Thank you for the opportunity to provide testimony as part of the 21st Century Cures initiative and the role of telemedicine. Please see the attached comments.

Sincerely yours,
Arlin [redacted]

Arlin [redacted]

July 22, 2014

The Honorable Joe Pitts
Chairman, Health Subcommittee
Energy and Commerce Committee
U.S. House of Representatives
Washington, DC 20515

The Honorable Frank Pallone
Ranking Member, Health Subcommittee
Energy and Commerce Committee
U.S. House of Representatives
Washington, DC 20515

RE: 21st Century Cures Initiative: Telemedicine

Dear Chairman Pitts and Ranking Member Pallone:

Thank you for the opportunity to comment on the use of telemedicine. As an addiction psychiatrist I see unique challenges to the safe and effective development and implementation of telemedicine that should be addressed if it is to improve health outcomes among addiction psychiatry patients.

Addiction psychiatry is a medical subspecialty within psychiatry focused on the evaluation, diagnosis, and treatment of patients who have one or more disorders related to addiction. Addiction psychiatrists are experts in the health effects and management of substance abuse.

Telemedicine for psychiatry patients is promoted as a useful way to increase access to psychiatric care for individuals living in remote, underserved areas. Through a specifically defined form of video conferencing, telemedicine can connect patients, psychiatrists, other physicians and other members of the healthcare team to provide an array of services, consultation, second opinion, and collaboration.

As innovation continues in the field of telemedicine, it is essential to ensure quality of care, patient safety, and the privacy of patient information. Efforts to protect the patient-physician relationship, improve care coordination, and advance effective communication among members of the patient's health care team are fundamental.

**Safeguard the in-person face-to-face relationship**

An in-person face-to-face patient-physician relationship is an integral part of an effective therapeutic relationship in psychiatry. Telemedicine should complement – not supplant – the in-person interaction to help guarantee that care remains patient-focused.

The relationship of trust between the patient and physician is foundational to the ethical practice of medicine and must be based on open and honest communication between the physician and the patient. The patient should be made aware of all information necessary to be an informed participant in his or her care.

It is recognized that addiction psychiatry patients face stigma and fear of prosecution that might dissuade them from seeking treatment. Such patients often feel especially vulnerable and require a higher sense of trust and confidentiality in order share traumatic events and innermost secrets. Yet in a telemedicine situation they may be even less trusting, disclose less, and risk a less than optimal result.

A valid patient-physician relationship should exist before using telemedicine. Physicians who use telemedicine should meet the standard of care, abide by other safeguards, and be able to use the technology to coordinate care and share information between those who provide virtual care and in-person care. To enable meaningful team-based care new telemedicine platforms should facilitate engagement and not create barriers to this exchange.

**Address inappropriate prescribing: retain the role of the state medical board**

As an addiction psychiatrist some of my patients are in recovery from abuse of controlled substances they received due to inappropriate prescribing. Concern is raised that telemedicine may amplify prescription drug abuse, a public health concern that has already been described as an epidemic. Accountable prescribing is a prime matter.

As healthcare evolves, one thing remains constant and of paramount importance: the need to protect the public. Innovation must not trump patient safety. **Physicians must be licensed in the state where the patient receives services.**

The state medical or osteopathic board has a vital role to license and regulate physician activity within the state and hold physicians accountable for their prescribing practices. State-based medical licensure protects the interests of patients and the ability of states to enforce state medical practice laws.

As a state-based agency, the state board has a unique, state-specific perspective. It should retain its authority and jurisdiction over individuals who practice in the state. Through licensing, the board assures that physicians are qualified; their education, training, examination, character, professional and discipline histories are reviewed. The board receives and investigates consumer complaints and other adverse information and acts where appropriate. Steps taken against an individual's license can range from revocation of the privilege to practice, restriction, remediation, or reprimand.

State medical boards are able to currently regulate physicians who deliver telemedicine similar to the way state regulators provide oversight for other services. A different system or exception for telemedicine is not warranted.

Federal legislation should be opposed if it would preempt or waive licensure and medical practice laws for telemedicine encounters. Without state-based licensure the state is unable to hold out-of-state providers accountable for the medical care they provide to patients located in the state. Patients and other health care providers from other states who become involved in litigation would have significant burdens to resolve legal conflicts as it would be unclear which state's laws of medical practice, standards of care, or medical liability apply.

Expanded state licensure exceptions would compromise patient safety as they would make it less likely that improper or unprofessional care will be identified, properly reported to the state medical board of jurisdiction, and made subject of an investigation. Proposed legislation that seeks to redefine the practice of medicine at the location of the provider would place the burden solely on the patient in the event of such an adverse action; the patient would need to identify the physician's state of licensure, then file a complaint and pursue investigation across state lines.

The Federation of State Medical Boards (FSMB) and its membership are advancing an interstate compact that would streamline the licensing process, remove administrative and financial barriers to licensure in more than one state, and facilitate the responsible practice of telemedicine across state lines. The principles call for physicians to be licensed where the patient receives the services and to follow that state's medical practice laws. **I urge the Committee to support the FSMB and its efforts to develop an interstate medical licensure compact to support license portability and the safe practice of telemedicine.**

**Privacy is pivotal**

While medical records must be kept secure and be maintained in accordance with HIPAA, the question of security especially impacts psychiatric patients who feel particularly vulnerable. Moreover, in acknowledgement of the heightened security need for patients undergoing treatment for drug and alcohol abuse, privacy provisions in 42 Code of Federal Regulations (CFR) Part 2 were established. This provides a greater level of privacy and security than for other protected health information. 42 CFR Part 2 requires written patient consent for disclosures of protected health information even for the purposes of treatment, payment, or health care operations.

The success of care hinges on whether the patient has confidence that privacy is assured. Features of technology and patient care should be viewed through this prism. These include technical standards, point-to-point encryption, interoperability, portability, information documentation and storage, and the potential for technical failure. Clinical considerations include confidentiality and its limits, clear steps to address care between contacts or in an emergency, how to terminate and refer for voluntary and involuntary in-patient care, how to verify the identity of the patient and provider and the provider's qualifications, and how to introduce patients to other members of the healthcare team. At the outset, healthcare professionals and patients should discuss any intention to record services, how this information is to be stored, how privacy will be protected.

**Conclusion**

The emergence of telemedicine has the potential to be a valued service. From the addiction psychiatry perspective, there are several cardinal concerns in order to remain focused on the patient. These include the need to recognize that in-person care is a cornerstone of an effective therapeutic relationship, to acknowledge the essential role of state-based licensure and regulation, and to affirm privacy protection is integral to optimal care and at higher level than other protected health information.

Pursuit of telemedicine innovation should be predicated upon evidence that this information exchange has value for the patient, is safe and effective, and enhances quality care. Policymakers should ensure that telemedicine will support care delivery that is patient-centered, promotes care coordination, and facilitates team-based communication. Additional pilot programs and demonstration projects should be supported to establish a solid evidence base for telemedicine's effectiveness in addiction psychiatry.

Sincerely yours,

[redacted]

Re: Congressman Upton's attempts to get more cures. (Breitbart 5/9/14 article, "HOPE COMES TO RHOB 2123--FRED UPTON LEADS A CURE STRATEGY FOR THE 21ST CENTURY")

John Stossel had a recent piece about the lengthy approval process by the FDA. One guest said it takes a minimum of 7 years for FDA to approve a drug, and they won't allow even terminally ill people to use a drug (except for small scale trials) until it's approved. Stossel said that, for example, the FDA approves a drug, then claims that it will save 14,000 lives this year. His question is, what about the 14,000 that died each year while awaiting the drug's approval?

Second point: allocation of funding. The FAIR Foundation (fairfoundation.org) supports reallocation of NIH funding. Specifically, the politically correct HIV/AIDS receives almost $330,000 per death from that disease, while breast cancer is funded only at $17,000 per death, Alzheimers at $5,700 per death, and cardiovascular diseases at only $2,600 per death! Considering that HIV in the majority of cases is spread by people engaging in unprotected sex by their own choosing, it is difficult to see why so much taxpayer money is spent to eliminate that disease when many other more common diseases which the suferers have no control over receive much less relative to the number of deaths they cause.

Eldridge [redacted]

As a dialysis patient that has been extremely effected by kidney disease I look forward to the day when better treatment options would be available. Right now if your kidneys have failed the only options available are dialysis and transplantation. Neither option is a real cure. Dialysis you are hooked up to a machine usually three times a week for a few hours each session. The days between dialysis you are extremely tired and drained. Each dialysis treatment I go through is nerve racking as so much can go wrong such as getting a blood infection, clot getting into your blood, bleeding after dialysis while traveling home.

Transplantation while better than dialysis has issues with having to take large amounts of drugs in order to avoid rejection of the newly transplanted organ. All of these drugs have side effects and contribute to eventually losing the organ years later.

I would love to see us put more funding and support into stem cell research as I believe that is where the future of kidney and other organ (heart, lung etc) failure treatments will be. In the long run it will be cheaper to develop stem cell treatments as the lists for transplantation will shrink dramatically. This will have very few people left on costly dialysis long term. There will be much less rejection of organs and no more taking very expensive drugs in order to avoid rejection of the transplanted organ.

Sincerely,

Albert [redacted]
Dialysis patient

Sent from my iPad

I feel lucky to live in a time when there's a chance every day that future generations won't live their lives in pain.
I have been fortunate to take advantage of newer treatments but it's not perfect yet. I still can't live my life as a normal 56 year old.
I appreciate all efforts to support new research.

Sent from my iPhone

To Whom it May Concern:
I am happy to read of your efforts to encourage availability of treatments for many types of diseases, especially as a registered nurse. Please consider targeting your efforts towards polycystic kidney disease, a pretty common illness that leaves Americans lacking cures while suffering pain and the slow failure of their kidneys. My mother has this disease. She is an otherwise healthy woman with 7 children aged 24, 14, 12, & 8. It is so difficult to watch her face this illness while her only options are to receive dialysis and wait for a kidney donor to hopefully become available. Thank you for your time and consideration.
Sincerely,
Alyssa [redacted]

My daughter developed Crohn's disease, a rare, chronic inflammatory disease of the intestine, when she was 19, after her first year of college. For the first year of her treatment, she was on Imuran, a very old drug that was used to prevent transplant rejection. It didn't work at all, and the second year she was put on Remicade (generic name: Infliximab). Remicade is made from a partially humanized monoclonal antibody (part mouse too). Because of this, it must be taken continuously. A break in treatment can mean that the patient will go into anaphylaxis and die if there is no doctor around (protocol requires there to be a doctor, but not all health facilities follow these protocols). The drug is VERY expensive (health care facilities charge about $6,000 for each dose; typically, a patient needs the drug every 8 weeks, but when a patient starts building antibodies to the drug, they may need it every 4 weeks and they may need double the dosage (which increases the cost 4 times). The drug maker (Jannsen) has a program for people who make less than a certain income each year, but many people don't know about it, or are not willing to take such a serious drug, for which the long-term consequences are unknown. The drug has been on the market for Rheumatoid Arthritis since 1994, so use over decades has as yet unknown (if any) consequences. In my daughter's case, it has given her back her life. When she was sick, she had a 105-degree fever, had extremely low hemoglobin (8.0), which caused her to be able to do nothing but lie in a dark room with no sound. Now she is an event planner working for a Donald Trump property in Miami and living a normal life (with the exception of having to get Remicade every 8 weeks indefinitely).

Remicade is not accessible to people without health insurance if they are not wealthy. There are many people who are suffering with Inflammatory Bowel Diseases (IBD) – Crohn's disease and Ulcerative Colitis – who could be treated and be contributing members of our society. There are two other medications in this class (Humira and Cimzia), but Remicade works best. There are a few more drugs that are in trials in a different class, but for my daughter, I believe that Remicade is the one that works best, since it has taken away all of her symptoms. But some people are looking at other, much more benign medications, like Vitamin D. Because the pharmaceutical companies have nothing to gain by testing such widely-available and inexpensive drugs, advancement in the science of IBD will not encompass medications that could have a LOT fewer side effects. There is a need for more NIH money so that Universities can do this work. There is also a dire need to look at other, less toxic medications that could normalize inflammation in the intestines for people with inflammatory bowel diseases.

Thank you for reading this.

Sincerely,

*Amy* [redacted]

[redacted]

Please see the attached comments on 21rst Century Cures - Patients.  Thanks.

Amy [redacted]

June 10, 2014

The Honorable Fred Upton
Chairman
Committee on Energy & Commerce
2215 Rayburn
Washington, DC 20515

The Honorable Diana DeGette
Ranking Member
Subcommittee on Oversight & Investigations
2322 A Rayburn
Washington, DC 20515

Dear Chairman Upton and Ranking Member DeGette:

Thank you for the opportunity to comment on 21st Century Cures-Patients.

My name is Amy [redacted] and I would like to tell you the story of my family. My husband Ray and I are the proud parents of two wonderful children, [redacted] [redacted] is 19 years old and going into her junior year of college at [redacted] and is studying Early Childhood/ Special Education. [redacted] is 17 years old and just finishing his junior year of high school. I am a registered nurse and my husband is a software R&D manager in the healthcare industry. We live in Pennsylvania. From the sounds of this it sounds like we are a perfect middle class family. I so wish that this was the case. In 1996, I was pregnant with our second child. Early complications in my pregnancy caused me to be followed very closely by specialists. In September, 1996 my big and seemingly healthy baby boy, [redacted] was born. Relief flooded us as he was examined and found to be a completely healthy baby. However, he was never a healthy baby. He was born with an inborn error of metabolism that is not screened for - on the newborn screen. [redacted] developed normally until he was 2 years old. He met all of his developmental milestones and except for several bouts of ear infections, we felt that he was a typical healthy baby boy. At the age of 2, we were concerned that [redacted] was not talking at all. The doctors felt that the frequent ear infections may have been affecting his hearing and referred us for a hearing test and to an ENT. The night he received his 2 year immunizations, he developed a very high fever prompting a trip to the pediatrician the next day. The doctor told me he thought that he had mono because his spleen was enlarged. He tested negative for mono. He recovered from the illness and a few weeks later had a hearing test done. The hearing test revealed a moderate hearing loss that was caused by a build up of fluid in his ears. Ear tubes were placed and his hearing returned to normal. We began speech therapy in hopes of quickly catching up his language. Much to our dismay, his language did not progress despite diligent work on our part. He was globally evaluated and now found to have both a speech and a gross motor delay. We added physical therapy to his speech therapy and continued to work with him. Again to our dismay, progress was slow or non evident. His next evaluation revealed a fine motor delay and now occupational therapy was added. He also was beginning to get extremely hyperactive and harder to handle. Over the course of 18 months, our seemingly perfectly developing child was falling further and further behind. In frustration, we reached out to our pediatrician to see if we could pursue an appointment with a developmental pediatrician at AI DuPont Hospital for Children in Delaware. After a 6 month wait, we finally saw the developmental doctor. She told us that [redacted] looked like other boys she had seen and she felt he had a storage disorder. Her advice was to send us to a geneticist to confirm the diagnosis. We chose not to research what a storage disorder was and wait for our next appointment. On

November 22, 2000 we walked into the geneticist office and our life changed forever. The child we had feared had a global delay was diagnosed with Mucopolysaccharidosis or MPS for short. MPS encompasses 7 different syndromes and [redacted] was specifically diagnosed with Hunter Syndrome, MPS II. All forms of MPS are rare diseases that affect 1 in every 25,000 births in the U.S. Hunter Syndrome alone affects 1 in every 100,000 to 150,000 births and only affects boys. It is a sex linked or x linked disorder, where a mother carries the gene and has a 50/ 50 chance of passing the disease on to a daughter as a carrier or to a son as an affected individual. We sat in horror as the doctor explained to us that this disease is progressive, degenerative and terminal. He told us that our active, healthy little boy would progress to a point and then gradually lose all abilities and skills. With age he would develop more and more health issues. He said that this disease that is caused by one missing enzyme in his body will cause damage to virtually all of his cells. He had already suspected orthopedic changes and also explained that the ear infections and enlarged spleen were early signs of the disease. He told us that he would develop painful stiff joints, thickened and damaged heart valves, enlarged liver and spleen, hearing loss, damage to his airway and brain damage. He would become completely wheelchair dependent, unable to care for himself in any way, unable to eat by mouth and require extensive medical care. That was when I asked him if it would affect his life span. His answer was to take him home and love him for as long as we had him. I asked again how long that would be and he told me MAYBE 10 more years. Heartbroken and devastated we walked out of that office in utter disbelief. How could there not be at least a treatment for this. It was the year 2000. As a nurse, I always thought that there were ways to try to treat all diseases even if those treatments were unsuccessful. We left that day to try to go on with our lives but had virtually no hope. The next years were full of medical appointments, therapies, special schooling, equipment and medications. In July, 2006 the FDA approved a treatment for Hunter Syndrome called Elaprase. It is a synthetic enzyme given intravenously every week for the patient's whole life. We were ecstatic. We never thought we would see a treatment available in his lifetime. We followed the yearly research carefully and saw the top doctor developing this treatment in North Carolina anticipating the treatment. [redacted] started the treatment shortly after it became available. Almost 8 years later, we still do infusion treatments. His doctors say it has stabilized his heart, liver, spleen, airway and joints. His brain function unfortunately has continued to decline due to the protective blood brain barrier not allowing the drug to reach his central nervous system. Currently, [redacted] is as we had feared. He is g-tube fed, unable to walk, talk or even move on his own. He has seizures, autonomic insufficiency, frequent bouts of respiratory illness, is 100% dependent on nurses and caregivers, takes 16 daily meds and probably 10 more on and as needed basis and only attends school in the fall and spring months to maintain his best health. All these problems come from the brain disease. We are overjoyed that he has lived past the 10 year estimate and feel blessed every day to still have him with us. We still need more.

