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FURSCA

End of Summer Report

## Empowering Young Patients:

### *Illustrating Chronic Illness through Graphic Medicine*

For my FURSCA project this summer, I wanted to increase health literacy for young kids about the pathophysiology, or disease processes, of common chronic diseases affecting children. I decided that short graphic novels or comic books about pathophysiology would be the best way to teach this material. This is because learning about difficult subjects with both words and pictures has been proven to increase understanding and retention of material. This summer, my main goal was to create a rough draft of the diabetes graphic novel, but I also spent a lot of time preparing for all my future works by researching graphic medicine, how to write for kids, and four common chronic illnesses in children: diabetes, cystic fibrosis, epilepsy, and leukemia. This research sets me up to write four short educational graphic novels about the aforementioned chronic illnesses for children in the first- to third-grade range, which is the aim for my senior honors thesis.



### What have I learned while researching?

#### 1) *It's hard!*

Writing a full book is hard! Getting started, having motivation throughout, and making decisions has been difficult. Of course the writing process is known to be hard, and admittedly I do not love writing (art is my strong suit), but I did not anticipate how many changes, drafts, and revisions would have to occur to create a full rough draft.

From this I learned to accept that sometimes the motivation is just not there, and it's more effective to move on to something else during those periods. I interviewed a professional health communications writer who works on medical comics for kids, and he helped me realize that the decisions I make for a creative project are my own, and I do not need to get stuck on justifying them, outside of the fact that I choose to do the project in this way.

## 2) *Storyline*

There were so many questions and ideas to sort through when figuring out what path I wanted the story to take. What style of story would kids like best? Did I want this to be a book read to the child, or for the kid themselves to read? Did I just want to portray the pathophysiology of the disease, or did I want to portray a child living with the disease? What about the social issues that come alongside some of these diseases?

I ended up deciding that this book is going to be read to kids by an adult. Some concepts were too hard to simplify enough for young kids to read by themselves within my short book. I also decided that the storyline will focus on the pathophysiology of each disease: what is happening inside the body, why it happens (as far as we know), and what healthcare is doing to help. I may bring in symptoms, and words that the child may hear or experience while having the disease, but I am going to lean away from portraying the lived experience of the disease. This is due to the fact that my primary goal is to explain to the child exactly what is happening inside their body.

## 3) *Time*

Writing graphic novels takes a while! I had to redraft parts of my story many times, which meant not only rewriting but also redrawing the sections. This may be due to my personal way of drafting, which heavily relies on the drawing to prompt my word choice, requiring both words and pictures to be done at the same time. Between redrafting and a long creative process, the project took more time than I thought it would. The flexibility I was afforded with FURSCA was super helpful because it allowed me to work through the draft process exactly how I needed to and allowed me to manage the ups and downs of my progress.

From this I learned to accept that creative projects take time and do not go perfectly — to recognize and accept when I had to redo whole pages, change an entire storyline, or make a major cut for the story to flow better. Graphic novels are simply a different kind of writing due to all the moving parts: the line work, coloring, lettering, storyline, and word choice take more time than a regular writing project.

## 4) *Metaphors*

I decided the best way to explain difficult concepts to children was through metaphors. I had to figure out metaphors that worked for each concept, worked well with each other, and were recognizable for kids. This meant I had to change the metaphors a few times, and create new ones before I found cohesive and usable analogies.

The human body has become a city in my book, where cells have various jobs. The immune system are firefighters, who put out fires that are started by viruses, bacteria and

other pathogens. Stomach enzymes are chefs, who turn the food we eat into usable food sources for cells like Glucose. Insulin is a fork, which the cells use to eat Glucose. This metaphor system works in a way that kids can place all the jobs within our world, but also within the cell city, so they can more easily understand why symptoms and biophysical reactions are happening in their bodies.

### 5) *Current options*

This is not a new field, but there are opportunities for new perspectives and material. Graphic medicine in some way has been around since at least WWII, while medicine-focused books for kids have started popping up more recently. I read many published works as part of my FURSCA project, which allowed me to determine what already exists, while giving myself ideas about where I wanted my project to fit into the field. Most current works focus on describing a child's experience with the illness, encouraging children to be brave, or describing treatments and doctors. There are not many that focus on pathophysiology, and those that exist tend to be hard to acquire and written for older kids (middle or high school). Many current graphic novels about medicine for kids also portray diseases as villains and parts of the body or medicine as superheroes.

From this broad reading, I determined that I want to create graphic medicine that is easily accessible and digestible for younger kids. While I think that the villain/superhero dynamic is a fun and easy way to write these books, I decided this wasn't the direction that I wanted to go: I don't want children to view their chronic diseases as villains in their bodies. The diseases I am portraying are something that an affected child has to live with for a long time, if not their entire life. This will be hard for them; however, a chronic illness should not be something that the child learns to hate because it is "evil," like a villain; it should be something they can learn to live with through understanding.

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## **Results**

Overall, I have done what I set out to do. I learned about writing graphic novels for kids and did basic research into each of the chronic illnesses I chose. I spoke to a creator of a similar project to mine to learn about their process, goals, and recommendations. I sketched ideas, and I have a mostly complete draft version of the diabetes graphic novel. I have tested some color options, and know how the project will proceed in the future. Although I am not quite as far along as I was hoping to be when I set out on this project, I now know that writing an entire book takes longer than I was hoping it would... and I think that is to be expected.

In the future, I look forward to presenting my work at the Elkin R. Isaac Research Symposium and continuing to work on all four books for my thesis. I will finish the diabetes draft and use the

background research and process I learned this summer to begin the books for the other three illnesses. I also plan to speak to a doctor or pathophysiologist to verify the content of my writing and to test my drafts with readers in my target audience.

Below, I will attach the first page of the diabetes draft, which has been fully colorized.

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### **Conclusions, and why this matters to me**

I am on a pre-PA track (physician's assistant), and I hope to work in a pediatric or family practice setting in the future. I started this project because I am interested in science, healthcare, chronic illnesses, pediatrics, and art. I wanted to do research that I could continue into my future, that wasn't just in the lab and was something that I could actually possibly use in my future practice that would be helpful for kids. If I can produce these four books as planned for my thesis, and if they are accepted well by kids of their target audience, then I hope that I could continue making similar books in the future. I plan to present my research at Elkin Isaac my senior year and, as mentioned, plan for these graphic novels to be my thesis.

I'd like to thank my advisor Krista Quesenberry for her patience, ideas, and support; Renee and Elizabeth for their encouragement; and my FURSCA donor: Kenneth Ballou, '47, for the Research Endowment for Biology, all of which made this summer research possible. I learned so much this summer and will continue to do work in this area in the future. While I can't say for sure this will impact my future patients, I'd like to hope that this work can make it that far.

