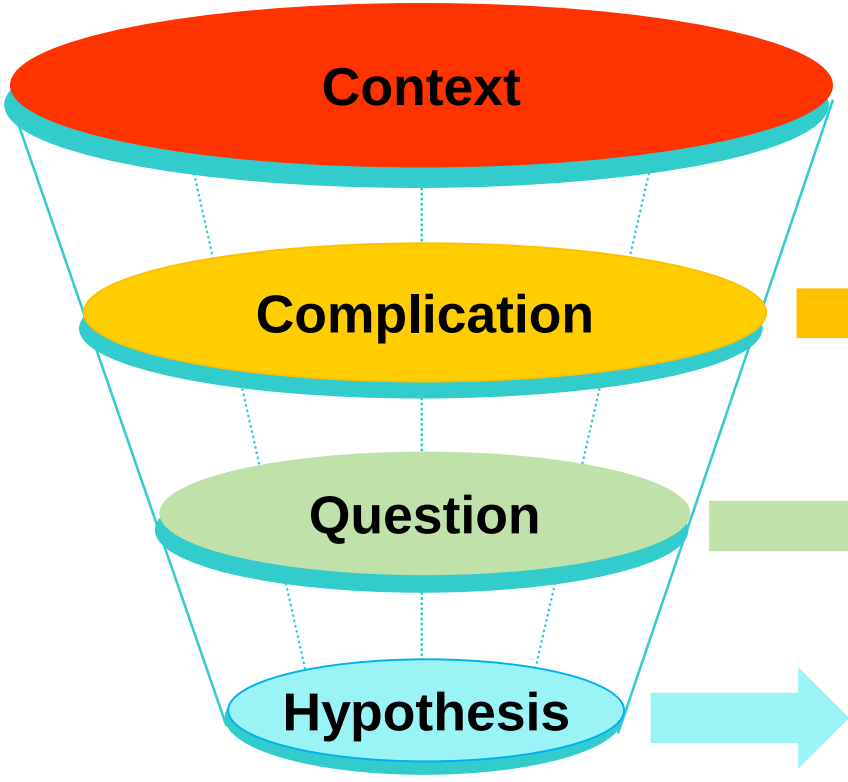
Recall that we begin a presentation with the introductory CCQH pattern -- moving from "big picture" to well-defined problem/hypothesis



Context gives the big picture

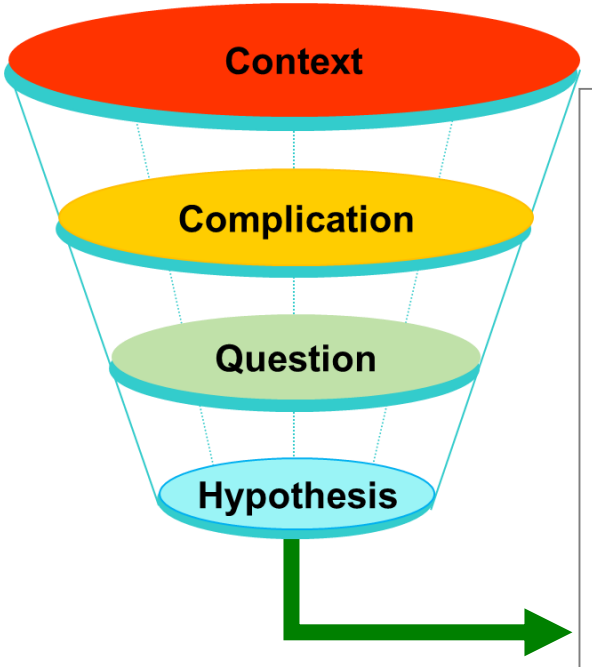
Complication tells us what's unknown or uncertain about the issues raised by the context

The Question raised by the complication should be answerable in a way that will resolve the complication

The Hypothesis focuses not only the work itself but the presentation

This introductory rhetorical pattern is like a funnel – moving from the big/general to the narrow focus of the hypothesis

And recall how in Part 1 we applied the CCQH pattern to create an introductory slide for an actual neuroscience experiment