So why do I write to you? How can you help? The single most important thing that Congress could do is provide more funding to the NIH for pediatric research, especially for rare disease like MPS. We strive first for treatments for all rare diseases. Our children are dying. Imagine, watching your child slowly slip away. It is a feeling that I hope you will never know. There is research going on, but we need funding. As a family, we have spent the last 13 years since our diagnosis fundraising and raising awareness. This is not enough though. We need your help. We need your support and we need federal funding. We know a cure will not come in time for [redacted] but we continue to fight. We do it for 2 reasons. The first is that the chance of having a

grandson with Hunter Syndrome is a very scary reality for us and your help could offer that child a better chance at a more normal, healthy life. Secondly, if I could spare any family the pain we have gone through, [redacted] life would have not been in vain.

We are one of the lucky ones. Hunter Syndrome does have a treatment that greatly impacts [redacted] quality of life. Even though it does not treat the central nervous system, it has given us more time with him and him some comfort. Currently doctors are conducting clinical trials to inject the enzyme directly into the central nervous system and allowing it to circulate in the brain. We know some of the children participating in the trials and their parents report great results. We have tried to help this process by attending open forum meetings at the FDA to let researchers see first hand the neurological carnage of this devastating disease. As parents of a child with a disease that ultimately will result in death, we would try anything to let them live. We see the risk/benefit as something we are willing to take. I believe the regulators need to talk the families and understand that we would be willing to take a chance. As I heard one parent say at a meeting at the FDA on Inborn Errors of Metabolism, "We are drowning in the middle of the ocean. We don't want the want a luxury liner, we want a lifeboat. We just want to give our children a chance at live."

As active member of the National MPS Society, we strongly support each other. We attend family conferences and meetings all with the same goal. We want our children to have as good a quality of life as is possible and we want our children to live. We strive to raise awareness, educate, fundraise and fight first for a treatment and then for a cure. We want to also provide quality of life to ourselves, our marriages and our unaffected children. We support each other through the good and bad. Social media is a big part of our lives as we relish in our children's and family's accomplishments support each other through illnesses and hospitalizations and are there for each other as we lay another sweet child to rest.

Again, how can you help? Congress could raise the profile of this issue through hearings, forums and in-district visits with researchers and especially families. We want to share our stories with you. It is our life. It is our passion. It is our child. By working closely together, we can chart a path forward to find treatments and cures for our children. All we want for them is what any parent would want. We want them to have an opportunity to live long, happy and healthy lives.

Sincerely,
Amy [redacted]
Mother of [redacted]

To Whom it May Concern:

A good friend of mine has a child who was diagnosed with PKD when he was just 5 years old. This child is now 12 and has been living bravely with this disease more than half of hs life. He never complains about going to the doctor every 6 months or getting blood tests and sonograms, and he does not let this disease get him down.

But WHY should he have to live like this? He is a child and he should be able to live his life without worrying that his kidneys may shut down when he reaches adulthood.

PLEASE start funding for a treatment (at the least) for PKD so my friend's son and others like him don't have to live in fear.

Thank you for your time.

Sincerely,

Angela [redacted]

**Attn: Members of 21st Century Cures**

**FDA FAILS TO APPLY EQUAL STANDARDS LEAVING PATIENTS TO SUFFER**

*NEWS Flash… Aduro BioTech, Inc. has received a "breakthrough designation" after positive clinical evidence in the treatment of pancreatic cancer. A breakthrough designation is reserved for drugs that would treat a serious or life threatening condition and preliminary clinical evidence shows great potential for improvement over available therapies, the FDA states. The San Francisco Times reported that the FDA's action could result in drugs being approved in as soon as 60-days, but it does not guarantee approval of the therapy.*

**If I had cancer instead of a devastating Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS), the FDA would be willing to let me have treatment.**

Drugs with risks of fatal autoimmune (Yervoy) and other extreme adverse events are perfectly justified if I might live a month longer – yet being sick for more than two decades and unable to participate in life from a disease that costs this nation more than $22 billion a year **warrants nothing! There are no approved therapies for ME/CFS.**

Ampligen is the only treatment that has positively shown to help those with ME/CFS – and has been provided to patients via an open label trial for more than a decade – clinical trials covering 90,000 doses. It is **deemed safe for approval** by the top experts in the field and by the FDA advisory committee (Dec. 2012), yet the FDA continues to deny patients the opportunity for treatment.

Why? because they say they are unsure of its efficacy although they admitted after denying approval that they did not understand the disease.

**THERE IS NO JUSTIFICATION FOR FAILURE TO PROVIDE TREATMENT.**

FDA has the power to approve Ampligen with conditions. FDA is to protect public health not deny it. Give us the right to choose our care. We want our lives back. This isn't a game – it's the lives of more than 1 million Americans.

--

Anita [redacted]
[redacted]
[redacted]

I was six years old when I understood that Grampa's special chair was where he sat when he dialysed. He had to do it three times a week and it made him very tired. But he had to do it or he'd die.

I was eight years old when I understood what Polycystic Kidney Disease is. Understood what a dominant gene is. Understood that my Mommy might have it. That I might have it. And that if I did, I wouldn't know until I was in my 40's - when I might have already passed it on to my children and they might already be having their children and passing it on to them.

I was eight years old when I decided I couldn't impose that curse on anyone else. I decided I would not have children.

As the years passed, my Grampa grew weaker and thinner except for his odd little pot belly. As the disease progresses the kidneys grow larger and larger as cysts force out normal kidney function. His body was wasting away, while his kidneys grew larger, pressing painfully on his other organs, and pushing out his belly. Grampa was on the transplant list, but with every birthday he moved further down on it. He lived with more and more pain, until it became his world. When he died, he was glad to go.

In due time, my mother was diagnosed with PKD. She was terrified of losing her health insurance. That fear guided every career decision she made - even before she was diagnosed - and there were many times she traded the chance of better circumstances for the security of uninterrupted coverage.

She started dialysis at 46. Miraculously, she received a transplant - a perfect match - a year later, and is still healthy today, 17 years later. I try not to think about the normal lifespan of a transplanted organ. A year after her transplant, her natal kidneys were removed. Normal kidneys are the size of a fist, but hers had grown to the size of footballs, shifting her center of gravity and making her walk like she was pregnant.

I was diagnosed two years ago, at the age of 41 and told that with the cysts, my kidneys had already expanded to half-again the size of normal kidneys. I was devastated. But I will not pass PKD on to my children. I never had any.

My great grandmother complained a lot about being tired and then died. My grandfather dialysed when they were still figuring out the science of dialysis, and died in agony. My mother and her brother received transplants and take a raft of drugs every day. I don't know that my mother's diabetes was caused by the anti-rejection drugs, but I wonder.

I keep telling myself that it gets better for each generation, and there is now a drug (Tolvaptan) that has been shown to slow the progression of the disease. Unfortunately, it is not available to me or the majority of PKD patients in America. The FDA did fast-track evaluation of the drug, but then declined to approve it.

My understanding is that they had three main reasons for turning down the drug, and two of them seemed reasonable to me. But frustratingly, the third reason was that they don't consider kidney

size, which was the primary indicator of the Tolvaptan studies, as a marker of the progression of PKD. They only look at kidney failure. Apparently they want studies that track the onset of End Stage Renal Disease (ESRD, a.k.a. kidney failure).

But I can't wait that long. And neither can the rest of my generation. My grandfather had six grandchildren, and so far we know that three of us have PKD. I am the oldest, and even if I make it to ESRD and dialysis before a treatment is approved, I pray that something changes before they are faced with sitting in that "special" dialysis chair three times a week.

Sincerely,
G. Ann [redacted]

To Whom It May Concern,

I am writing on behalf of all my fellow citizens who suffer from PKD- poly cystic disease- to encourage new legislation and monetary support for research into a cure to stem the tide of this fatal disease which affects so many of our citizens. In the past several years, I have watched a dear friend struggle with trying to maintain a normal life with this hereditary disease which also affects her son. She has worked hard to follow a rigid lifestyle to preserve the functioning of her kidneys and was one of the few fortunate people to receive a kidney transplant (from a 3 year old- God bless those parents for their gift of life as they were losing their child!) and is thriving today due to having a new kidney and with medications for anti-rejection, etc.

It has become apparent to me that this disease rips open the fabric of our community by requiring daily dialysis, increased health care costs, a plethora of new kidney centers opening around the country, and the death of another human being to be able to help another. Surely, there is another way to stem the tide of deaths from this disease if only funding were directed towards research and a cure rather than simply adding more kidney centers!! On behalf of those who suffer, PLEASE find a way to a cure for this disease which afflicts so many of our populace.

Thank you for listening,

Annie [redacted]
[redacted]
[redacted]

I am sending this email in the hope that you will consider funding the PKD Foundation who is dedicated to funding research to find a treatment and cure for PKD.

PKD causes fluid filled cysts to form in both kidneys. Over time, these cysts grow in number and enlarge in size. At the present time, once the cysts take over and the kidneys can no longer function, patients will require dialysis or a kidney transplant.

My Grandson [redacted] will turn thirteen next month. He was diagnosed with PKD at the age of five. His father, uncle, and deceased grandfather all have or had PKD. Already Nicholas has eight cysts, four in each kidney. I worry that there is no treatment or cure for my grandson and the many other children and adults afflicted by this disease.

My daughter [redacted] holds a yard and bake sale each fall with all proceeds going to the PKD Foundation. Our local Rotary Club gave a $400.00 check to PKD which was mailed today. Many friends and family have donated this past week in order to have their donations doubled. Each year we walk with patients, families, friends, and volunteers who have the same goal in mind - a treatment and cure for PKD.

These same things are being done all over our country by other people just like us who have been affected in some way by PKD. There is no treatment or cure for PKD but there is hope. So I am sending you all of our hopes and prayers that you might consent to support our cause and give funding to the PKD Foundation. Perhaps together we will be able to put an end to PKD. Thank you.

Respectfully yours,

Arlene [redacted]
[redacted]
[redacted]

June 10, 2014

The Honorable Fred Upton
Chairman
Committee on Energy & Commerce
2215 Rayburn House Office Building
Washington, DC 20515

The Honorable Diana DeGette
Ranking Member
Subcommittee on Oversight & Investigations
Committee on Energy & Commerce
2322 A Rayburn House Office Building
Washington, DC 20515

Dear Chairman Upton and Ranking Member DeGette:

I remember clearly the day that we found out that the baby I was carrying within me was a boy. I can remember looking to my husband and smiling, "We're having a boy!", I excitedly said. I laid one hand on my belly while Bryan held my other hand and we walked through the hospital parking lot to our car. We were both thrilled! I couldn't wait to watch my children grow up together.

My pregnancy was not easy and our son would be delivered pre-term. [redacted] was born on July 23, 2002. His name, [redacted] was picked because of its meaning, [redacted] Our baby weighed only 2 pounds, but he was perfect. He was strong with purpose. I didn't notice his delicate, frail body or translucent skin as much as others did. My eyes only saw my beautiful baby boy whom I couldn't love any more. I was holding his tiny body and talking to him as his fused eye lids opened for the very first time. A moment that I cherish.

Months later [redacted] would go on to graduate from the Neonatal Intensive Care Unit. We were able to take him home, exactly 5 pounds of him. It was such a happy day! We did worry about his breathing as he struggled with both apnea and bradycardia. But he came home with a monitor, that he wore, which loudly alerted us to his lack of breath or low heart rate. It helped to ease our fears. We were led to believe the worst was behind [redacted] the worst was behind all of us. We could now be together to love and care for him just as we prayed for.

Looking back with the knowledge and experience we now have I can say there were subtle signs that something more, or bigger, was happening within our son's body. Though, at the time, the doctor's could easily blame his extreme prematurity for much of what he experienced medically.

However, the fact is, they were wrong. We were wrong. The worst was not be behind us.

As [redacted] grew, his list of medical diagnoses grew right along with him. Test after test was performed to evaluate the function of multiple areas of his body. For years numerous physicians studied lab values and ordered more tests, but [redacted] and his issues never fit into any underlying diagnosis fully. That is, none that his highly trained physicians could find. We were left to treat his symptoms to the best of our ability, one by one. There was always doubt and fear that lingered as we didn't know exactly what was happening inside of [redacted] At times it felt much like there was a ticking time bomb within him, but we didn't know how long until it would explode and cause his body to come crashing down, piece by piece. The weight of not knowing why this was happening to our child and what was causing it was heavy, even suffocating sometimes.

With his doctor's guidance, we traveled the country in search of answers for our child's declining health. It wasn't until we reached a physician many states away, who lent the majority of his time to research, that we would get a diagnosis that "fit" for our son. The results of both a muscle and skin biopsy told us that [redacted] had Mitochondrial Disease. His body was failing due to a lack of energy.

Mitochondrial disease is a progressive, degenerative disease for which there is currently no cure. The only treatment available to us was questionable and inconsistent among the patient population. It was a combination, a "cocktail", of vitamins that have the potential to help some patients with Mitochondrial disease feel better. However, by the time [redacted] received his diagnosis, the diagnosis that we spent many years in search of, he was already in intestinal failure and would not regain use of his gastrointestinal tract again. This potential "treatment" requires a functioning intestinal system, which made it unusable for [redacted]. At the time of diagnosis [redacted] required 24 hour IV nutrition and IV medications. He had bags which extended from tubes within his belly to decompress his intestines and relieve the pain and pressure from a failing system. It wouldn't be long before his body fought chronic and life threatening infections through his blood stream from bacteria that translocated from his failing intestinal system inside him. Each of his organ systems took hit after hit. With each impact to his body he struggled to return to baseline, leaving his health declining with every stressor.

[redacted] was like any other boy despite the complexities and severity of his health. He loved amusement parks, roller coasters and the magic of Disney World. He was the "middle man" of two sisters who he loved dearly. He was involved in Cub scouts and even had the opportunity to play little league baseball, which he fell in love with. [redacted] knew his body was failing him. He was aware that he was physically dying and was able to help us make his own end of life decisions.

Imagine, at only 10 years old, knowing you were going to die because the doctors could no longer help you; because they didn't know how to help you anymore.

[redacted] wanted to be comfortable enough to enjoy the rest of his life, to do things that he loved with his sisters, family and friends. We worked closely with his doctors to make him as comfortable as possible to give him the time he needed before he was ready to go.

As I sit here now, I am remembering fondly the time we found out that we were having a baby boy, when he was born and as he grew during his infancy. What I thought would be the scariest time in our life and that I was relieved to put behind us, is actually now a cherished memory. During that time it was unknown to us that my husband and I would later have to bury our dear child, our baby boy. That we would have to talk to him about his death, explain to him what it may feel like, reassure him that we would love him forever and he would always be remembered. I had no idea what it would feel like, as a Mother, to watch helplessly as my son's organs failed one by one.

[redacted] died on September 27, 2013 after fighting for as long as he could while he still desperately held on to hope for a cure in his lifetime. It was exactly eleven years after we brought our 5

pound baby boy home from the Neonatal Intensive Care Unit that we would watch him die in our home, surrounded by family and friends who loved him dearly.

Mitochondrial disease is the rare disease that took our son's life. A disease that even the most astute and educated physicians know little, or even nothing, about. There needs to be more funding for research. There needs to be strides forward in educating and learning about these rare diseases that are shortening our children's lives. I want so badly to help another family avoid the devastation of watching their child die; the helplessness that comes with making your child comfortable from the pain of organ failure, knowing they will soon take their last breaths. The heart wrenching pain of watching their child's siblings say goodbye as their brother's heart stops beating. These children deserve so much better! They deserve to live happy and longer lives just as much as you and I.

I can't express to you how frustrating and defeating it felt to not be able to help our child. To realize the physicians who we sought out and were known as the best in their field didn't know how to further help our son. To make the heartbreaking end of life care decisions and, furthermore, funeral arrangements for our 11 year old boy. There are no words to accurately portray the deep, unrelenting pain that losing a child has left us with. I often stand over our son's grave and remember his smile, his laugh, his sense of humor and kind heart. At the same time as I long to hear his voice, to hold him in my arms again or to kiss his cheek.

I'm writing you today to ask for your help. We need your help — children need your help! Simply providing more funding to the NIH for pediatric research, including funding for rare diseases, would be a start. There is much more that we need to know to work towards a cure for pediatric rare diseases, many of which are fatal. Our doctors are doing the best they can with existing information, but it's simply not enough. We need to do better for our children and their families.

I share our family's story with you today to make aware the impact that rare diseases have on families. I'm asking that Congress also work with the NIH to implement the National Pediatric Research Network Act. Any additional structure and funding that could help research institutes collaborate would be a step in the right direction.

While a cure was not to be for [redacted] I believe there could be further advancements in treatment and ultimately a cure, not only for Mitochondrial Diseases, but for many other rare diseases, as well. But without your support and funding to further pediatric rare disease research there will be other children whose life will be drastically cut short, leaving behind families who will face the pain of losing their child. Please raise the profile of this issue through hearings, forums and in-district visits with researchers and families. We would like for you to hear our stories. By working closely together, we can chart a path forward to find cures for our children so they have the opportunity to have what we wish for them – long, happy and healthy lives.

