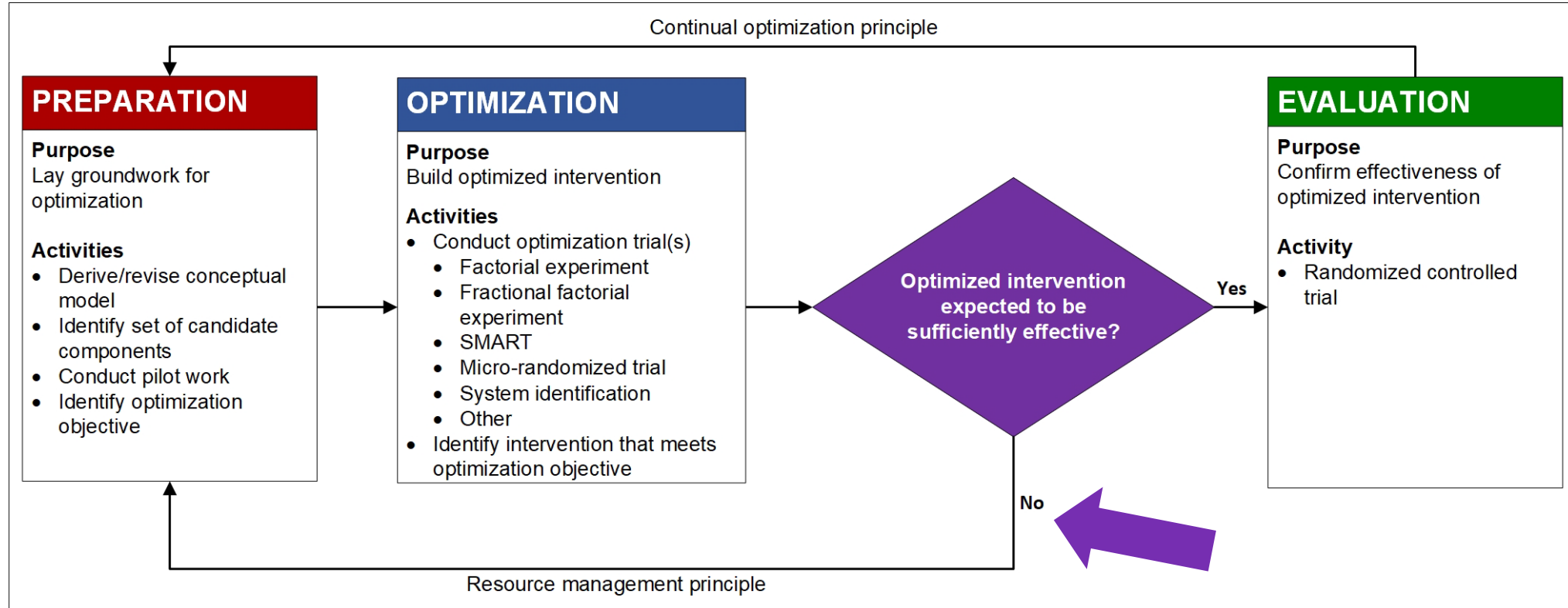
“Sufficiently promising” here means likely to show a clinically and statistically significant effect in an RCT that would take a reasonable sample size to power.

# How to tell whether the optimized intervention is sufficiently promising

- Optimization of an intervention does not guarantee effectiveness
- If, based on the results of the optimization trial...
  - Very few (or no) components are selected for inclusion in the optimized intervention
  - The components that are selected have weak effects
- ...the optimized intervention may not be sufficiently promising



# Next steps if the optimized intervention is not sufficiently promising



**Flow chart of the three phases of the multiphase optimization strategy (MOST). Rectangle = action. Diamond = decision.**

Figure adapted from Collins, L.M. (2018)

# **Next steps if the optimized intervention is not sufficiently promising**

- The resource management principle suggests it would be a waste of resources to conduct an RCT
- Moreover, it may be unethical to conduct an RCT
- Fortunately, within the MOST framework the next steps are clear