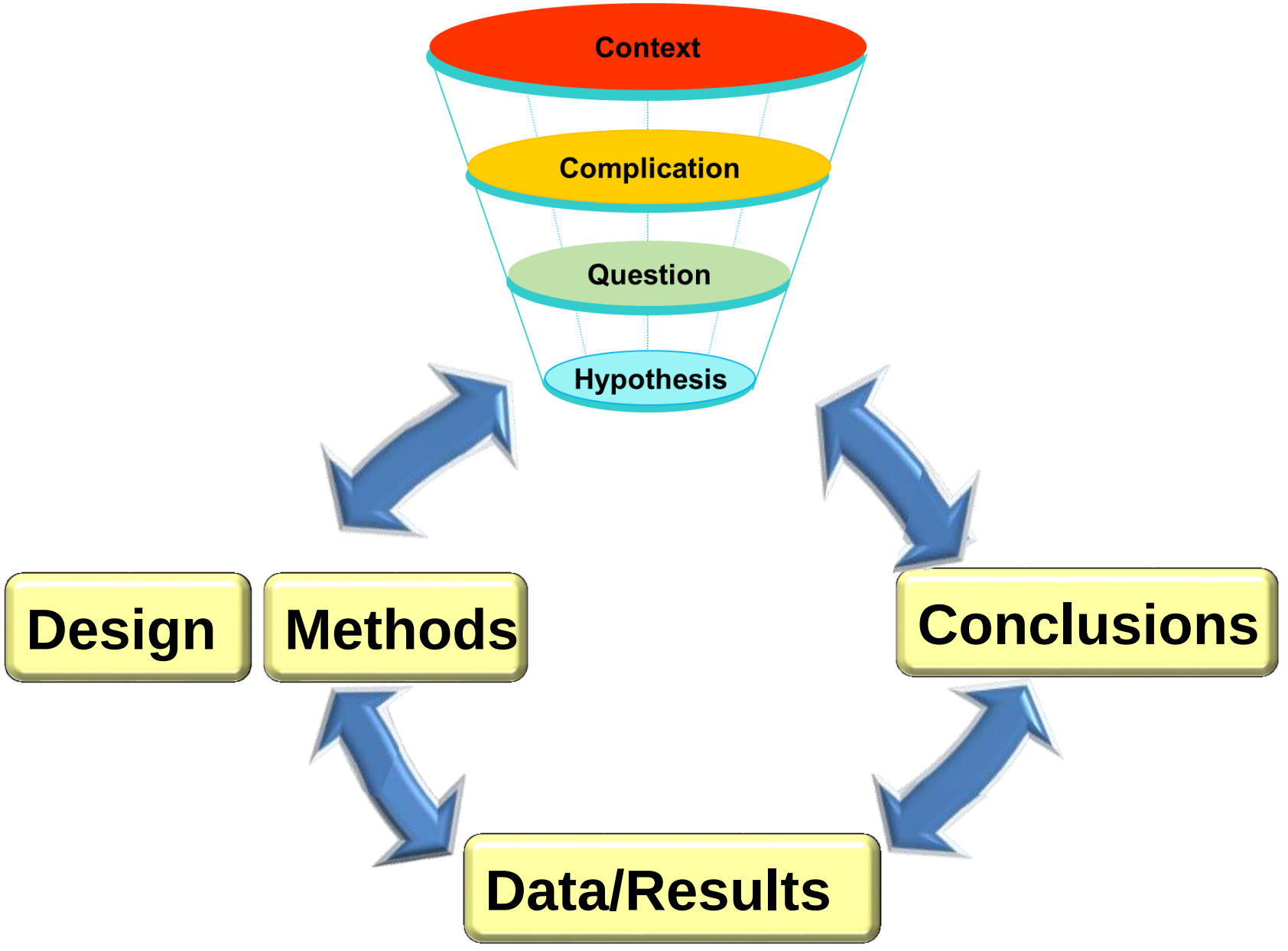


Our research work: how Amyloid-β oligomers/dimers isolated from deceased human subjects can impair synapse structure, function