If not you, then who? Who will be the one to make a change for these children and families affected by pediatric rare diseases? Who will be the one to provide funding for further research and resources for physicians? Who will take the step to give hope to the children who are fighting to live another week, another day or another hour with only the hope for a cure?

We need to help the families who are living with pediatric rare diseases. The children living with a rare disease, like [redacted] are counting on you! They are counting on further research of pediatric rare diseases so they can live a long life, just like you and me.

Thank you for the opportunity to share our story and comment on 21st Century Cures —
Ashley and Bryan [redacted]

Hello,
My name is Becky [redacted] I have rheumatoid arthritis. My rheumatologist said if I didn't have treatment I would be in a wheelchair. I inject Humira every other week in my body. I can lead a productive life with the use of Humira.
Thank you,
Becky [redacted]
[redacted]

Energy and Commerce Committee
United States House of Representatives
Chairman Fred Upton

Dear Chairman Upton and Rep. DeGette:

I am writing to express my concern about the current gap in our health care system to access treatment for PKU. My 7 month old nephew has PKU. PKU has been successfully treated in the United States for more than 50 years, yet many children and adults cannot access the treatment needed to manage the disorder. We must ensure that everyone with PKU has access to the treatment they need for this rare genetic disorder.

Every baby born in the United States is screened for the early identification of PKU as a public health activity to prevent severe disability. The treatment for PKU includes the daily use of medical foods and foods modified to be low in protein that must be continued for life. However, this treatment is out-of-reach for most patients with PKU because of a lack of insurance coverage. Providing coverage for medical foods for the treatment of PKU is medically supported, cost-effective, and the right thing to do. I am writing to ask you to pass H.R. 3665, the Medical Foods Equity Act, so that federal health programs provide medical foods coverage for the treatment of Phenylketonuria (PKU). This will be a significant step forward in closing the gap in coverage.

• Medical evidence has demonstrated the safety and efficacy of medical foods as treatment for PKU for more than 50 years. Just recently, the American College of Medical Genetics and Genomics issued the first-ever treatment guidelines for PKU that confirms the necessity of medical foods treatment for PKU for life.

• Treatment for PKU is currently covered in 39 states through a state insurance mandate or state program. However, this coverage only benefits a small percentage of PKU patients.

• Failure to include coverage for medical foods for all patients with PKU in the federal health programs is not in accordance with the accepted standard of medical care.

• The impact of this lack of coverage on patients or parents of children with PKU is disastrous and expensive. The average family cannot afford to pay for medical foods without insurance coverage.

• The long-term costs to the government for the care of untreated children and adults with PKU far exceed the cost of providing this essential treatment.

Decades ago, before the implementation of newborn screening and treatment with medical foods, children with PKU were doomed to a life of intellectual disability and costly institutionalization. Now, because of mandatory newborn screening and the

proven treatment with medical foods, children and adults with PKU can lead normal and healthy lives. Don’t put these lives at risk.

Please ensure that medical foods for the treatment of PKU are provided by the federal health programs and pass H.R. 3665, the Medical Foods Equity Act, so that everyone with PKU can grow up and become healthy and productive citizens of this country.

Sincerely,
Ben & Michele [redacted]

Good afternoon,

I would like to urge you to consider funding for polycystic kidney research to find a cure. I consider myself one of the fortunate ones as I had an available donor 18 months ago and have been doing very well. However I will be taking immunosuppression medication the rest of my life which is expensive. Unfortunately my 2 children suffer from the disease and although they are yet to be diagnosed, some of my 4 grandchildren are sure to have it also. If a cure or even a method to slow progression of the disease can be found, the healthcare savings would be in the millions. Transplantation is a difficult and expensive process and only lasts for so many years. Younger people will most likely require more than one. Investment in finding a cure for this disease well worth it.

Thank you,

Bernard [redacted]

I was diagnosed with Polycystic Kidney Disease when I was 39 years of age. I was fortunate enough to have a live donor come forward for testing last year and I received a kidney transplant in January of this year. I cannot believe how my quality of life has changed, i.e. so much energy, no pain at the present time, and so thankful to my niece. Unfortunately, I passed on this disease to my three children and so far, we do not know about my four grandchildren. They have not been tested since they are very young. It would be wonderful if treatment could be found to preserve healthy kidney function for my family as well as numerous others. Not everyone is blessed to avoid dialysis and/or receive a kidney through transplant so anything your committee can do to promote a cure or at the very least treatment of PKD would be wonderful and make life worth living for so many. Since this is a genetic disease, many more will be diagnosed and will have to deal with cysts bleeding, pain, lack of energy, headaches, etc. Without treatment to preserve what kidney function they have when diagnosed or later, they will inevitably be faced with dialysis and/or transplant or death.

Thank you for taking the time to consider my request and I hope with all my heart that I will see some positive results regarding treatment/cure in the very near future.

Sincerely,

(Betty) Jean [redacted]

Dear, Powers at Large,

Having received a kidney and pancreas transplant on New Years Day of 2009 it is obvious to me six years post transplant that the immuno suppressive bill, HR 1428, is a life and money saving issue. Our Florida Congressman (rep) Bill Posey is leading us in a direction to help with this issue. Please take this from a voice of experience, one life is too precious to waste and two lives, (organ donor & recipient) too, two precious to waste. Please see our Congressman Bill Posey leading the charge at our NKFF Cocoa Beach Foot Prints in the Sand Kidney Walk.

2014 FOOT PRINTS SPOTS 13 (2)
Me News Spot w/Congressman Posey
https://app.box.com/s/lrkyw1qatfuio68r5d5h
Jun 12
Reply, Reply All or Forward | More
Me News Spot w/Congressman Posey
https://app.box.com/s/lrkyw1qatfuio68r5d5h
To [redacted]
Jun 12

News Spot w/Congressman Posey
https://app.box.com/s/lrkyw1qatfuio68r5d5h

Dear House Energy and Commerce Committee Members,

I am wiring on behalf of my family and the 600,000 other Americans that suffer from polycystic kidney disease (PKD) to draw the Members' attention to:

1. The current lack of a viable treatment option for PKD patients, and
2. The FDA's extremely conservative review of potential PKD treatment options.

As you may be aware, there is no treatment to slow or stop the growth of the kidney cysts that plague generations of families suffering from PKD. Within my immediate family, my mother, my son, my sister, my niece, and I have been diagnosed with PKD. My maternal grandmother and her two sons died of complications from PKD.

The only treatment options for PKD patients once their kidneys fail (typically by in the late 50's or early 60's) are dialysis and transplantation . Dialysis requires a patient to visit a dialysis facility several times a week while a patient may wait 3 to 5 years to receive a donor kidney. PKD is the 4th most common cause of kidney failure requiring dialysis and/or transplantation. Luckily, after facing the possibility of dialysis, my mother received a healthy kidney from a friend in 2000. She has been able to enjoy her golden years including watching three grandchildren grow up.

While dialysis and transplants are life-saving, having a treatment that preserves healthy kidney function is the best option. I am currently part of a clinical study to test the effectiveness of Bosutinib to treat PKD (ClinicalTrials.gov Identifier NCT01233869). This study will last for another year and, hopefully, be submitted to the Food and Drug Administration (FDA) for approval as a viable treatment option.

The only other treatment option on the horizon was Tolvaptan. However, last year the FDA rejected Tolvaptan even though a three year study demonstrated that the drug slowed both the increase in total kidney volume and the decline in kidney function in PKD patients. The FDA rejected the drug on the basis that the observed decrease in the growth of kidney volume of 51% was "not significant" and a very small number of participants experienced elevated liver enzymes. Once those participants stopping taking the drug, their liver function returned to normal. I would say to the FDA:

1. That ANY observed decrease in kidney growth is significant especially when there is NO treatment options. That decreased kidney growth means a father can spend time with his family since his own kidneys are functioning normally longer rather than spend time in a dialysis clinic, and
2. With every drug commercial on TV warning users about possible liver damage, why is Tolvaptan different?

I admit the FDA's mission is to keep drug companies from exploiting Americans. However, I would ask the Members to convince the FDA to balance that important mission with the need to make an effective treatment available to PKD suffers.

Thanks for your time,

Bill [redacted]
[redacted]

As you are well aware, there is currently no treatment to slow or stop the growth of the kidney cysts that plague generations of families suffering from polycystic kidney disease (PKD). The only remedies for PKD patients once their kidneys fail are dialysis and transplantation. While these options are life-saving, having a treatment that preserves" healthy kidney function is the best option.

Please Note: My mom and brother have kidney cysts and my mom received her kidney transplant this year.  This is a serious problem for my family.

Thank you.

Brian [redacted]

Dear Chairman Upton and Rep. DeGette:

I am writing to express my concern about the current gap in our health care system to access treatment for PKU. I am a father of a 1 year old with PKU. PKU has been successfully treated in the United States for more than 50 years, yet many children and adults cannot access the treatment needed to manage the disorder. We must ensure that everyone with PKU has access to the treatment they need for this rare genetic disorder.

Every baby born in the United States is screened for the early identification of PKU as a public health activity to prevent severe disability. The treatment for PKU includes the daily use of medical foods and foods modified to be low in protein that must be continued for life. However, this treatment is out-of-reach for most patients with PKU because of a lack of insurance coverage. Providing coverage for medical foods for the treatment of PKU is medically supported, cost-effective, and the right thing to do. I am writing to ask you to pass H.R. 3665, the Medical Foods Equity Act, so that federal health programs provide medical foods coverage for the treatment of Phenylketonuria (PKU). This will be a significant step forward in closing the gap in coverage.

• Medical evidence has demonstrated the safety and efficacy of medical foods as treatment for PKU for more than 50 years. Just recently, the American College of Medical Genetics and Genomics issued the first-ever treatment guidelines for PKU that confirms the necessity of medical foods treatment for PKU for life.
• Treatment for PKU is currently covered in 39 states through a state insurance mandate or state program.
However, this coverage only benefits a small percentage of PKU patients.
• Failure to include coverage for medical foods for all patients with PKU in the federal health programs is not
in accordance with the accepted standard of medical care.
• The impact of this lack of coverage on patients with PKU is disastrous and expensive. The average family cannot afford to pay for medical foods without insurance coverage.

Decades ago, before the implementation of newborn screening and treatment with medical foods, children with PKU were doomed to a life of intellectual disability and costly institutionalization. Now, because of mandatory newborn screening and the proven treatment with medical foods, children and adults with PKU can lead normal and healthy lives. Don't put these lives at risk.

Please ensure that medical foods for the treatment of PKU are provided by the federal health programs and pass H.R. 3665, the Medical Foods Equity Act, so that everyone with PKU can grow up and become healthy and productive citizens of this country.

Sincerely

Brice [redacted]

To whom this may concern:

We would greatly appreciate more funding towards a treatment for Polycystic Kidney Disease (PKD). Our daughter was diagnosed when she was two years old. We hope there will be medical advances by the time this disease affects her life besides just transplant or dialysis. There are so many people suffering from kidney problems, including those with PKD, that we hope more research on this bodily organ will be a fruitful endeavor.

Thank you for considering our cause.

Sincerely,
[redacted]Ari and Brittany[redacted]

Attached please find the responses for input to the 21st Century Committee.

Sincerely,

Fight To Live

1. What is the state of discovery of cures and treatments for your disease? Are there cures and treatments now or on the horizon?
    a. Like most rare diseases and cancers, there are no cures available and those on the horizon are stymied by their ability to get to market and to the patients who need them. There are thousands of molecules and biologics in the pipeline today but many of them are in early phase trials. In Cancer alone, there are major breakthroughs in immunotherapies/vaccines, biologics, vectors and targeted medicines. Most of these breakthroughs are coupled with the ability to diagnostically identify patients through "personalized/precision medicine." Virtually none of this will be realized in our lifetime due to the regulatory barriers to commercialization.

2. What programs or policies have you utilized to support and foster research, such as patient registries, public-private partnerships, and venture philanthropy?
    a. Contributions / support of small companies to accelerate their regulatory pathways.
    b. Contributions of private charities.
    c. NIH Grants.
    d. Patient advocacy alliances
    e. Industry affiliations
    **f.** Direct development of regulatory pathway legislation – **HR2090, Patient Choice Act**

3. How can Congress incentivize, coordinate, and accelerate basic research for diseases we know relatively little about?

    Create a commercialization pathway with a provisional approval so that responsible access can reduce the $1.5B commercialization investment cost that currently prevents investment in early stage research and development. A progressive or provisional approval such as the one that has just recently been approved in the UK will stimulate early investment in developing therapies while, at the same time, allowing access to promising drugs by patients.

4. How can we work together to better translate advances in science into safe and effective new therapies for patients?

    a. The clinical trial infrastructure should be streamlined in an effort to provide provisional access with informed consent to terminally ill patients and their physicians during the development process. A more accessible path to market that includes access to a therapy once a safety signal has been established enables those fighting death by disease to have options they are currently denied, while reducing the costs that are preventing innovation and advance in the US today. Concurrently this will allow a phase III pivotal study to drive the broader labelling around efficacy results and statistics.

5. How do you coordinate your research and outreach with other patients?
    a. Through extremely costly industry vendors and in-house staff that costs over $1.5B on average to commercialize a new therapy over at least 12-20 years, which is why most of this research will never get past discovery, and virtually none will make it through the innovation "valley of death."

6. How do you learn about new treatments and cures? How do you communicate with other patients regarding treatments and cures?

    - The internet, publications, advocacy and support groups, word of mouth, physicians.

7. What can we learn from your experiences with clinical trials and the drug development process?

    This is not a tenable nor sustainable system, and the cost and time not only prevents us from eradicating cancer and other terminal diseases, but for any that succeed to commercialization, the costs to patients and the healthcare system are excessive and exaggerated as a result of the spiraling development costs, time and risk. Do something. Only Congress can turn the regulatory system around while simultaneously preserving our innovation and investment. With this change, our jobs,

and innovation are leaving our shores at an unprecedented rate and our patients are losing out. One need not look past Josh Hardy and others to understand why our drug development process and associated compassionate use programs are failures. Note the success of the MHRA legislation for provisional approval and the expansion of the Right To Try legislations at the state level. Congress should be able to provide a provisional access solution that solves:

1) Access to drugs by those patients who need
2) The pharmaco-economic equation
3) Compassionate use

8. What is the role of government in your work, including any barriers to achieving your goals and advancing breakthroughs?

    a. Congress needs to compel the FDA to allow patients the right to try – right to access therapies in the face of a terminal illness.
    b. The compassionate use / treatment IND program is a failed program. It is not viable.
    c. The longer Congress waits to create REAL and EFFECTIVE regulatory reforms, the longer it will take us to eradicate horrible and costly diseases, the more the healthcare costs will rise and the more millions of people will die unnecessarily.
    d. Recent legislative efforts for reformation of the regulatory process are such that "Accelerated Approval" or "Breakthroughs" sound good but do nothing to change the spiraling and untenable system for medical innovation in the U.S. They are naming conventions at best. ***The role of government has been: Congress – trying to drive real reform, and FDA continuing to block and drive away innovation in the US, under the false premise of protecting the public. Far more people are dying due to deadly diseases than would be harmed by access to earlier stage therapies where driving innovation is the only chance to make real progress and save lives.***

9. How should regulators evaluate benefit-risk? How do you work with regulators regarding benefit-risk? Can this process be improved?

    a. Benefit risk cannot be a one-size-fits-all approach. Each individual has their own tolerance for risk and needs to make that judgment according to their own risk-benefit beliefs.
    b. Benefit-risk cannot be dictated by those that are not intimately familiar with the disease or an individual or corporate belief or misconception. It cannot be regulated.
    c. The risk of dying of a fatal complication of a drug that passes phase 1 safety studies in oncology is 0.5%. The risk of dying of stage 2 cervical cancer is 45% within 5 years, of stage 3 breast cancer is 50% within 5 years, and of advanced lung cancer is 90% within 5 years.
    d. What distinguishes FDA approved drugs from drugs that have passed safety studies, is that the labelling is more able to list specific risks and statistics. This does not mean there are no risks of approved drugs nor does it mean that unknown or unquantified risks cannot be articulated or disclosed (which is all labelling is doing). Americans can choose to drive a motorcycle or drive a car, but no government agency requires labeling as to disclose the risk of driving any type or model of vehicle. Individuals can choose to ski, jump out of an airplane, play football and scuba dive all for fun and all of which can cause death or serious injury. Approved drugs can cause death or serious injury. Deadly diseases cause death and serious injury. Let patients decide what benefit and risks to assume– known OR unknown – when they are facing a deadly disease can and will likely kill them. Give these patients a distinguishing labelling approach of provisional and fully approved drugs, where additional informed consent is required for access to provisionally approved drugs.

10. What is the role of public and private funding in the research and development of cures and treatments?
    The public and private funding is a major revenue source needed to drive early stage discovery and development. The problem is that these billions of dollars go into an endless pit that produces virtually no results due to a $1.5B price tag to commercialize new breakthroughs. The donating public does not realize that continuing to pour charitable dollars into "discovering the cure" is as good as throwing money away, until the commercialization pathway becomes viable. At present, the only entities that can really commercialize any NEW drug is big pharma, so all of us are subject to the discretion of a handful of companies that and their whims, decisions and more importantly risk

profile – which are based on their existing markets/products, investment (regulatory) risk, stock price and corporate objectives – and NOT the best welfare of patients. The government needs to drive reform that will prevent these elite few companies from deciding what will or will not be commercialized for Americans. We are provided the Freedom of Choice by our constitution and we should be allowed as citizens to exercise it!!!!