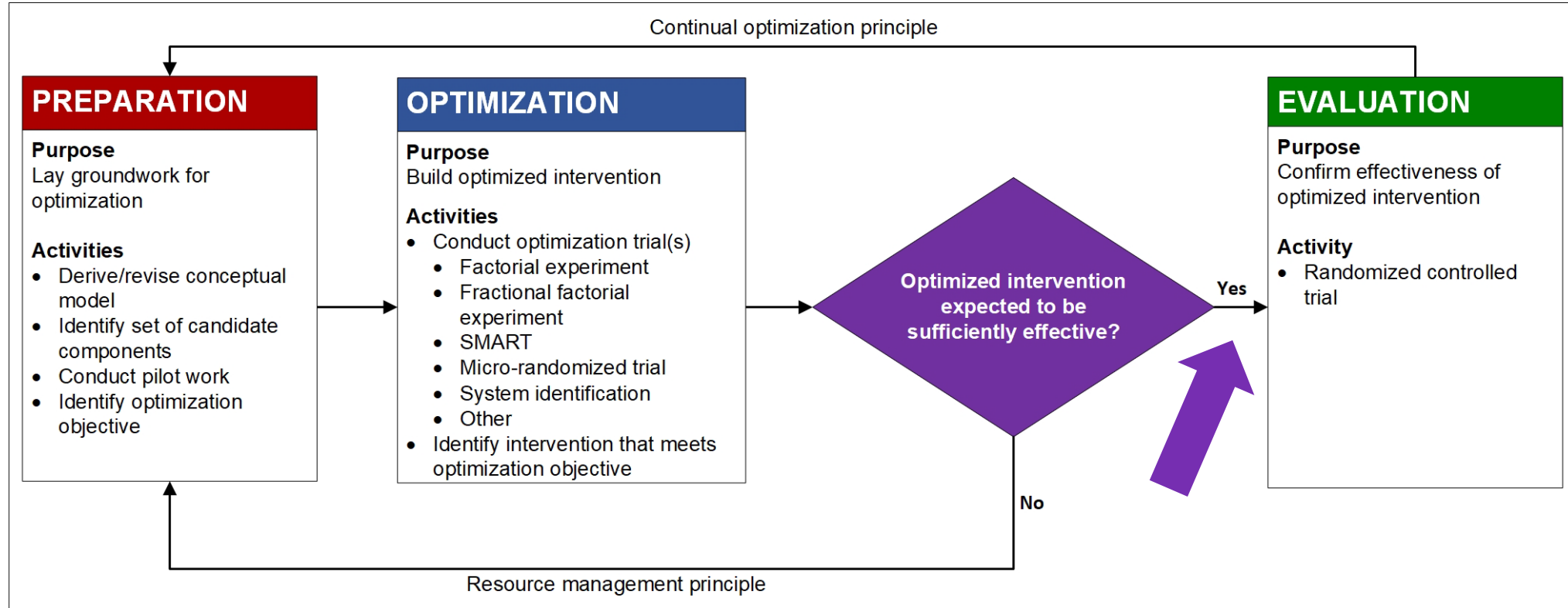
# **Next steps if the optimized intervention is not sufficiently promising**

- Based on the optimization trial, you know A LOT
- You know which components showed evidence of effectiveness
  - You can keep these
- You also know which components did not perform well
  - This tells you where improvements can be made

# **Next steps if the optimized intervention is not sufficiently promising**

- Then, return to the preparation phase
- Refine the conceptual model
  - Secondary analyses on data from the optimization trial can be tremendously helpful here
- Conduct another optimization trial