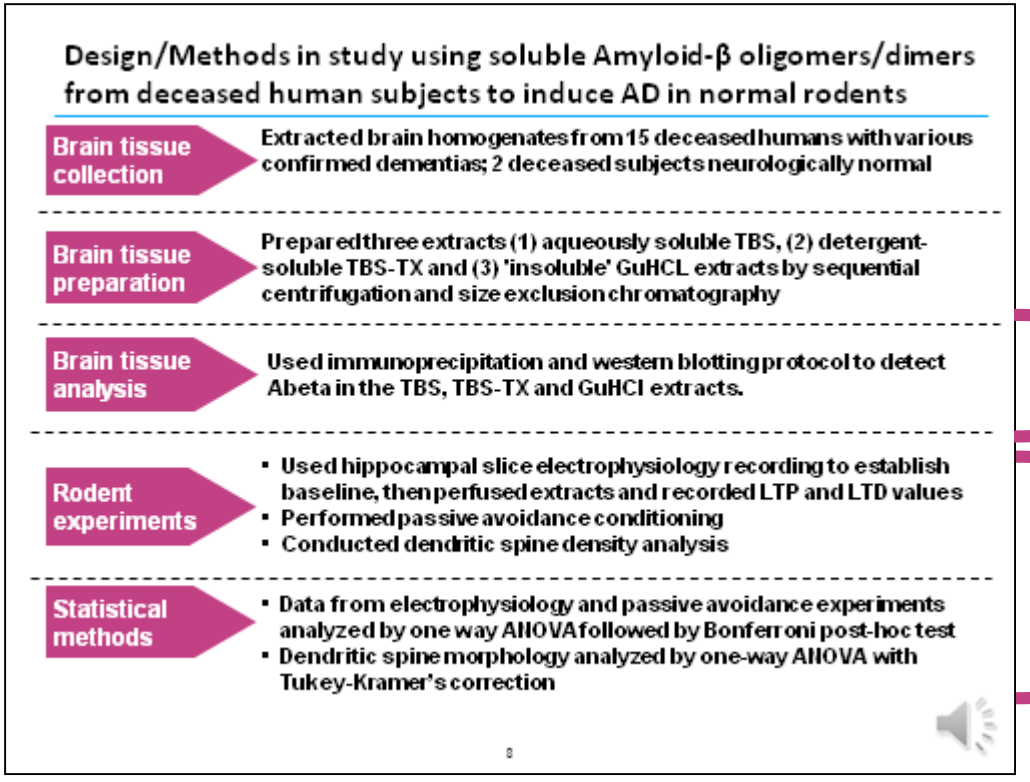
Why this research is important	Alzheimers disease (AD) is a critical health problem. Disease distinguished form other dementias by accumulation of Amyloid-β
What we know and don't know	Neuronal alternations can be induced in mice by using synthetic Amyloid-β peptides; Amyloid-β species from cultured cells; Amyloid-β assembly forms. But soluble Amyloid-β extracted from humans has not been used; and thus pathogenic activity from human species is unknown.
Our experiment	Use soluble Amyloid-β oligomers isolated from cerebral cortex of deceased human subjects with Alzheimer's disease to induce Alzheimer phenotypes in normal adult rodents
Our hypothesis	Soluble A-β from human Alzheimer's diseased brains would impair synapse structure and function, specifically by the actions of A-β oligomers and dimers.

10

After the intro we need to create the other three components of the presentation – Design/Methods; Data/Results; Conclusions



Your Data/Results make up the bulk of your presentation; make sure they map on precisely to the methods you used to gather data



Levels of Abeta

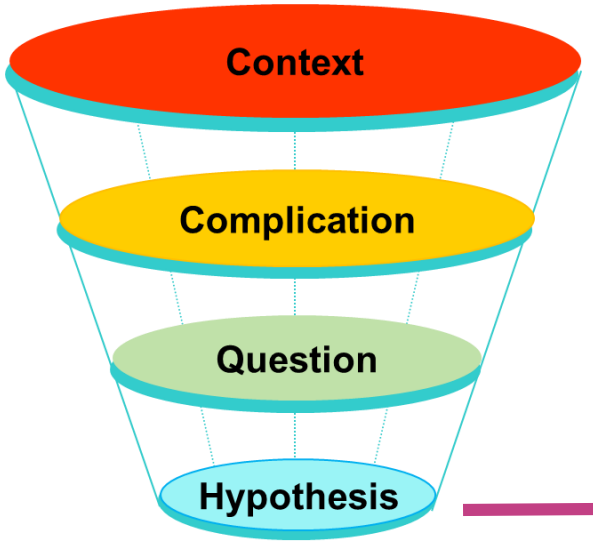
Electrophysiology results

Passive avoidance results

Dendritic spine density analysis

Avoid the hazard of getting bogged down in data discussion – keep in mind that you should devote 1 to 1.5 minutes per slide

Finally conclusions should circle back to hypothesis: was hypothesis correct? If so why, if not in whole or part, why not? ONE SLIDE.



Our research work: exploring how reducing maternal nutrition affects the brain serotonin levels of fetal baboons

Why this research is important	Serotonin deficiency -- specifically, levels of serotonin receptor 7 (5-HT7R) -- linked to • attention deficit hyperactivity disorder • depression • decreased executive function.
What we know and don't know	Maternal Nutrient Reduction (MNR) reduces transporter protein expression in fetal baboon frontal cortex However, actual reduction of protein expression itself due to MNR has not been studied.
Our experiment	Measure level of 5-HT7R in brains of fetal baboons whose mothers are subject to reduced nutrients Also, measure its critical precursor, the tryptophan hydroxylase (TPH) protein.
Our hypothesis	At 165 days of gestation (dG; term ~184 dG), is MNR accompanied by reduced protein expression of: • 5-HT7R in fetal frontal cortex and • TPH in raphe nuclei

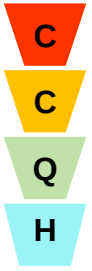
8

Conclusion: soluble Abeta oligomers extracted from Alzheimer'sdisease brains potently impair synapse structure and function

Final structure – Organize with 10-12 slides max – 1 to 1.5 minute of talking per slide (exception Intro) should be the outer limit

1

Intro –
2 minutes



2

Design Methods

3

Design Methods

4

Data Results

5

Data Results

6

Data Results

7

Data Results

8

Data Results

9

Conclusions

10

Next Steps