11. Are there success stories the committee can highlight and best practices we can leverage in other areas?

    a. UK Conditional Approval (http://www.raps.org/regulatory-focus/news/2014/06/19423/EMA-Adaptive-Licensing-Pilot-Program-Moves-Forward/)
    b. Early approval in the Duchenne space
    c. HIV early approval for new drugs

12. How have you worked with other patients to support one another?
    a. Passing on information
    b. Presenting and being active in the Rare Disease Community
    c. Social Media Presence
    d. Speaking at conferences

13. What is the financial burden of your disease? How would better treatments and cures help save money for your family and the federal government?

    a. Cancer and other rare diseases regularly bankrupt families. The government would be better served to allow access to treatments that would ultimately reduce the cost of the drugs for everyone.

14. How can Congress help?

    **a. HR 2090 - The Patient Choice Act of 2013- A provisional approval pathway with informed consent access to patients who need it while simultaneously solving the economic issue and providing a bridge of hope over the valley of death that consumes our innovations as well as preserving our jobs and innovation that is leaving our shores at an unprecedented rate. Real, tangible reform is required, not tiny little steps or new designations for the same antiquated system.**

Questions For Patients

I am responding as someone who has been disabled for over 30 years with trigeminal neuralgia (a severe debilitating and often disabling facial pain disorder - listed as a rare disease), atypical trigeminal neuralgia, atypical facial pain and anaesthesia dolorosa (phantom pain of the face).

**What is the state of discovery of cures and treatments for your disease? Are there cures and treatments now or on the horizon?**

Im am disturbed that there does not seem to be much R&D going on absent new formats of opiods. As for neuropathic pain it seems that there is not working going on to deal with phantom pain and other neuropathies.

**What programs or policies have you utilized to support and foster research, such as patient registries, public-private partnerships, and venture philanthropy?**

I believe I have signed on to a number of patient registries, and answered many surveys about my pain experience.

**How can Congress incentivize, coordinate, and accelerate basic research for diseases we know relatively little about?**

Absent bills that require funding for research I am not sure congress can have much effect, absent making R&D easier. One major issue for many patients is the legalization of medical marijuana. As long as that remains a schedule 2(maybe 1 I always get that mixed up) it is a catch 22, marijuana needs to be studied to and yet it is not allowed to be because it is so highly scheduled.

**How do you coordinate your research and outreach with other patients?**
**How do you learn about new treatments and cures? How do you communicate with other patients regarding treatments and cures?**

I am an administrator for a women in pain awareness group. I and my members often post info on new medications, treatments, etc for the many disorders, diseases that have pain as the main or sole complaint.

**How have you worked with other patients to support one another?**

As noted I have a support group on facebook. I am also a member of many other support groups for people with either my diagnosis(es) or who have chronic pain.
**How can Congress help?**

The National Pain Care Act was passéd by the House years ago yet the Senate let it languish during 3 different sessions. Although it is now an amendment to the ACA the senate needs to attend to these kinds of issues rather then let them falter. The Act called for more research, more research dollars, more education of physicians and patients, and more, and yet since 2003 it was let lie fallow, losing us many potentially productive years.

**What is the financial burden of your disease?**

The financial burden is great (as is the social cost). I am on disability and had my father not left some money I would be homeless. I would also not have medical insurance. Nevertheless because my resources are limited I have not always gotten my prescriptions filled, I have not gone ahead with treatments, therapies, appointments where insurance did not cover.

**How would better treatments and cures help save money for your family and the federal government?**

With better treatments and cures there is a chance of my becoming 'able' and getting back to work. That allows me to contribute to the society by paying taxes, being able to spend more which in turn helps out businesses which helps the community and so on down the line.

Thank you for the opportunity to participate..

Carol [redacted]

Please continue to fund research to find a cure for Polycystic Kidney Disease. PKD has profound effects on the life of the patient and all family members. It causes much pain, much suffering, and at a great financial cost.

My life changed drastically when my father died suddenly in 1963. The autopsy showed he died of a brain aneurysm (one of the side effects of PKD). I had just turned 10 years old.

By the time I was approaching my late 20's I developed high blood pressure and was diagnosed with PKD. My husband and I raised two children and as we did so my journey took me closer and closer to dialysis. By the time I was 42 I needed to be on dialysis. While on dialysis I developed a terrible infection. I was scheduled for surgery and then the call came. I was chosen to receive a kidney transplant. The kidney started working immediately. I did have some terrible infections and several hospitalizations during those early years. Time went on and my kidneys and liver continued to grow. Abdominal pain, dull and persistent, caused by stretching of the wall of a cyst or pressure on another organs was always present. By 2001, I was unable to keep down food because my kidneys were so enlarged. I underwent surgery to have a bilateral nephrectomy. I was released from the hospital after seven days. The first evening home I had trouble breathing and was readmitted to the hospital. I was in intensive care for several days. I spend a month in the hospital.

Things went fairly smoothly until 2012. In the spring I experienced my first rejection episode. I had faithfully followed doctors orders and had taken my medications. The doctors were able to save my kidney. However within two months I was told that my white and red counts were very low. I had to cancel my appointment to have my teeth cleaned because it was to dangerous. I was to stay in the house and stay away from people, canceling a trip to see my four grandchildren. I had to receive injections multiple times over that summer to bring up my white counts. Finally, I was scheduled to have a bone marrow biopsy one summer morning. My doctor had suggested that I have lab work done early that morning, and as I was preparing to leave for the biopsy she called and said my counts had slightly risen! This proved that the problem was caused by the treatment necessary to save my kidney and not from a new problem so the biopsy was cancelled. My white blood counts continued to sag to dangerously low levels. There were several episodes during which I was forced to stay home from my work as a 4k teacher aide until my counts recovered to safe levels.

Then in September of 2013 I came down with Klebsiella Pneumoniae. I was hospitalized for a week and had to stay home from work for several more weeks to recuperate. This too was a result of having a low white blood count and an impaired ability to fight infection.

My liver is also affected as are the livers of many with this disease. The manner in which the liver is built with lobes allows it to continue to function even though it is now bigger than a NFL football. The size of the liver means that my digestion is

compromised.  In some people it ceases to function, as there is no equivalent to dialysis for a failed liver. Those people then need a liver transplant.

I did not suffer through these events alone. Each and every family member and friend suffered with me. There was much family time that was missed due to my illness.

The financial impact to our family and the insurance company has been huge. Currently we pay $400 a month out-of-pocket for just one of my meds because my doctor does not want to risk me taking generic versions of my anti-rejection drugs.  The generics can tend to be less predictable in their uptake rate and thus can cause white cell counts to crash if they uptake too fast or transplant rejection to occur if they uptake too slowly.

This disease has taken my Dad, my Grandmother (who died of PKD before I was born), an Aunt when I was a teenager and another Aunt when I was in my early twenties. Ten years ago my cousin also died. She had received a kidney transplant but got E. coli.

Please set aside money to find a cure for this disease that affects so many. When I was first diagnosed with PKD my Aunt said "Don't worry, by the time you need dialysis they will have a cure". In July, 2014, I will have had my transplant for 19 years. There is still no cure in sight. It is estimated there are 600,000 people in the United States with PKD. Its is one of the world's most common life-threatening genetic diseases. It is believed there are around seven to 17.5 million people worldwide, men and women across all ethnic groups who suffer from PKD. Please help find a cure and change the world.

Carol [redacted]
[redacted]
[redacted]

Thank you for this opportunity to help speed the approval of critically needed drugs for suffering children and adults everywhere.

My daughter [redacted] was diagnosed at the age of 12 in 2008 with a progressive disorder called Friedreich's Ataxia. We were told there was no treatment and no cure for this genetic disorder. She would eventually be in a wheelchair and she would have a shortened live. Friedreich's Ataxia (FA) is a degenerative neuro-muscular disorder that would also cause many other health problems. How can a 12 year old just entering her teens deal with this. I still don't have the answer to that question. Learn more about Friedreich's Ataxia here.
http://www.curefa.org/whatis.html
Thank You for listening and caring.
Sincerely,

Caroline [redacted]
Mother to [redacted]

*** What is the state of discovery of cures and treatments for your disease? Are there cures and treatments now or on the horizon?**

+ Currently there are no FDA (nor other country drug safety organization) approved treatments for Friedreich's Ataxia. Thanks in large
part to our FA-family-created FARA we are in the position (compared to most other rare/orphaned disorders) of having 8 drugs in clinical trial
right now. None of them are approved though, time is passing and our children are dying, so your interest in speeding the approval process is of
the utmost interest to us. See the status of FA research here. http://www.curefa.org/pipeline.html

*** What programs or policies have you utilized to support and foster research, such as patient registries, public-private partnerships, and venture philanthropy?**

+ In 1998 some parents of FA'ers saw the need for a FA organization to focus resources and increase awareness and so FARA, FA Research Alliance,
was born.. Now 15+ years later it is the model organization for other rare disorders. Funding comes from many quarters; grassroots
fundraising, a couple of FARA-run fundraisers, many FARA sponsored fundraisers, direct donations, several well-funded individuals (FA cares not
about social standing nor financial success), etc. See http://www.curefa.org/mission.html on the right side.
+ FARA recognized early-on the importance of having an effective research and approval process infrastructure. FA-interested drug companies
and researchers now come to FARA for
o The FA registry (http://www.curefa.org/registry.html),
o FA clinics trained and ready as trial sites (http://www.curefa.org/network.html),
o The FA Natural History Study
o Grants (http://www.curefa.org/grant.html) to help further their

basic and advanced research work.
+ FARA also recognized the value of collaboration and teamwork among researchers, government agencies and drug companies. Much of their progress is due to this.
+ By browsing the FARA website (http://www.curefa.org/index.html) you will have a much better understanding of FARA's "value-added" to FA research and the FA community.
+ **FAPG**, FA Parents Group was started in 1998. This group is a place for parents of an FA child can get support, advice, help, and love. This support group currently has 600+ members. It is a vital part of an FA parents life. http://www.faparents.org/fapg/
+ More recently Facebook has been added as a research communication media.

*** How can Congress incentivize, coordinate, and accelerate basic research for diseases we know relatively little about?**

+ Have the NIH pay for it since many drug companies won't be interested until translational research shows promise. For Rare disorders the subject of who to fund can be difficult. How much money do you invest for a disorder that only 10 people in the world has? I do not have that answer.
+ Congress could stop cutting the budget of the FDA and the NIH!! You do not "incentivize" nor "accelerate" by taking away their money. The FDA is being mandated to expand their various scopes of responsibility and at the same time their budget is constantly at risk and does not increase easily.
+ You've already done the perks for orphan designation and fast track. I'm not qualified to suggest other programs.

*** How can we work together to better translate advances in science into safe and effective new therapies for patients?**

+ Join the collaboration between patient organizations, drug companies and researchers to identify the technologies and how to integrate them into the testing and review processes.
+ This has to be funded. And you cannot reduce the budgets of the FDA and NIH while expecting them to take this on. Won't happen. You ask for more you give them more.

*** How can we work together to better translate advances in science into safe and effective new therapies for patients?**

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*** How do you coordinate your research and outreach with other patients?**

+ Through communication in the FAPG email group, FA Facebook groups, FARA FA Registry notifications, FARA website and the FARA news distribution list.

*** How do you learn about new treatments and cures? How do you communicate with other patients regarding treatments and cures?**

+ Through communication in the FAPG email group, FA Facebook groups, FARA website and the FARA news distribution list.

*** What can we learn from your experiences with clinical trials and the drug development process?**

+ That collaboration and teamwork do work. Adversarial relationships do not work as well or as fast.

*** What is the role of government in your work, including any barriers to achieving your goals and advancing breakthroughs?**

+ We look to the NIH to help on basic research and collaboration efforts.
+ We look to the FDA to protect our children from "bad" drug treatment alternatives and to move all drug treatments forward posthaste to separate the "wheat" from the "chaff".
+ The FDA is underfunded and understaffed. They also work in an atmosphere of fear-of-retaliation. You cannot work in this field of creation, exploration and marketing without some risk of a "bad" drug slipping through the best of processes. When this has happened "government" did not "have their back" and instead hung them out to dry. Should we wonder why they are risk-averse?? The role of government should be to confirm the "standard of the day" and "process adherence" and then back them up! Unfortunately that is not the governmental "rule of the day". "Backing one up" is a matter of political expediency and voter damage control. I have no idea how can "incentivize" any organization in this climate of "cover your buns". Good luck.

*** How should regulators evaluate benefit-risk? How do you work with regulators regarding benefit-risk? Can this process be improved?**

+ Tough question. The FDA has struggled with this for many years. There is the medical-professional benefit-risk statistical perspective and then there is the personal benefit-risk. For the professional choose a historical-precedent model and run the numbers. Pass/Fail? Relatively simple. Look at the exceptions, intervention, side "events". Make a judgment call (erring on the safe side; ie, "Do no harm"). For the FA parent or patient it is much more visceral and emotional. Watch your child or yourself decline

knowing there is no "cure" nor progression
stoppin/slowing treatment available. Other patients die around you. Desperation mounts; "We need it now!!" is the cry. "But at what risk?" is
usually not heard and if it is heard it probably is not integrated as a real possibility/probability; "Not us/me" is the thought. How do you "work with"
that dichotomy of views?
+ And does the FDA really want to absorb individually the voices of so many emotional people, and should they?
o Focused surveys within a specific disorder and even a specific drug with knowledge of side effects might be a good approach. A survey
administered by the FDA to the 650+ world-wide membership of FAPG for instance might make knowledge and evaluatable information from the din of
individual input.
o Or working with a FARA assigned group in several meetings focused on a specific drug might be useful.

*** What is the role of public and private funding in the research and development of cures and treatments?**

+ Another big question books might be written on.
+ For me public funding should be used when private funding is not forthcoming or inadequate. Again the tough question is that of volume. How
much public funding should be expended on disorders that affect only "5 or 10" people in the whole world? I don't have that answer.

*** Are there success stories the committee can highlight and best practices we can leverage in other areas?**
+ FARA is a success story of the highest order and should be looked at as a model for other disorders, diseases and other areas where research
collaboration is needed.

*** How have you worked with other patients to support one another?**

+ The Email group, FAPG and several Facebook FA groups tie us together daily with opportunities to network and hug at annual FA and Ataxia
conferences. Regionally the various fundraising events draw us to one another occasionally. We do fundraising events annually with other FA families.

*** What is the financial burden of your disease? How would better treatments and cures help save money for your family and the federal government?**

+ The financial and mental health burden varies state to state, how FA presents itself and the individual phase of progression.
*Many/most FA'ers never work so they are on SSI and/or on SSDI (retired parent) getting $600-

ish to $1,000-ish a month to live on. If they
live with someone SSI removes $300-ish for room and board. If they live independently it is a big financial struggle just to live. Parents help to
the limit of their own budgets and the limits set down by SSI.
There are many doctor visits to various kinds of specialists all very expensive. Physical therapy which is of great help to a person with FA is not covered long enough or for that matter considered to be a helpful treatment but is certainly is one for an FA'er. The vitamin supplements thought to perhaps help, and the only help out there currently is not covered and is very expensive. Then one must remodel the home, very expensive. Day to day equipment such as exercise equipment, ramps, bathroom adaptations, wheelchair maintenance, etc are areas of extended cost.
+ Caregiving is needed for many adult FA'ers but even the hours that are given (often none) are not adequate. Parents wear out, get old and get
injured/sick. Many FA'ers desiring to live independently cannot because they cannot get/afford caregivers.

*** How can Congress help?**
+ Fund the NIH and the FDA at levels appropriate with the responsibilities you mandate them with.
+ Back them up instead of throwing them to the sharks when a "bad" drug is discovered.

Dear Sir/Madame
Below is a one sheet from The Scripps Research Institute in La Jolla, California. This vaccine was developed by Dr. George Koob, the current NIH director of Alcohol Abuse and Alcoholism, and Dr. Kim Janda. NIDA director, Dr. Nora Volkow was involved in its research and NIDA has been heavily involved in funding it.

This vaccine has proved successful beyond expectation in pre-clinical trials at preventing overdose and eliminating cravings. It is completely different than Narcan

The research is at a critical juncture right now because it needs more funding to get into phase one clinical trials. I have no financial interest in this. I am part of a group seeking to further medical research into addiction. I would very much like to speak with you after you have had a chance to look at this. I can put you in direct contact with the researchers should that be appropriate.
Best regards,
Caron [redacted]
[redacted]

# HEROIN-KLH

THERAPEUTIC VACCINE FOR HEROIN ADDICTION

**Fact Sheet and Primer**

## THE PROBLEM

Substance abuse and dependence are worldwide problems with significant health, economic, and societal impacts. Of the many illicit drugs of abuse, heroin is often considered the most highly addictive and dangerous. Long-term success rates for rehabilitation programs are generally only between 10-25% because current treatment modalities are inadequate and have measurable drawbacks. Psychotherapy and cognitive behavioral therapy, while helpful for some, are usually not sufficient alone and carry low compliance rates. Methadone or buprenorphine substitution therapy carries the risk inherent in continued opioid use and perpetuates dependence. Opioid receptor antagonist drugs, such as naltrexone, are associated with unpleasant symptoms, possible long-term side effects, and increased risk of fatal overdose with relapse.