# Next steps if the optimized intervention is sufficiently promising



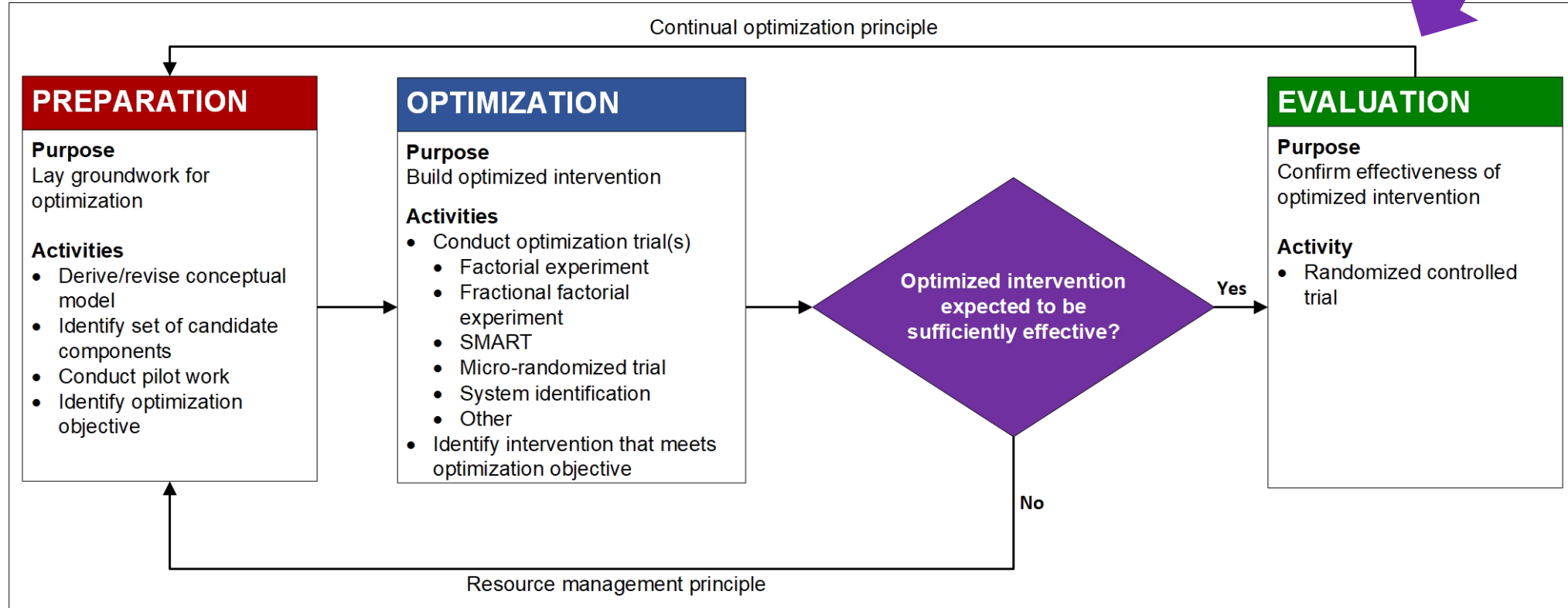
**Flow chart of the three phases of the multiphase optimization strategy (MOST). Rectangle = action. Diamond = decision.**

Figure adapted from Collins, L.M. (2018)

# **Next steps if the optimized intervention is sufficiently promising**

- You may wish to evaluate the intervention in an RCT
- Are you done? Not according to the continual optimization principle!

# Next steps if the optimized intervention is sufficiently promising



Flow chart of the three phases of the multiphase optimization strategy (MOST). Rectangle = action. Diamond = decision.

Figure adapted from Collins, L.M. (2018)

# **Next steps if the optimized intervention is sufficiently promising**

- You may wish to evaluate the intervention in an RCT
- Are you done? Not according to the continual optimization principle!
- You learned A LOT from the optimization trial. You know the intervention's weak points
- Return to the Preparation Phase, refine the conceptual model, and work on improving the intervention



# Is an RCT absolutely always necessary?

- You may not always need to conduct an RCT.
- The results of the optimization trial may be so clear that an RCT would be redundant.
- Methods are needed for deciding whether an RCT is required, or it would be reasonable to go straight to implementation and scaling up

# In this lesson you learned how to:

- Understand the alternative possibilities for next steps
- Relate the resource management and continual optimization principles to the decisions about next steps



# In the next lesson you will:

- Review what you have learned in Module 6



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