Developing your grant story

To write a grant, you must have a grant story.

The grant story is a description of how your proposed research project fits into your field. The structure of the grant story, by its nature, makes your grant idea exciting. This is because the grant story logically demonstrates how your idea fills a gap in the field that lots of people care about filling, and scientists are excited about messy problems getting fixed and unsightly gaps in knowledge getting filled.

Your Specific Aims page tells your grant story; the Significance section of NIH grants tells your grant story; the Innovation section of NIH grants excerpts bit of your grant story.

I contend that all science grant stories follow a basic structure. The grant story is not a story if it is missing one if its parts. (PS, it's just *Harry Potter*, but for science)

Basic Structure of a Grant Story	Structure Relevant for Most Grants*
1. Problem 2. No one solved it yet 3. I got something new 4. Here's my plan 5. Happy ending	1. Bigger Problem many folks care about 2. Contributing factors/unappreciated factor 3. Problem my grant solves 4. No one solved it yet 5. I got something new 6. Here's my plan 7. Happy ending

* because the problem/gap-in-knowledge that your grant solves is almost always a sub-problem (smaller gap in knowledge) of a bigger problem/gap that many more people care about

	Structure of the Grant Story, with Detail
1	Big problem
2	Contributing factors (or unappreciated factor(s))
3	Your problem
4	Demonstration that your factor/problem an important factor
5	What has been tried to address Your Problem
6	Transition into what *you* have been doing to solve this problem This can include/be, e.g., a direct statement about what is needed to fix the problem, or narrative about how you got into this area.
7a	What you have/know that is new: your prelim data, information from the literature, a serendipitous finding
7b	Here it might make sense to discuss caveats to, limitations of the current state of knowledge
8	The hypothesis or model your preliminary data and reading of the literature suggest
9	What remains to be done / the limit of your special things, what your prelim data leaves unknown (i.e., why you need the money)
10	Your plan (briefly)
11	Happy ending (direct outputs, benefits (interpretation of outputs), long-term potential of the work

Process for developing YOUR grant story:

Read the structures. Then read over all the prompts in the table below. Then brainstorm responses and make notes in the boxes on the right.

Some ideas about top-level, clinical problems in biomedical research (which could be the "Big problem" your grant is aiming to solve) are listed towards the end of this document.

When the prompts use the word 'you', this means you, your lab, plus your collaborators.

	Structure	My Grant Story
1	**Big problem** Pick the most appropriate, top-level, clinical problem and write it here. (This step makes sense for most grant ideas) Describe, define, and/or document the big problem.	
2	**Contributing factors (or main factor, or unappreciated factor)** Describe, define, document the contributing factors. Questions you might address: What are the main reasons that this problem continues to exist? Why has this question remained unanswered? What are the main contributing factors to the Big problem?	
3, 4	**Your problem (= 1 contributing factor) and why you know it is an important contributing factor.** Which of these contributing factors do you think is the most important factor (or a key factor) and why do you think that? Alternatively, have you identified a contributing factor that no one else has yet appreciated? If yes, state that and why you think it is a contributing factor. This probably is the problem your grant will solve (or is closely linked to it, but doing this makes it hard to write a clear story) You might include the consequences of not solving the problem.	
	You *might* need to add a paragraph or two to educate the reviewer about areas they may not be familiar with.	