## THE SOLUTION

Researchers at The Scripps Research Institute (TSRI) have developed a therapeutic small molecule ("haptenic") vaccine that has the potential to dramatically increase rehabilitation success for heroin abuse and addresses key deficiencies in past vaccine strategies. Importantly, the vaccine elicits a robust production of tightly binding antibodies that protect against even high doses of heroin in relevant animal models. In extensive rodent studies, the vaccine neutralized the effects of heroin and consequently extinguished drug seeking behavior. Instead of targeting heroin alone, the vaccine induces the patient to produce antibodies to breakdown products that also contribute to the psychoactive effects. However, the vaccine strategically spares several opioids, such that legitimate pain control may still be administered clinically if necessary. Since the vaccine does not target the opioid receptors directly, there is no impact on normal physiologic pain control function. Altogether, this novel vaccine represents a low-risk treatment that could confer substantial therapeutic benefit.

The inventors are George F. Koob, Professor and Chairman, Committee on the Neurobiology of Addictive Disorders at TSRI, the leading neurobiology expert with a focus on the constructs of reward/stress and delineating the acute reinforcing effects of drugs of abuse, and Kim D. Janda, the Ely R. Callaway Professor of Chemistry at TSRI and considered the pioneer of creating vaccines against drugs of abuse and other small molecules.

## THE OPPORTUNITY

Further advancement of this promising vaccine into a Food and Drug Administration (FDA)-approved product will require commercial development, as activity within TSRI is limited to basic science research. The business opportunity is significant, given that there are no approved vaccines for heroin (or other drugs of abuse) and potential market size is substantial. There are up to 20 million people globally using heroin each year; and in the U.S., over $20 billion is spent annually for heroin treatment, which does not include the economic impacts from productivity loss, the criminal justice system, and other effects. Given the known negative consequences of continued abuse and the lack of treatment alternatives, the barrier for FDA approval should be comparatively lower than treatments for other indications.

The anticipated path for approval will require a measured strategy and plan generally comprising the following steps in the near term:

- Pre-clinical meeting with the FDA
- Production of vaccine under "current Good Manufacturing Practice (cGMP)" standards
- Animal toxicity studies (2 species)
- Demonstrate efficacy in an additional animal model (likely primate)
- IND filing with FDA prior to initiation of human trials

Although private funding will be necessary to initiate certain aspects of development, there are considerable grant opportunities available. The unique expertise that enabled the development of Heroin-KLH could moreover be directed towards the creation of novel vaccines for other targets such as nicotine, methamphetamine, and cocaine. The technology could also lay the foundation for haptenic vaccines and be applied to numerous other small molecule targets which have been elusive for vaccine development, such as certain infectious diseases, obesity, and chemical warfare agents. In summary, the opportunity exists to develop a dynamic program with multiple product opportunities and a lead product addressing an important unmet medical need in a large market.

House Energy and Commerce Committee:

I am 61 years old and I have polycystic kidney disease (PKD). This past February, I completed the HALT PKD clinical trial at Emory in Atlanta. The HALT study was one of the best things that I have been involved with. I learned so much about my disease and hopefully when the study is over this summer, researchers will learn many helpful things from the study. I look forward to hearing the results.

My mother died around 48 years ago at the age of 42 with PKD. I was a child and grew up without my mom.

My brother died in 2013 at the age of 63 from complications of PKD. He had a successful kidney transplant around 10 years ago. However, he had cysts on his liver also. The liver cysts were restricting his blood flow and the treatment for that caused his transplanted kidneys to fail and he died from kidney and liver failure.

I have a son diagnosed with PKD. He lives in California and is involved in a clinical trial study there.

My husband's nephew found out 2 years ago that he has PKD. Neither of his parents have it, so he has a mutant gene.

There are 3 people (that I know of) in my church that have PKD - A mom and her 2 children. She is in her fifties and the 2 children are in their twenties. She is facing dialysis within the next year. Her sister had planned to give her a kidney but was not accepted to be a donor. So unless a kidney becomes available soon, that leaves dialysis her only option at this time.

So you can see how PKD has affected my life and the lives of my family and friends. There are currently no treatments to slow down or stop the growth of PKD cysts. This is very discouraging. Once the kidneys fail, there is the option of dialysis or transplant. I would like to see the day when there are treatments for PKD so my son, my nephew, and other young people will have treatment options. I would like to see the day when these young people don't have to watch their bodies decline to the point of needing dialysis or transplant. While I am thankful for dialysis and transplants, we need treatment options to prevent us from getting to that point.

Sincerely,
Carron [redacted]

As our population is aging it is more important than ever to consider research into diseases that affect that population. Arthritis is one of those key diseases. Without the ability to enjoy life as before, the individual feels older and less able to care for themselves
Alzheimer's is another disease that is destroying our ageing population. It affects not only the person who has the illness, but also the caretakers. Certainly more funding should be given to this debilitating disease.
We must look into how to prevent and treat these illnesses. Where does the person go if help is not available within the family, or funds are  o longer there for quality care in alternate living arrangements.
The treatment being used for ebola victims was found here in La Jolla. Without research fundinb this and many more discoveries couldn't be made.
Put the money where it is needed most - prevention,  treatment, and planning for life in our later years.
Thank you for your consideration.

Yours truly,
Caryn [redacted]

August 8, 2014

Dear 21st Century Cures Initiative Representatives,

I have watched some of the testimony and read many of the summaries produced so far by the 21st Century Cures Initiative and as a healthcare professional, I have found much of the discussion and information presented extremely stimulating and hopeful.

But I am not writing today as a healthcare professional, instead I am writing to you as a patient with Myalgic Encephalomyelitis, also call Chronic Fatigue Syndrome, or ME/CFS for short and **today, August 8th, happens to be Severe ME Day**.

ME/CFS is a critical health care issue in the US that has essentially been ignored by the CDC, HHS, NIH, FDA, health providers and the healthcare industry for the past 30 years. Between one to two million people of all races, ethnicity and economic status in the US and close to 7 million world-wide are estimated to have the illness. The economic burden within the US is thought to be upwards of 20 billion dollars annually due to the fact that 75% of people with the illness are disabled to the point of being unable to work, unable to finish their education and unable to care for their families. Recovery rates are thought to be less than 10% with recovery happening more in children and adolescents but rarely in adults. It is considered a chronic complex disease where the root cause is not known. It affects many systems in the body, including the central nervous system, immune system and endocrine systems among others. The course of the disease is similar to auto-immune illnesses such as multiple sclerosis where some people experience a relapsing-remitting course while others progressively get worse over time to the point that they become bedbound, unable to eat, toilet themselves or sometimes even left unable to speak. It is indeed a “life-sentence” and in some cases it directly leads to premature death.

ME/CFS has no approved treatments and it gets very little in research dollars. Grants awarded by the NIH over the last several years have averaged about 5 million dollars per year, or roughly $1.56 per affected life per year versus HIV which receives closer to $25,000 per patient per year. Yet patient disability is higher in ME/CFS and is comparable to end stage AIDS. Much of the funding for bio-medical research of ME/CFS has been provided through private donors and many times patients and their families. Self-funding of research is hard for a population that is not able to work and it nowhere near approaches the amount of money needed to likely to lead to biomarkers let alone a cure.

In 2012-2013, the FDA chose ME/CFS as the initial disease to evaluate for a new fast track drug approval program. The process that the FDA used to evaluate the needs of ME/CFS patients, which culminated in a draft set of recommendations to drug companies, appears to have been comprehensive, sensitive to patients and fairly fast moving. I would like to thank the FDA for their work with the ME/CFS community. Unfortunately, I’m afraid that without biomarkers and clearer indications of the causes that trigger and perpetuate ME/CFS, drug and bio-medical companies will not be enticed to “foot the bill” so to speak, to do the explorative research that is needed to help find and develop treatments for ME/CFS.

The Department of Health and Human Services has several initiatives in place that are supposed to help the ME/CFS community. There is the Chronic Fatigue Advisory Committee

(CFSAC), which has been in place for over 10 years but this committee has not produced any significant outcomes despite strong recommendations supported by patients, advocates and clinical experts. Frustrated advocates even boycotted the last meeting because their recommendations have been ignored or were twisted and despite numerous complaints to the Sectary of Health, issues have not been acknowledged or addressed.

Another initiative which is an indirect and non-supported outcome of CFSAC is an NIH awarded grant to the Institute of Medicine to come up with a new working definition of ME/CFS. Once again, this initiative has not been supported by patients and the experts who treat the disease. In fact a letter signed by over fifty ME/CFS medical experts was sent to HHS Secretary Kathleen Sebelius in the fall of 2013 urging the Secretary to stop the IOM process and to adopt an internationally accepted definition known as the Canadian Conesus Criteria (CCC). But the experts and patient requests were not honored.

Finally, there is the Pathways to Prevention (P2P) for ME initiative underway by the Trans-NIH pathways to prevention committee. It is not really clear to most what the difference is between the goals of this group and the IOM group, they seem to be somewhat overlapping and could conceivably reach different conclusions on the same issues. Of the two initiatives, the P2P is probably the most concerning to patients and advocates who fear that the so called "jury" model employed by the committee will only serve to suppress ME/CFS for another 30 more years by indicating a preference toward non-pharmacological interventions such as Cognitive Behavioral Therapy (CBT) and Graded Exercise Therapy (GET). These interventions have been promoted for ME/CFS by psychologists for years but have had no impact on improving patient outcomes. Many patients claim that these therapies have caused them significant harm that has been non-reversible. It is time to end the idea that CBT or GET helps this illness.

In conclusion, I applaud the 21st century cures initiative and whole-heartily agree that our precious research dollars in the US should be used to support well designed studies that lead to cures for chronic illnesses and along with it reduction of illness burden and relief of patient suffering. For ME/CFS that would mean support of **biological and genetic/ epigenetic** based research into what causes and perpetuates the illness in order to find targets for intervention and, should we dare to dream, cures. I also embrace the idea of involving patients and advocates in the decision making when it comes to advancing research through advisory groups and other means. But I caution that any such venues must be responsible for providing more than simple "lip service" to patients/advocates. They must be held accountable to produce outcomes and should have oversight mechanisms where interested parties can voice concerns that invoke reasonable investigation by authorities without retaliation.

So, can the 21st Century Cures Initiative help us with ME/CFS? I do hope so!

Sincerely,

Catherine [redacted]

ME/CFS patient since February 2012

To learn more about how ME/CFS affects patients, I recommend the following:

https://www.youtube.com/watch?v=SofiW7RGLHc

http://voicesfromtheshadowsfilm.co.uk/

I remember me documentary https://www.youtube.com/watch?v=401--WCB5dc

I am the parent of a child with arthritis. My daughter was diagnosed when she was only 15 months and she is now 12 years old. Finding a cure for autoimmune diseases, such as arthritis, is critical. The medications we have tried have helped her to live a normal, active life. However, the medications have many costs - financial, side effects, discomfort, etc. She currently is on a biologic medication that is given at home twice a month. This medication is painful when injected and, you might imagine, not a desired event for her. I hope that by the time she moves away to college that her arthritis will be in remission. At this time, it is difficult to imagine her injecting the medication herself. Finding ways to make the medications the currently work less painful would be helpful.Finding medications that can cure arthritis would be fantastic. I fully support new research to help find a cure for arthritis and other autoimmune diseases.

Sincerely,

Charee [redacted]
[redacted]

I am a 61 year old female with PKD. My right kidney is 19.0 cm and my left kidney is 18.4 cm, which is extremely large and full of cysts. I am doing everything I can to stay healthy and have participated in several studies at the Davita Clinical Research unit in Minneapolis, MN. I also tried getting into the Tovalptan study in Rochester, MN but I could not because of my age. I was terribly disappointed to hear that Tovalptan was not approved for a drug to lessen the size of my cysts, because that is definitely what I need right now. I am at the critical stage where I need something to prevent dialysis or a transplant. Our 35 year old daughter also has PKD and so does our 4 year old granddaughter, so I am constantly praying for research that can help us in any way. I do believe in miracles and also believe anything is possible! So whatever can be done will be deeply appreciated!
Thank you so much for your time!

Cheryl [redacted]

**FDA FAILS TO APPLY EQUAL STANDARDS LEAVING PATIENTS TO SUFFER**

*NEWS Flash… Aduro BioTech, Inc. has received a "breakthrough designation" after positive clinical evidence in the treatment of pancreatic cancer. A breakthrough designation is reserved for drugs that would treat a serious or life threatening condition and preliminary clinical evidence shows great potential for improvement over available therapies, the FDA states. The San Francisco Times reported that the FDA's action could result in drugs being approved in as soon as 60-days, but it does not guarantee approval of the therapy.*

**If I had cancer instead of a devastating Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS), the FDA would be willing to let me have treatment.**

Drugs with risks of fatal autoimmune (Yervoy) and other extreme adverse events are perfectly justified if I might live a month longer – yet being sick for more than two decades and unable to participate in life from a disease that costs this nation more than $22 billion a year **warrants nothing! There are no approved therapies for ME/CFS.**

Ampligen is the only treatment that has positively shown to help those with ME/CFS – and has been provided to patients via an open label trial for more than a decade – clinical trials covering 90,000 doses. It is **deemed safe for approval** by the top experts in the field and by the FDA advisory committee (Dec. 2012), yet the FDA continues to deny patients the opportunity for treatment.

Why? because they say they are unsure of its efficacy although they admitted after denying approval that they did not understand the disease.

**THERE IS NO JUSTIFICATION FOR FAILURE TO PROVIDE TREATMENT.**

FDA has the power to approve Ampligen with conditions. FDA is to protect public health not deny it. Give us the right to choose our care. We want our lives back. This isn't a game – it's the lives of more than 1 million Americans.

The Honorable Fred Upton
Chairman
Committee on Energy & Commerce
2215 Rayburn House Office Building
Washington, DC 20515

The Honorable Diana DeGette
Ranking Member
Subcommittee on Oversight & Investigations
Committee on Energy & Commerce
2322 A Rayburn House Office
Washington, DC 20515

Dear Chairman Upton and Ranking Member DeGette,

We are pleased to submit to you a testimonial of our journey with a chronically ill child who could benefit greatly from the 21st Century Cures Initiative. Please find attached our letter of testimonial in PDF format. It is our hope that this will contribute to the information you are gathering with the goal to get from research to cure as quickly, safely and efficiently as possible. Thank you again for taking on this vitally important work. We support you in this and would like to help however we can.

Very respectfully,
Christian J and Ana Maria [redacted]

Nemours Children's Hospital

**NCH Family Advisory Council**
13535 Nemours Parkway
Orlando, FL 32827
p (407) 650-7493 f (407) 650-7058
Nemours.org

July 17, 2014

Chris and Ana Maria [redacted]
[redacted]
[redacted]

The Honorable Fred Upton
Chairman
Committee on Energy & Commerce
2215 Rayburn House Office Building
Washington, DC 20515

The Honorable Diana DeGette
Ranking Member
Subcommittee on Oversight & Investigations
Committee on Energy & Commerce
2322 A Rayburn House Office
Washington, DC 20515

Dear Chairman Upton and Ranking Member DeGette,

We are so excited to hear about the new 21st Century Cures initiative. As parents of a child with two chronic illnesses, neither with any cure, we are hopeful that this initiative can accelerate the pace at which cures are found, for all sufferers, and for all currently incurable diseases.

We want to relate to you our story, which is really just that – our story. A series of unfortunate events. But we hope it will add to the tapestry that the 21st Century Cures initiative is weaving, and when you have enough threads, you will see the picture and know what needs to be done.

Our story starts at a pediatrician's office, in 2000. We have three children, [redacted] born in 1987, [redacted] born in 1993 and [redacted] born in 1994. Prior to 1997, we had gone for years to a nice old pediatrician, who retired. We found a new pediatrician but we did not know to request the records be transferred. By the time we requested them, there was no office to request them from and there is really no way to find out where they went. We were not overly concerned at the time as we had a new pediatrician, and the kids were getting their shots and seemed to be doing OK. But one thing that was a constant question in our mind was why [redacted] were not growing like before. But when we told the pediatrician that we were concerned that [redacted] were not growing as they should, our pediatrician told us, "well, you're short so they would not be expected to be tall. If he had had the records, or if WE had had the records, perhaps we could have reacted sooner. But we didn't and it was not until 2002 that we changed to our Family Practice physician who immediately upon seeing Tiani said "you need to see an endocrinologist." He also noted that [redacted] should be tested for his slow growth. We took them to a pediatric endocrinologist we were referred to, and it turned out that [redacted] had Hashimoto's disease, in which her immune system was destroying her thyroid gland, giving her hypothyroidism. As soon as we started treatment on levothyroxine, she started growing much faster. [redacted] it turned out, had an Insulin-like Growth Factor (IGF-1) deficiency. His case was not so easy, because the treatment for him was growth hormone. In order to get the insurance to cover the growth hormone, we had to file petitions all the way to the state of Virginia Insurance Commission. Together with the pediatric endocrinologist, we

embarked on a hunt looking for papers and research studies on children with this deficiency in order to make the insurance company aware of the need. It was a long, drawn out, confusing process that in the end we finally got [redacted] the treatment he needed, but delayed about a year. Every health professional agreed he needed the growth hormone, except the nurse at the insurance company. Finally the insurance company was convinced. This horrific, traumatic and draining process needs to be shortened. Finally, we started treating him in 2003. He then started to grow at a pace that was more normal. Both were low on the growth charts and always would be, but at least things were moving in the right direction[redacted] was lucky: he stayed on the growth hormone therapy until he was 16 and managed to reach his expected height.

Eight years ago on December 8th 2006, at the age of 12, our daughter, [redacted] was diagnosed with type 1 diabetes (T1D), also called Juvenile Diabetes. Every minute of every day, [redacted] has to be her own pancreas. She checks her blood sugar by pricking her finger at least 5-8 times a day, and uses a drop of that blood each time to test it for glucose using a meter. Her fingers are pin cushions and eventually lose the feeling in her fingertips because of all the pricking. Then based on the number the meter says, she tries to figure out what her pancreas should have done. She has to inject just the right amount of insulin after every meal. If her calculations are off, even a little bit, she could under-compensate and end up with high blood sugars that will eventually make her blind and give her neuropathy (pain) or worse, causing Diabetic Ketoacidosis (DKA), that can kill. If she overcompensates, then her blood sugar can drop so low so fast that she feels weak, could pass out, or have seizures and end up in a coma.

**While we are all about finding a cure, we are also advocating for making things easier while the search for a cure goes on.** As you have already heard, there are great advancements in treatments for T1D on the horizon for [redacted] if only we could get to them. Here is a story about [redacted] and her attempt to get the new Medtronics threshold-suspend system. [redacted] has been on the insulin pump since 2008. [redacted] has been interested in upgrading to a newer system. Since Medtronics was working on getting their pump to talk to a Continuous Glucose Monitor, [redacted]opted for that one. But the process for getting that system is complex and time consuming. We have noticed that this low threshold suspend technology has been available for a long time in Europe, Israel, Australia and others, but is only recently available here. From a parent's perspective, that is unacceptable. Why does it take so long for the FDA to approve these new technologies? Sure you want it to be safe, but what about the risk of NOT doing anything? As the parents of a chronically ill child, we are more willing and able to be very active and useful participants in studies, but there are not enough studies. In reality, even when treatments are approved for general use, it is still a study. **The pace of FDA approval does not make treatments for the chronically ill any better. Streamline this, let us know the risks and make our choices. After years of providing care for our chronically ill child, I am sure many of us could tell you a thing or two about the condition we deal with day in and day out. Trust us more to be partners in care.**

[redacted]

[redacted] Having three children all of whom were Nemours patients at some point gives me a great insight and experience about children's healthcare. Thanks to Nemours care and our great partnership with their health care team, all are doing well. Our family has made the fight to cure Diabetes our number one passion. We walk every year and raise funds in the JDRF Walk to Cure Diabetes, always wearing shirts designed by my youngest daughter. We also participate in advocacy efforts for JDRF in the Special Diabetes Program (SDP) to get Congress to fund research for T1D through the NIH.

I know this is a somewhat long letter and thank you for taking the time to read it. We would like to conclude with these final thoughts.

**In short, we need Congress to support research, especially pediatric research. It IS making a huge difference. We have seen it with T1D first hand. Many of the most debilitating chronic childhood diseases are also among the rarest. If Congress does not take up the torch for them, who will? These children are not business cases.**

**We also need to have a national system to help <u>parents</u> of the chronically ill child find the research trials. ClinicalTrials.gov is great, but is obviously oriented toward the researcher or health professional. Also, there are a lot of studies we have found that are not on that website. Please provide a family-oriented thread to that website.**

Families with chronically ill children have enough to deal with just keeping their children alive, so create a streamlined health care delivery mechanism and processes that will make our lives easier. Our child has T1D, it is NOT going away, so why is it "Ground Hog Day" every time we deal with another insurance, another doctor, another pharmacy, another medical supply company? It is more than just medical records, it is prescriptions, medical supplies, and access to care.

On a bit of a tangential note, every time [redacted] goes through an airport, it is a nightmare. **It would make our lives easier if there was a system to enroll chronically ill children in a trusted traveler program (similar to TSA Pre-check) so that they don't have to be stigmatized every time they go through an airport.**

In conclusion, we invite you to visit Nemours Children's Hospital or a children's hospital in your state or district as part of a field hearing or organized tour. We (and other parents like us) would love to tell you more of our stories. We want to discuss ways to accelerate the path to cures while improving the lives of children with diseases. Every family has a journey to tell about and the Family Advisory Council provides a great forum for that. They say it is the Hospital built by families for families, which sounds like marketing, but it is very much the truth. We know because we were one of the families. We got in all the different cribs before Nemours bought them, and our opinions helped them choose. We tasted the food before Nemours hired the food service vendor. We even participate in their rapid improvement workshops, in one case telling them how to improve rounding. We serve on their committees, and they depend on us to be up front with them. And we are, if we don't like something, we let them know, and they listen. So, come see us, we would love to show you the hospital that we built for our kids. Why do we do all this? Because we love our kids and would do anything to make their life better. Please do your part in helping us to do that.

Thank you for the opportunity to tell our story,

[redacted]

Chris and Ana Maria [redacted]

Alfred I. duPont Hospital for Children
Wilmington, Delaware

Nemours Center for Children's Health Media

Nemours Children's Clinic
Jacksonville, Florida
Orlando, Florida
Pensacola, Florida
Wilmington, Delaware

Nemours Health & Prevention Services

Nemours Health Clinic
Wilmington, Delaware

Nemours Mansion & Gardens

Nemours.org

KidsHealth.org

PedsEducation.org

**Doctor Name**
Title

**Doctor Name**
Title

**Doctor Name**
Title

Dear Chairman Upton and Rep. DeGette:

The National PKU Alliance (NPKUA) thanks you for this opportunity to comment on the current treatments, research, and needs of the PKU community. The NPKUA works to improve the lives of individuals with PKU and pursue a cure.

Every baby born in the United States is screened for the early identification of PKU and many other disorders as a public health activity to prevent severe disability and death. Last year, we celebrated 50 years of newborn screening for PKU. PKU is the first disorder screened for at birth and is an example of the success achieved from the early diagnosis of rare, genetic conditions. The mandatory newborn screening program carries with it a responsibility for comprehensive long-term follow-up and treatment for these conditions. However, after more than 50 years of screening, far too many individuals with PKU struggle to gain access to the treatment they need to prevent severe disability.

We share this experience with the Committee because any new treatment or cure is rendered meaningless unless patients have access to the treatment. The experience of PKU patients demonstrates that a lack of insurance coverage for medically necessary and efficacious treatments – particularly in the federal health programs – has a detrimental impact on patients, their families, and society.

The cost of treatment for PKU is approximately $12,000-$15,000 per year. This is beyond the means of most every family. The cost of not treating PKU, however, is much greater. To care for an untreated PKU patient will cost between $60,000 and $200,000 per year. In addition, an untreated PKU patient can no longer contribute to society as a wage earner and taxpayer. Instead, they become dependent upon government programs such as disability and Medicaid.

One way to improve this access problem is for the Committee to consider and pass the Medical Foods Equity Act (MFEA), H.R. 3667. The MFEA would require the federal health programs to cover the necessary medical foods treatment for PKU. Passage of the MFEA would help fulfill the promise of newborn screening and ensure that individuals with PKU have access to the treatment they need.

Thank you for considering the needs of children and adults living with PKU.
Sincerely,

Christine [redacted]
[redacted]
[redacted]
[redacted]

Dear Chairman Upton,

I am aware that the House Energy and Commerce Committee has launched the 21st Century Cures initiative. I would like to advocate for more research that would hopefully find a treatment, better yet, a cure, for Polycystic Kidney Disease (PKD). My family has this genetically transferable disease that goes back several generations. The first that I knew about it was when my grandmother died when I was only 5 years old and later in life my mother told me what she died from. That's because my mother inherited that gene from her mother and died at the young age of 76 years old after being on dialysis for almost 11 years. My grandmother did not have that option at the time of her death. We were lucky that we got to enjoy celebrating life with my mother for an extra 11 years after her kidneys failed from PKD. Unfortunately, the odds of getting this disease from your parent are 50% for each child. With that in mind, 4 of the 5 siblings in my mother's family inherited that gene. And it continues. In my immediate family, 3 of the 6 siblings inherited the gene, and now my sisters have passed it along to some of their children. There must be an end in sight! There was hope recently that a clinical trial drug would pass FDA approval; that drug would have slowed the progression of the cysts on the kidneys which eventually destroy them. It was a very sad time when we found out that the FDA was not able to approve the drug. I was really anxious for its approval since my sister was getting very close to starting dialysis. Sadly, she had to start a couple of months ago. This is the only option while she waits to see if she qualifies for a kidney donation. I have been spared inheriting this disease, but it doesn't make it easy to start to watch my sisters go through what my mother did for almost 11 years. Three days a week for 4 hours duration you are hooked to a machine that works for your kidneys in ridding the body of toxins. On your "off dialysis" days you hope that you're feeling good enough to accomplish some day-to-day living tasks and responsibilities e.g. laundry and marketing, and spending some quality time with your children and grandchildren. It is a harsh reality when you start on dialysis and your life changes forever.

My family, friends and I have tried to help with this cause any way possible. We annually do a walk and raise money for either the Northeast Kidney Foundation or the Polycystic Kidney Foundation. It's one part of the puzzle in trying to find a treatment or cure for PKD.

I hope I have convinced you that this initiative must surely include closing the gap between PKD and the number of treatments available; better yet, a cure. I am ever hopeful!

Thank you for your kind consideration.

Sincerely,

Christine [redacted]

The House Energy and Commerce Committee has launched the 21st Century Cures initiative to draw attention to and close the glaring gap between the number of diseases and the number of treatments available. The committee is seeking input from patients and advocates regarding what cures and treatments are available for individual diseases, how they work with researchers and other patients, their experience with clinical trials and what role government has played.

As you are well aware, there is currently no treatment to slow or stop the growth of the kidney cysts that plague generations of families suffering from polycystic kidney disease (PKD). The only remedies for PKD patients once their kidneys fail are dialysis and transplantation. While these

options are life-saving, having a treatment that preserves healthy kidney function is the best option.

We encourage you to send your input on the lack of real treatments for PKD and share your experiences to help Congress move the ball forward. **All comments must be sent to cures@mail.house.gov by June 13, 2014.** Please cc the PKD Foundation at [redacted] so we can be aware of the input from the PKD community.

Committee Chairman Fred Upton (R-MI) commented, “Ultimately, 21st Century Cures is about patients. Our efforts seek to provide hope to families all across the country. Their invaluable perspective and input in this process is critical and we look forward to partnering together in the months and years ahead as we seek a path to cures.”

June 10, 2014

The Honorable Fred Upton
Chairman
Committee on Energy & Commerce
2215 Rayburn
Washington, DC 20515

The Honorable Diana DeGette
Ranking Member
Subcommittee on Oversight & Investigations
2322 A Rayburn
Washington, DC 20515

Dear Chairman Upton and Ranking Member DeGette:

Thank you for requesting comments for 21st Century Cures-Patients. I appreciate the opportunity to share my family's story, which underscores the need for a greater investment in pediatric research, cures and support groups at children's hospitals across the country.

On June 19, 2012 we found a small pustule on our daughter [redacted] thigh. At the time, she was nine months old. Until this time, she was a healthy happy baby who ate well and gained weight appropriately. She was also the happiest baby I have ever seen. Even though she was breastfed, she began sleeping through the night at six weeks and almost never cried. She was an absolute dream come true! Within a week there was a lesion about three inches in diameter that went down to her muscle. It was extremely painful. Later we were told that the pain was much worse than that of a burn but she still almost never cried.

As per our regular pediatrician, we were treating her for MRSA. We were told to take her to the Emergency Department if she developed a fever. Ten days after the initial pustule, she developed a fever and we were admitted to the hospital. It took a couple of days to diagnose her condition as Pyoderma Gangrenosum (PG). They were the scariest days of my life. PG is associated with adults who suffer from Crohn's disease, rheumatoid arthritis and a few other auto-inflammatory diseases. However, [redacted] was only the 17th reported case in infants. Most of these infants responded to oral steroids and then followed up with some other maintenance medication with success. These other infants were not followed past two years although we did find one who was followed for five years with no recurrences. [redacted] would not follow that same path. During the first week in the hospital, she developed another large lesion on the side of her abdomen and a few other small ones on her limbs. We were forced to insert a PICC line. The PICC line was necessary because she was refusing to drink or eat and she was on IV steroids. We also had a lot of trouble keeping an IV line secure. Yet, every time there was trauma to her skin, she developed a new lesion therefore we could not use the standard methods for keeping an IV or PICC secure. We could not use any tape or even band-aids. The lesions were growing out of control

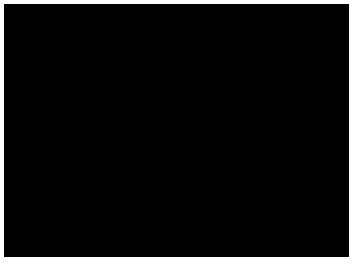
and they grew very quickly. Watching our baby's skin deteriorate so quickly was one of the most terrifying things I have ever experienced.

It was so difficult to control her pain. Because [redacted] was always a happy and vivacious baby who almost never cried or fussed, it was difficult to tell when she was in pain. Even with all of this going on, she was pleasant as long as we controlled her pain. It was evident that she was in constant pain even with morphine every four hours and oxycodone for breakthrough pain. It was difficult to hold her and soothe her because she had so many lesions.

After a short trip home, we ultimately stayed in the hospital for two months. [redacted] celebrated her first birthday in a hospital conference room. It was actually awesome. The hospital helped us organize it and it was a blast. We immediately began using IV steroids again and added some other medications that are meant to lower the immune system in an attempt to stop the remarkably rapid growth of the lesions. In our first week back, she had developed lesions on her face, scalp, and diaper area and most painfully at the PICC insertion site.

Every other day we had to change her dressings which took sometimes over an hour. These procedures were extremely painful for her although the hospital did a wonderful job of trying to make her more comfortable by premedicating her, using very special bandages and trying to distract her as much as possible. Even with all of that, it was horrible for her and she would scream the entire time. In total she had about thirty lesions. This is a time in my life that I have to block out of my memory. No mother can hold down her screaming infant while doctors and nurses peel bandages off of her totally exposed muscle and be a whole person again. Finally we tried a treatment called Remicade. While receiving this treatment, we were able to begin weaning her from the steroids and by the time we left the hospital she no longer needed the PICC line and was taking all of her medications orally. Her eating and drinking were not totally where they needed to be but she was improving. It was during this admission that the vomiting began. I started to notice that the days when LillyAnna's lesions were particularly sore, she would vomit before bed.

We were discharged from the hospital on Remicade treatments and a plethora of other oral medications in late August of 2012. I had to resign from my full time position as a public school teacher; her care took up the majority of our day and we were at the hospital two or three times a week sometimes for a whole day.



Soon, I began to notice that [redacted] was having some of the reactions to the Remicade that we had been warned may happen when a child has an adverse reaction the first couple of infusions. Finally we had to readmit her to the hospital in November of 2012. There we found out that she was building antibodies to the Remicade; that is why it was losing its effectiveness and we were seeing a resurgence of symptoms. She most likely will never be able to use Remicade again. At this time we were faced with

many decisions and [redacted] was taking her first steps. We needed to find out why she was refusing to eat and drink because it was such a problem that she was dehydrated and losing weight. Along with the advice of her doctor, we decided to scope her entire digestive tract. This is something we had avoided in the past because of the fear that we would cause lesions to develop on the inside by causing trauma.

However, at this point it was necessary. The scope did not show us much. We began pursuing a second opinion with our doctor's support; however other children's hospitals have as yet been unwilling to see us. It is difficult to contact them due to the "rare-ness" of [redacted] disease. We do not even have a specialty area we can contact. I have to try to convince their diagnostic teams to see us. This is not as easy feat.

At this point I compare [redacted] suffering to that of an eighty year old woman. She has arthritis and bursitis in her fingers, toes, knees, elbows and hips. The other day I watched my two year old try to string beads and get frustrated because her little fingers were too swollen and in too much pain to get the job done and she just cried in frustration. She also still vomits so much that it is difficult for her to gain weight and grow appropriately.

She has her good days and her bad days but the bad outweigh the good unfortunately. The medications we are currently using to treat her are just plain terrible. She is getting Humira which is a bi-weekly injection but not even FDA approved for a child her age. She also gets weekly Methotrexate injections. My husband and I cannot even think about the carcinogenic effects of these medications. From my own research and what the doctors have said between their words, it is not a question of whether or not they will cause cancer, it is a question of when they will give her cancer. Never mind the fact that they are not doing a very good job. My doctor often tells me we have a tenuous hold, at best, on this disease. I do not like the fear I see in his eyes when he says this but it is even scarier that he flat out admits how scared he is.

So the answer to your first question of what is the state of discovery of cures and treatments for our disease is quite clear; there are none, there are none now and there are none on the horizon. I have worked so hard to be an advocate for this little girl, we have given up so much as a family and yet, I cannot get much attention for her in the medical world or the social world. Once people meet her they simply fall in love. They are entranced by her story, by our family and by *her*…. Her strength, her tenacity, her bravery. But we have tried to gain the attention of day time talk shows, local news stations, and social media. The only avenue which has worked has been my blog [redacted] Finding a way to gain attention for rare cases not only in the medical community but in the government, and social community would open our world enormously. People just do not understand, the medical community included and maybe even more so than the others. We need understanding and attention in the medical world more than any other. It is cases like [redacted] where it seems as if there is only one that there may be others suffering with the same symptoms, we have no idea because no one is listening.

But we are not alone in this difficult journey. Other parents of children with rare disease have many of the same struggles.