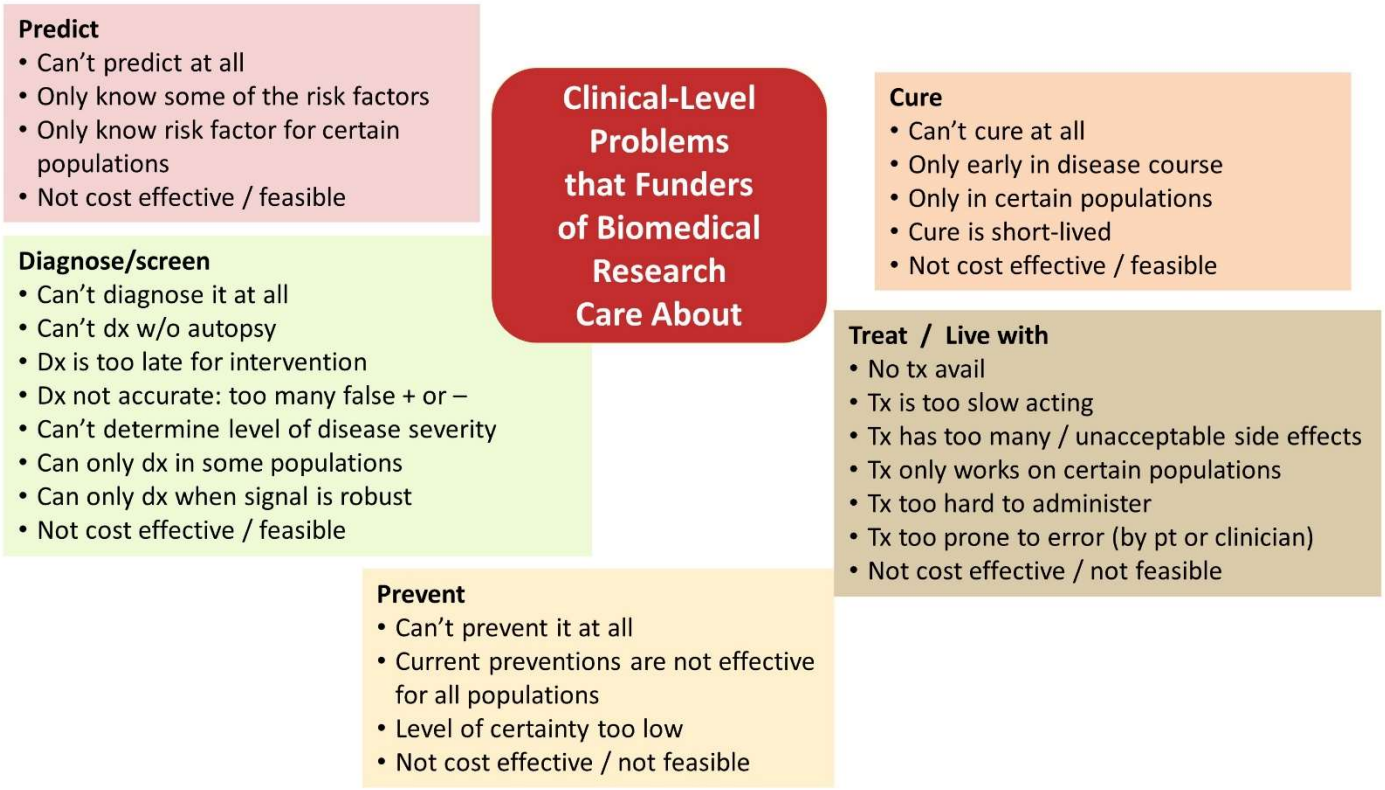
5a	**What has been tried to address your problem.** Here is where you identify the relevant studies of others. You can describe what they contributed and what any shortcomings were. What have people in your field been doing to try to fix the *key* contributing factor?	
5b	***Why* the things people have tried have not worked to fix the problem.** You need to propose a reason / interpretation about why each of these things has not worked. Because this sets you up to present your idea because you are proposing that your approach *will* succeed by fixing the reasons that the others failed. If you are proposing a novel contributing factor, you might state why no one appreciated this factor before.	
5c	**Caveats/limitations to studies by others** This might have been included in the previous point, or you might need to address this separately.	
6	**Transition into what has happened that makes you think you and your team have a solution.** This might include: - How you got into doing the preliminary work, i.e., what suggested to you that you perform the preliminary experiments that you did perform. -What has been the prevailing model of how your system works? -What happened in the field that made you think differently? -How did you interpret the current literature that lead you to think differently	
7	**Our preliminary data** Summarize your results and how you interpret them.	

	This should convince the reviewer that you have a decent chance of succeed in reducing the contribution to the Big problem of your key contributing factor.	
8a	**Your hypothesis and/or model of 'how the world works'.** Your hypothesis should be specific and be the thing you will test in this grant. Alternatively, or an addition, you can describe, in straightforward language how the characters in your story interact (your 'model' of how the system works). Describing a model is a good way to tell the reader how you think things work (even though you won't be testing all aspects).	
8b	**Additional small bit of background information needed for reader to understand your hypothesis** (you may or may not need this)	
9	**What remains unknown / what your preliminary data (and work of others) leaves unknown.** State what remains unknown, i.e., where your preliminary data 'ends' and where the proposed experiments pick up. You may need to do this for each chunk of data that forms the preliminary data for each Aim.	
10	**Your plan – i.e., a summary of your Specific Aims** (i.e., the main objectives of the grant)	
11a	**Happy ending – near term: Expected outcomes** If you complete the Specific Aims, which specific things ('outputs') will then be known, and how will you interpret those outputs? (you almost certainly will interpret them as fixing the problem, or filling the knowledge gap, you identified at the beginning.)	

11b	**Happy ending –in the future: Impact** What are the things that the work probably will enable in the medium term (1-2 years) might enable in the longer (5 years) term? NB: these need to be specific and believable, even though they are hypothetical	

Bigger, clinical-level problems your grant idea will probably contribute to fixing.

My guess is that your research project idea will fit within one of these categories. If you don't know which 'Bigger problem' to start with, pick one of these.



Generic Grant Story

Your grant story will read something like this; different ideas/projects will place more emphasis on specific parts, but almost certainly your story will allude to all of these:

1. There has been a big, outstanding problem in our field; it is causing havoc of all kinds. Many people want it fixed.
2. This problem is actually made up of lots of smaller problems, some of which still haven't gotten fixed, and some of which still have not been identified.
3. In our opinion, this one particular small problem is the most (or one of the most) important contributor to the big problem.
4. Lots of groups have tried to solve this smaller problems, and here's a list of the things they have tried, [or, it has only recently come to light that this small problem is a contributor to the big problem.[

5. Unfortunately, what they tried did not work all the way, for a variety of reasons we will now describe. [or, the reason that what they tried didn't work is that they didn't think of a thing that we are now thinking of.[
6. Our team looked at the situation and thought about it differently (because of xx).
7. So, we did some stuff, which we will now describe. The results of this work indeed demonstrate that we might have a better solution for the small problem. And our work lead us to a new hypothesis.
8. But, what we did so far is only suggestive, we still have lots of things we need to find out, and here's a list (the aims of the grant).
9. Once we find out these things, we will have solved the small problem. And, because we have solved the small problem, things with the big problem will get better too, in ways we will now state/speculate about!