The single most important piece to any success we have had has been our support group "Chronically Cool Families". This group is run by a social worker at the hospital and two Childlife workers who give their time for this group. They are not paid. The hospital lets us use the rooms and the Women's

Auxiliary pays for some light snacks if we request them. The group is composed of families who have a child suffering from a rare disease. At the risk of sounding overly dramatic, this group has literally saved my life. It is the sounding board that understands feelings no one else in my world understands. It is the source of medical information to which no one else has access. It is the group of people who knows the ins and outs of the systems of federal Medicaid and Medicare and how it applies to a child under two who has a disease no one has ever heard of. It is the group who understand the social etiquette of going to a child's funeral. We go on trips together so our kids can go places and know what it feels like to be normal. These types of groups need to be funded in every children's hospital in the country. We need money, we need resources, and we need attention. You can help to give us a platform and to shine a spotlight on the state of research for pediatric rare diseases.

The financial burden we carry is enormous. As I mentioned, I had to resign from my position as a public school teacher. We are lucky in that my husband also worked for the school district as a maintenance mechanic so we are able to keep [redacted] state benefits and supplement with Medicaid. However, we went from a dual income household to basically a single income household. Currently I have gone back to my college job of bartending two nights a week just to make ends meet but this is extremely difficult for us emotionally. When [redacted] has a difficult day, it is almost impossible to leave her and the nights I work I am only getting two to three hours of sleep if I am lucky. I have learned that most families in our situation sell their homes and downsize. That is what we are looking at doing next but with the housing market being what it is and the debt we have already acquired before receiving help, it does not even seem that would do anything for us at this time. The Social Security office told us to let them know if my husband lost his job, then they would be able to help us.

I wish I had a good answer for how you can help but I am realistic. I know that no one is going to throw a ton of money into a disease that only one child has no matter how much that child's family is suffering, no matter how beautiful that child is (inside and out). But there are some things you *can* do. Grow our support group, find money to support it and pay the people who are running ours. Then give them the resources to make it happen in other hospitals. You could also work with the National Institutes of Health to allocate additional resources to pediatric diseases as a whole.

The other thing you can do is help us financially. We fall into a unique niche in the world of disease. We cannot just hire any old nurse to care for our little ones. Especially someone in my position. I have to care for her and she cannot got to daycare or school. I made more money than my husband and now, suddenly I cannot work. What would that look like in your house? If the main bread winner suddenly had to stay home?

Research into inflammatory diseases could not only help [redacted] but could help many other children who have similar issues.

Thank you. Those words are simple and overused but in this case there are none more appropriate. You are taking an interest where not many others are and you, who have the power, are asking how to help. Thank you for listening. Thank you for caring. If there is anything else I can do to persuade, assist, inform or educate please do not hesitate to ask.

Dear Members of the House Energy and Commerce Committee,

I am writing to provide citizen input as to my experiences with treatments as a patient with rheumatoid arthritis. I am currently 56 years old and was diagnosed with RA when I was 13 years old (JRA at that point in time). During this whole lengthy time period I have been greatly dissatisfied with my treatment experiences.

In regards to medication as treatment, I am allergic to aspirin, and thus am unable to tolerate any of the non-steroidal anti-inflammatory medications (NSAIDs). When I was younger, my pediatrician gave me baby aspirin to try to build up my ability to take aspirin, but all that did was lead me to a huge almost lethal allergic reaction when I was in my early 20s. After that the medication of choice seemed to be prednisone and corticosteroid injections into inflamed joints. These injections caused an infection in the synovial fluid of one of my joints. I was given prednisone as a young teenager and have been on this medication off and on since that point in time. I have tried many of the non-biologics - oral gold, Arava, sulfasalazine, Celebrex, plaquenil, methotrexate. I have developed reactions or experienced side-effects that forces me to stop taking most of these medications. My liver counts went through the roof on Arava. I was bleeding internally on Celebrex. I started taking Enbrel when it was first available and then my bone marrow basically stopped functioning - I had extremely low blood counts. So, I took a three year break from the Enbrel. I was able to try to go back on it, without the accompanying blood issues, but then I developed a cancerous lesion in my lung. After a surgical cure of this and a two year break, my doctors (rheumatologist, oncologist, pulmonologist and GP) all listened to my arguments and allowed me to go back on Enbrel. I wanted to do this as I had been ordered off of Enbrel and methotrexate and was only on prednisone due to the possible connection to the cancer and lung issues. The prednisone was not working effective, except at very high doses and the side effects from this were too dangerous to continue indefinitely. I was miserable and not able to function. I have been back on Enbrel for about eight months and am doing better, but have to be closely monitored for any side effects. I am experiencing some side effects and it is a tradeoff between how bad they are versus how I want to feel joint-wise. I have been unable to complete go off the prednisone and am trying to taper slowly, but having been on it for more than two years straight, my body is not adjusting well to trying to come off of it. The side effects of this are horrible - weight gain and body distortion, possible bone loss, adrenal gland issues, elevated blood pressure...

My treatment has not only consisted of medications but also appointments with rheumatologists and physical therapists. I would like to comment on that treatment as well. My current rheumatologist and one that I had while I was in college in the late 1970s are (were) both excellent. They keep up with research and information and listen. They treat me very well and try their best to make me better. I have had many other doctors over the years that were not so good. During a particularly bad flare up in the early 1970s I was hospitalized while my doctor tried to figure out why I had the symptoms that I did (I now know that they were all very typical and classic RA symptoms). They thought I was pregnant and ran numerous pregnancy tests. They then referred me for psychological counseling as they thought the fatigue I was experiencing was depression. I have been to the ER for hugely inflamed joints - white blood counts of 80,000+ - only to be given pain medications and sent home. My two sons and I also have experienced a great deal of gastroenterology symptoms - which may or may not be

autoimmune issues and related. Some doctors read the literature and are aware of possible connections - others such as a pediatric gastroenterologist have told me that there is no possible connection. Physical therapists are the worst - they do not understand RA patients and they do not know that overuse of a joint will cause days and weeks of pain and agony. While my current rheumatologist is an excellent doctor, we are really just treading water with possible treatments for me. Many are not effective and have dangerous side effects and my joints keep getting worse and worse. I am very limited in what I can do physically. I am still able to work full-time and take care of my own personal needs, but I am not sure for how much longer I can do these things. I want to be well and live a healthy positive life, but right now that does not seem likely.

The best thing that I can do as far as treatment goes is to read and ask questions. I am my own best advocate and I should have a say in my treatment and care.

The worst thing that I have experienced though is the diagnosis of my 22 year old son with the same insidious disease at age 20. I can only hope that his future is brighter and that better treatment can be achieved for him. He is seeing my rheumatologist and she is taking excellent care of him. He is on Humira and it is helping his RA and also his gastro issues.

Thanks for reading all of this. I am glad to answer any questions or provide more information. I appreciate the committee's efforts in this area.

Sincerely,

Lucinda [redacted]
[redacted]
[redacted]
[redacted]

My and my family's disease is Polycystic Kidney Disease (PKD). Chances of inheriting this disease are 50%. My personal research shows that 50% of my extended family have this disease. My only child has it. She has two children. Will one or both inherit it? At 50%, the numbers increase exponentially!

What is the state of discovery of cures and treatments for your disease? Are there cures and treatments now or on the horizon?
THERE ARE NO CURES.
TREATMENT IS DIALYSIS FOR LIFE OR TRANSPLANTATION.

What programs or policies have you utilized to support and foster research, such as patient registries, public-private partnerships, and venture philanthropy?
I AM A SUBJECT IN A MAYO CLINIC GENETIC RESEARCH PROJECT (We are the largest family they are following); U of MN RESEARCH, SUPPORT PKD FOUNDATION THROUGH MEMBERSHIP AND FUND RAISING.

How can Congress incentivize, coordinate, and accelerate basic research for diseases we know relatively little about?
GIVE THE CHALLENGE TO PASSIONATE EXISTING ORGANIZATIONS AND FUND THEM. DEMAND ACTION AND ACCOUNTABILITY AND DO YOUR JOB AS A CONGRESS IN MONITORING THAT THE FUNDS ARE SPENT THE WAY THEY ARE SUPPOSED TO BE SPENT. ASK QUESTIONS: WHAT PROGRESS ARE WE MAKING. EMPLOY ENOUGH PEOPLE TO DO THE TASKS.

How can we work together to better translate advances in science into safe and effective new therapies for patients?
I AM UNAWARE OF HOW YOU ARE WORKING TOGETHER NOW, SO DON'T FEEL QUALIFIED TO ANSWER THIS.

How do you coordinate your research and outreach with other patients?
I AM JUST AN INDIVIDUAL. MY PERSONAL RESEARCH AND OUTREACH HAS BEEN DONE BY ESTABLISHING A FAMILY TREE WITH PKD MEMBERS MARKED. I REGULARLY COMMUNICATE WITH FELLOW TRANSPLANTEE'S AND ALL FAMILY ABOUT PKD. I PROVIDE INFORMATION TO FAMILY MEMBERS AND OTHERS ABOUT PKD. I AM CURRENTLY HELPING TO FIND A DONAR FOR A PERSON WHO'S KIDNEY'S ARE RAPIDLY FAILING. I ATTENDED THE U of MN 50TH YEAR CELEBRATION AS A TRANSPLANT FACILITY AND NETWORKED THERE. I HELPED THE MAYO CLINIC RESEARCHER UNDERSTAND SOME OF OUR PKD FAMILY HISTORY AND PROVIDED NAMES AND ADDRESSES. I MAKE IT KNOWN THAT I AM A TRANSPLANTEE AND ENCOURAGE OTHERS TO LEARN MORE ABOUT THE DISEASE. I HAVE SPOKEN TO OUR LOCAL ROTARY ABOUT THE DISEASE IN OUR FAMILY - MANY OF WHOM LIVE IN THIS COMMUNITY.

How do you learn about new treatments and cures? How do you communicate with other patients regarding treatments and cures?
I AM A MEMBER OF THE PKD FOUNDATION AND RECEIVE THEIR MAILINGS. I TALK WITH MY DOCTORS. I GOOGLE FOR INFORMATION. I READ ALL I CAN. I COMMUNICATE WITH OTHER PATIENTS AT GARAGE SALES, WHEN VISITING WITH FRIENDS AND FAMILY - OFTEN AT A MEAL. I ANSWER QUESTIONS PEOPLE

ASK ME ABOUT THE DISEASE. FORWARDING INFORMATION VIA E-MAIL IS ALSO A COMMUNICATION TOOL.

What can we learn from your experiences with clinical trials and the drug development process?
IN ONE OF THE RESEARCH DRUG TRIALS I WAS IN, THE RESEARCHER WAS EXCELLENT IN COMMUNICATING OFTEN WITH ME. ANOTHER I WAS IN, THERE WAS LITTLE COMMUNICATION. I UNDERSTAND THAT A RESEARCHER MAY NOT HAVE THE BEST COMMUNICATION SKILLS SO THAT SHOULD BE TAKEN INTO CONSIDERATION. ADD A COMMUNICATOR TO THE TEAM IF NECESSARY.

What is the role of government in your work, including any barriers to achieving your goals and advancing breakthroughs?
THE GOVERNMENT IS NOT A BARRIER FOR ME. I BELIEVE THE GOVERNMENT IS A BENEFICIAL AND IMPORTANT PARTNER IN HAVING A HEALTHY CITIZENRY.

How should regulators evaluate benefit-risk? How do you work with regulators regarding benefit-risk? Can this process be improved?
MY REGULATORS ARE MY COORDINATOR, DOCTORS AND HEALTH INSURANCE PROVIDER.
MY COORDINATOR AND DOCTORS ARE EXCELLENT IN ANSWERING MY QUESTIONS ABOUT BENEFITS AND RISKS. I ASK ALL OF THEM THE SAME QUESTIONS. IF THEY HAVE CONFLICTING ANSWERS, I TELL THEM AND PURSUE TRYING TO FIND A SATISFACTORY ANSWER. IN THE END, I MAKE THE DECISION ABOUT THE BENEFIT-RISK FACTOR. FOR FOLKS WHO ARE NOT AS ASSERTIVE AS ME ON THIS ISSUE, HAVING AN ADVOCATE WHO DOES THIS MIGHT BE HELPFUL TO THEM.
I'D SAY THE INSURANCE COMPANY IS NOT SO EASY TO WORK WITH. THEY HAVE BOILER PLATE POLICIES AND I BELIEVE SOMETIMES MAKE DECISIONS NOT RELATED TO BEST PRACTICES PATIENT CARE. BOTTOM LINE FOR THEM SEEMS MORE TO BE TO MAKE MEGA BUCKS.

What is the role of public and private funding in the research and development of cures and treatments?
WORKING TOGETHER FOR THE GOOD OF THE PATIENT AND NOT FOR THE GOOD OF DRUG COMPANIES OR HEALTH CARE FACILITIES MAKING MONEY. I AM RECEIVING FINANCIAL HELP THROUGH MEDICARE AND THE HEALTHWELL FOUNDATION WHICH I APPRECIATE VERY MUCH. I WOULD BE DEAD WITHOUT HAVING HAD AND CONTINUE TO HAVE THEIR FINANCIAL HELP.

Are there success stories the committee can highlight and best practices we can leverage in other areas?
MY EXPERIENCE WITH HOW THE U of M FAIRVIEW TRANSPLANT SYSTEM WORKS HAS BEEN EXCELLENT. WHAT I THINK OF FIRST IS HOW QUICKLY THEY ADDRESS MY CONCERNS, HOW THE STAFF MAKES ME FEEL THAT THEY ACTUALLY KNOW ME, AND OF COURSE THE QUALITY OF ACTUAL HEALTH CARE.

How have you worked with other patients to support one another?
WE TALK.
WE SHARE STORIES.

What is the financial burden of your disease? How would better treatments and cures help save money for your family and the federal government?
THE FINANCIAL BURDEN IS HUGE. (AT LEAST $ 20,000/YR JUST FOR MEDICINE FROM MEDICARE AND MY GRANT FROM THE HEALTHWELL FOUNDATION & MY CO PAYS.) FOR LIFE.

IF MORE RESEARCH FOR CURES AND/OR PREVENTION OF THE DEVELOPMENT OF THE CYSTS COULD BE DONE, PERHAPS THE EXPENSE OF DIALYSIS AND TRANSPLANT WOULD BE AT LEAST PARTIALLY, IF NOT FULLY, ELIMINATED.

How can Congress help?
ACT QUICKLY.
FUND WORK ON PREVENTION AND CURES.

THROUGH MY FAMILY RESEARCH, I HAVE LEARNED THAT FOR MY GRANDFATHER'S GENERATIONS, DEATH AT AN EARLY AGE (MOSTLY 50'S-EARLY 60'S) FROM PKD WAS IDENTIFIED AS URIC ACID POISONING. THERE WAS NO TREATMENT, NO CURE. IN MY FATHER'S GENERATION, TREATMENT WAS DIALYSIS, BUT CURE OR PREVENTION WAS NOT DISCUSSED. MY GENERATION IS USING DIALYSIS AND TRANSPLANT, BUT STILL LITTLE ATTENTION IS GIVEN TO CURE OR PREVENTION OF CYSTS DEVELOPING. UNLESS ATTENTION IS GIVEN TO CURE OR PREVENTION OF CYSTS DEVELOPING, THIS DISEASE WILL BECOME MORE AND MORE PROMINENT IN OUR POPULATION BECAUSE OF THE 50 % FACTOR. CAN THIS BE DONE IN TIME FOR MY DAUGHTER'S GENERATION TO BENEFIT? WILL MY GRANDDAUGHTER AND GRANDSON HAVE A CHANCE TO HAVE HEALTHY LIVES WITHOUT PKD REQUIRING THEM TO LIVE WITH DIALYSIS OR TRANSPLANTATION?

Dear Congressional Members,
I have been asked to share my ccontinued Nephrotic Syndrome everyday challenges and experiences even though it is currently in remission. First let me provide with you with a bigger picture of my situation. I am a 55 year old female Caucasian residing in a rural community of New Mexico near a tribal community. I tried to work full time in one of the largest cities near my home. My job required a driving time one way of 1.5 hours then working an 8 hour day and returning home with another 1.5 hour drive. I became ill from the stress of this and was unable to cas ontinue driving that distance at 15 hours a week while working 40 hours a week for a total of 55 hours weekly. I worked from Nov 2014 until May 2014. I constantly fight fatigue. Additional health issues I have include hypertension, hypothyroidism, chronic kidney disease and physical impairments from previous injuries early in my life. Luckily for me I do not have diabetes. New Mexico medical focus is on diabetes and kidney disease, but not on kidney disease alone. New Mexico no longer has a local Kidney support office due to budget cuts although I would love to be apart of this if funding became available because not everyone has the combined health issues of diabetes and chronic kidney disease. If it was not for the peer mentor program available through National Kidney Foundation when I was first dignosed I would have been lost. At least there was that there available for some support. I attempted to apply for SSI/SSDI but was unable to get the requested information completed in a timely manner upon receipt of the letter of request because I live so far out. Needless to say I was found ineligible and declined for assistance. So with Obama's pleage to increase employment markets working with USDA Secretary Vislack announcements does not come soon enough and it is imperative as I am not the only that is non native tribal member experiencing these difficutlies. I have to travel at least a minimum of 28 miles to see my primary care doctor. It makes it challenging and a daily struggle to obtain groceries, feed, vehicle services, etc. Please keep this in mind when your considering what funding is appropraite and who it affects.

Dear Committee Members,

PKD, polycystic kidney disease, has taken quite a toll on my family. My grandmother died at 57, my father at 64 after a transplant, one of my younger sisters died at 41 after a couple years of dialysis. My brother has been on dialysis treatment for five years. And, my youngest sister has been symptomatic for more than ten years, since her late twenties. Five of my parents six children have PKD and of the six grandchildren they have that have been tested, five of them have PKD.

When I was first diagnosed with PKD twenty years ago, I was non-symptomatic and hopeful for a cure or at least a treatment in the near future. However, the dearth of treatments as I approach my fiftieth birthday is disappointing. Despite my efforts: walk-a-thons, research donations, some mild advocacy efforts (such as this letter), and participation in a clinical trial, there are no treatments for PKD. Annual screenings, a low-salt diet, and avoiding all metabolized-via-the-kidney medications are all that I've been offered after twenty years of visits with my nephrologists.

PKD is a wide-spread genetic disease that leads to many other health problems as well as outright kidney failure. I'd like to see more funding and research dedicated to root-cause conditions like PKD.

Thanks for your time.

Sincerely,

Dan [redacted]
[redacted]

June 10, 2014

Energy and Commerce Committee

United States House of Representatives

Chairman Fred Upton

Re: 21st Century Cures: The Gap in Access to Treatment for Phenylketonuria

Dear Chairman Upton and Rep. DeGette:

I am writing to express my concern about the current gap in our health care system to access treatment for PKU. I am a mother to an 8 year old daughter with PKU. PKU has been successfully treated in the United States for more than 50 years, yet many children and adults cannot access the treatment needed to manage the disorder. We would like to ensure that everyone with PKU has access to the treatment they need for this rare genetic disorder.

Every baby born in the United States is screened for the early identification of PKU as a public health activity to prevent severe disability. The treatment for PKU includes the daily use of medical foods and foods modified to be low in protein that must be continued for life. A low protein diet for my daughter is a very low amount of protein. We have to order her food online, which is very costly, to make sure she has enough to eat to make her feel full. When we were just buying food in the regular grocery store, the food was too high in protein so she couldn't eat as much and would complain at night that she still felt hungry. There was nothing we could do because she had already had all the protein she could have that day. Most families can't afford to order the online foods. Providing coverage for medical foods for the treatment of PKU is medically supported, cost-effective (compared to the medical costs spent taking care of someone with PKU who isn't "on diet"), and the right thing to do. I am writing to ask you to pass H.R. 3665, the Medical Foods Equity Act, so that federal health programs provide medical foods coverage for the treatment of Phenylketonuria (PKU). This will be a significant step forward in closing the gap in coverage.

• Medical evidence has demonstrated the safety and efficacy of medical foods as treatment for PKU for more than 50 years. Just recently, the American College of Medical Genetics and Genomics issued the first-ever treatment guidelines for PKU that confirms the necessity of medical foods treatment for PKU for life.

• The impact of this lack of coverage on patients with PKU is disastrous and expensive. The average family cannot afford to pay for medical foods without insurance coverage.

• The long-term costs to the government for the care of untreated children and adults with PKU far exceed the cost of providing this essential treatment.

Decades ago, before the implementation of newborn screening and treatment with medical foods, children with PKU were doomed to a life of intellectual disability and costly institutionalization. Now, because of mandatory newborn screening and the proven treatment with medical foods, children and adults with PKU can lead normal and healthy lives. Our daughter is a happy, healthy 3rd grader! Please don't put these lives at risk.

Please ensure that medical foods for the treatment of PKU are provided by the federal health programs and pass H.R. 3665, the Medical Foods Equity Act, so that everyone with PKU can grow up and become healthy and productive citizens of this country.

Sincerely,

Danielle [redacted]

To Congress,

Please help bring about funding for PKD treatment or a cure. PKD is a serious disease and having it really effects your life and lifestyle. Because of PKD I had to have a double Nephrectomy because both of my kidneys grew to about 8lbs each, which was the equivalent of having twins inside my stomach. Because of the Nephrectomy I now spend 3 days a week, 4hrs for each of those 3 days on a dialysis machine, which also causes both mental and physical challenges. Please help bring about funding to help end PKD for all of us suffering with it.

Thanks for Listening
D. [redacted]

[redacted]

Thank you for the opportunity to comment on Polycystic Kidney Disease (PKD) for which there is no cure. My father died from complications from PKD 55 years ago. I was diagnosed with PKD at the time but was assured that by the time my kidneys failed there surely would be some treatment available. My kidneys failed 16 years ago and while there was still cure or treatment to address PKD, fortunately for me there was a transplant option to allow me to live a reasonably normal life.

I was fortunate that my wife could donate a kidney to me so I did not have to on the "transplant list" and hope a kidney would be available in time. Dialysis is also an option today which dramatically impacts the quality of life. Now my children, all three of which have PKD, are approaching the age when kidney failure is predictable not too far in the future. I had hoped that by this time there would be some sort of treatment or a cure for PKD as I had hoped for 55 years ago. There is also a probability that at least half of my eight grandchildren will be diagnosed with PKD and still there is no hope at this point that I can offer them. There needs to be more money directed to research for the benefit of the 600,000 Americans that are impacted by this life threatening disease. A treatment or cure would be dramatically less expensive than either dialysis or transplantation. Please allocate more funds for PKD research. Thank you, David [redacted]

To whom it may concern,  Since around the mid-1990s, when I started feeling arthritis either because of TOO much (or TOO little) activity, I've done some different things to help myself:

- While living with my sister in the mid 1990s, I had obtained some pill bottles of glucosamine, which I hope would help me with this.  I think I was (sort of) walking a "thin line" between HELP, and HINDRANCE.

- While living in [redacted], with my guardian (aunt), I've been taking some Boswellia since 2008.  It's worked to a certain extent, but I figure if (and when) I could, I'd exercise (both IN and OUT) all over our house, or from ONE area of our city to ANOTHER.

About the ONLY area I really have to complain about is my hips (but if I were able to flex this area up, I MIGHT be able to LESSEN the arthritis).

Anyway, I'm glad to hear from any ONE of y'all as to your opinion concerning my letter,

Sincerely yours,
David [redacted]
[redacted]

[redacted]
[redacted]

I put my career on hold two years ago when my physician told me I would need a transplant or be on dialysis soon. I was 56 at the time and this came as no surprise to me. 26 years ago when I was first diagnosed with PKD, I didn't worry about it much because I thought surely there would be a cure by the time my kidneys failed. Since my diagnosis I have sadly watched my grandmother die of PKD, my uncle at 56 die of PKD, my aunt at 58 die of PKD, my mother at 63 die of PKD, and my cousin at 50 die of PKD. I have one PKD cousin who has spent 15 years on dialysis beginning in his late thirties and now he finally got a transplant at age 50. And then there is the saddest situation of all, my 51 year old cousin who is on dialysis with PKD and needs a liver too. Not only does she need dialysis but her beach ball sized liver has more than 10 liters of fluid drained off of it every two weeks. And now the next generation, all in their twenties, have been diagnosed with PKD, three of my second cousins and my youngest child.

The cost to all of our families has been staggering. Lost careers because of being too sick to work, lost businesses for the same reason and millions of dollars in medical bills. Additional millions of dollars charged to insurance companies and paid by them and millions of dollars paid by medicare, When does it stop? We have found a cure for AIDS, we are finding customized cancer cures, why do people like us born with a genetic mutation have to live out what lives we have left on dialysis (which I call the living death) or wait for someone to die with the right match as we wait in line with 100,000 other folks with failed kidneys?

I gave up a very lucrative career to try to forestall the inevitable and as a financial professional I sit and compute the billions of dollars this disease which doesn't discriminate, costs our economy from generation to generation. The human suffering is another matter altogether. Is it 600,000 or a million folks living with this disease, some know it some don't.....yet, but they will. If the total population in the US with PKD who will need treatment is a million and treatment cost once on dialysis is $100,000 per year and say each year 10,000 of them are on dialysis at any given time, then that cost alone is $1 billion per year negating the cost to SSI Disability which all the working folks will qualify for. Oh I forgot to mention that us PKD patients are long lived on dialysis. My grandmother was on for 20 years, my aunt for 19 years. So if you calculate the cost for the average PKD dialysis patient for the 10 plus years or more they are on dialysis then you can see the billions that this disease is costing just for treatment. And then there is the cost of transplant, $250,000 per transplant and $30,000 per year for immunosuppressive therapy for the rest of their lives which recent statistics suggest are up to 20 years. Maybe 1000 PKD transplants a year, we do better than most on transplants, so that cost is about $250 million, per year. That is a lot of money that families, insurance companies and medicare are paying for. The 10 year cost to government, insurance companies and individuals for this disease in treatment alone is somewhere around $12.5 billion dollars if you add the cost of dialysis and transplant for this one genetic mutation.

Is that enough to get more research dollars and a sprint to cure this scourge? Some scientists suggest this mutation has been in the human genome for at least 10,000 years, but because it hits latter in life, the disease perpetuates itself because it doesn't affect fertility and healthy offspring. We will keep being born with this disease for generations to come. As a sufferer I am depressed and saddened by the fact there is no treatment save for dialysis and transplant, as a tax payer I am outraged that we are paying for a disease that should be cured by now.

Thank-you.
Debra [redacted]
Fourth Generation sufferer of Polycystic Kidney Disease

Dear Congress:

I commend you for taking on this effort. We hope you continue to show empathy for all people that struggle day-to-day with afflictions, where you know a cure exists out there, but not readily available. Thank you for your human kindness.

Kind regards,

Diane [redacted]

[redacted]

[redacted]

[redacted]

1. What programs or policies have you utilized to support and foster research, such as patient registries, public-private partnerships, and venture philanthropy? **N/A**
2. How can Congress incentivize, coordinate, and accelerate basic research for diseases we know relatively little about? **By leveraging research that's conducted by State universities throughout our country. For example, Hemophilia gene therapy research is being conducted by the University of Wisconsin and North Carolina that looks promising. As of December, 2013 successful test trials on hemophiliac dogs was conducted. If the U.S. government is willing to partner with, and provide monetary incentive to the Universities I believe both entities; as well as millions of people would benefit. See link:** http://www.sciencedaily.com/releases/2013/12/131210152529.htm?utm_source=rss&utm_medium=rss&utm_campaign=new-gene-therapy-proves-promising-as-hemophilia-treatment
3. How can we work together to better translate advances in science into safe and effective new therapies for patients? **From a hemophilia perspective, I believe if you worked closely with the National Hemophilia Foundation http://www.hemophilia.org/NHFWeb/MainPgs/MainNHF.aspx?menuid=0&contentid=1 you could find a treasure trove of information on this disease and the people that live with it. All of us living with hemophilia would be willing advocates to educate and participate. I for one could volunteer to participate in any way.**
4. How do you learn about new treatments and cures? **My own on-line research of publications; as well as NHF and our local chapter of Arizona Hemophilia Association.**

5. How do you communicate with other patients regarding treatments and cures? **Arizona Hemophilia Association**
6. What can we learn from your experiences with clinical trials and the drug development process? **My son has never participated in clinical trials other than being one of the first hemophiliacs in the early 1990s to receive a broviac for infusions. He was also one of the first in Arizona to undergo the prophylaxes treatment (preventative treatment by infusions of medication 3x / week)**
7. What is the role of government in your work, including any barriers to achieving your goals and advancing breakthroughs? **There is no role of government in my work. I am a parent of a Type A, Factor 8 deficient, severe hemophiliac with inhibitors.**
8. How should regulators evaluate benefit-risk? **Regulators should begin by understanding that living a hemophiliac's day-to-day life is a risk. Then ask themselves: 1) can this person survive on a daily basis without medication or cure? 2) Imagine the transformation in life a person with hemophilia would have with a cure. 3) Imagine the life-time of cost of medication, and what would happen if they couldn't afford it (with and without insurance)? 5) How can the hemophiliac community work with Congress and/or research entities for a viable cure? For all those facing life with hemophilia and their families, a cure would provide a lifetime of relief from worry and an absolute God send for our prayers. I believe that anyone from the hemophilia community would be ready, willing, and able to assist with information (including myself).**
9. What is the role of public and private funding in the research and development of cures and treatments? **Both Public and Private funding should play a part for research of all diseases. However, I believe that honest oversight of funding is paramount. If research and development is funded, then progress must be shared with all parties to ensure that the money used as intended. I also believe that researchers should be dedicated to one priority and that would be to the task at hand, not shared between projects.**
10. Are there success stories the committee can highlight and best practices we can leverage in other area? This would be a great question for the National Hemophilia Foundation **http://www.hemophilia.org/NHFWeb/MainPgs/MainNHF.aspx?menuid=0&contentid=1**. I, on the other hand, can provide an example of what NOT to do, as I have experienced this in my own research and find it to be true (see link below): http://www.sciencedaily.com/releases/2013/12/131210152529.htm?utm_source=rss&utm_medium=rss&utm_campaign=new-gene-therapy-proves-promising-as-hemophilia-treatment
11. How have you worked with other patients to support one another?

**With hemophilia there is not much support in that all we can do is share experiences. Before the Affordable Care Act (ACA), we all lived in fear of not having health insurance, having to pay $27K a month out of our own pockets for medication would bankrupt our families. Other wonderful things coming out of the ACA, was the elimination of 'pre-existing' conditions AND allowing our children to stay on their parent's insurance until they're 26. Many of us work at jobs that we don't like just to keep our health insurance – others rely on Medicaid.**

What is the financial burden of your disease? How would better treatments and cures help save money for your family and the federal government? **My son currently pays $27,000 / month for Factor 8 (I'm not exaggerating; AND thank God for health insurance through my son's employer; as well as the elimination of 'pre-existing conditions'). His job (with MBA from ASU) pays $32K/year. If a viable cure were available, not only would this effect my son's budget, but more importantly provide my son with freedom from 3 times a week intravenous infusions; inhibitor returning; and chronic joint bleeds; arthritic joints; constant worry about getting hurt. Should my son ever have to rely on the government for medication this would become a federal government cost. A cure is a 360 degree benefit.**

12. How can Congress help? **Be more involved in State university's research programs; ask associations like 'National Hemophilia Foundation' to be more involved with raising money for a cure; and find a way to keep pharmaceutical companies and other businesses from 'buying-out' research which has been proven to be a viable cure for diseases. Pass bills or laws to discourage this behavior.** Article describing issue: http://www.unfictional.com/big-pharma-war-on-health

Public input is critical to the 21st Century Cures initiative, especially from the patient community. With the staggering gap between the number of diseases and available treatments, there are undoubtedly countless untold stories that will provide guidance and perspective in this effort. We request all submissions and suggestions be sent to cures@mail.house.gov by June 13, 2014.

MORE INFORMATION ON HEMOPHILIA:

My son [redacted] age 24, is a hemophiliac. He has severe Factor 8 deficient hemophilia, with inhibitors. Inhibitors occur when his immune system considers the Factor 8 to be a foreign body in his blood stream and they attack killing the Factor 8. At the young age of 3, [redacted] was required to have chemotherapy to bring down his immune system and flood his bloodstream with Factor 8 so that the immune system would begin to recognize the Factor 8 as a part of his blood system. Now [redacted] must infuse Factor 8 three times a week to ensure that he keep a consistent level to avoid inhibitors and bleeds. Without the Factor 8 medication he will have spontaneous bleeds. Often times these spontaneous bleeds will occur in his joints, which over time will eat away at the **bursa** which is a small fluid-filled sac lined by synovial membrane which provides a cushion between bones and tendons and/or muscles around a joint. This helps to reduce friction between the bones and allows free movement. Over time his joints will become immobile and arthritic. And of course there is always the worry of a traumatic injury like a car accident where a non-hemophiliac could potentially walk away from, [redacted] may not. Hemophilia A is the most common type of the condition; 1 in 4,000 to 1 in 5,000 males worldwide are born with this disorder.

When – [redacted] was born with hemophilia, he nearly died within 24 hours of birth due to blood loss (his spleen was ruptured during the birthing process). Typically this disease runs through families, but in

[redacted] case it did not. He's considered a genetic mutation. Mutations in the *F8* or *F9* gene lead to the production of an abnormal version of coagulation factor VIII or coagulation factor IX. The altered or missing protein cannot participate effectively in the blood clotting process. As a result, blood clots cannot form properly in response to injury, which lead to continuous bleeding that can be difficult to control. The mutations that cause severe hemophilia almost completely eliminate the activity of coagulation factor VIII or coagulation factor IX.

Over[redacted] life time, his father and I have seen gene therapy research come and go from so many universities and research labs. Many times their research appeared to be very successful and even progressed to test trials with dogs. Each time the communications and research suddenly disappears, never to be heard of again. Each time our hopes dissipate. But, we keep trying, we keep looking, we keep praying. We almost give-up, feeling like a cure will never be available as long as universities and research labs are enticed by big money, which often times come from pharmaceutical companies. Why wouldn't the universities and research labs be enticed? Pharmaceutical companies have a lot to lose if their most prized and lucrative disease were to be cured! With approximately 18,000 hemophiliacs in the USA today, paying $25,000/month for their factor, the Pharmaceutical companies cannot afford to lose their cash cows – they would be losing $450 million a month!! Paying universities and research labs a few million to NOT release a cure is well worth the cost for pharmaceuticals. This link is a very good depiction of this scenario: http://www.unfictional.com/big-pharma-war-on-health

What about giving these 18,000 human beings and their families a chance, some hope, and just do the right thing? What happened to human kindness and morality? Why is it ALWAYS about money? If there is a viable cure available, then someone out there should have human decency and not be tempted by money and bring the cure to the hemophiliacs of this country. The latest research that my husband and I are following is through the Universities of Wisconsin and North Carolina: http://www.sciencedaily.com/releases/2013/12/131210152529.htm?utm_source=rss&utm_medium=rss&utm_campaign=new-gene-therapy-proves-promising-as-hemophilia-treatment They're currently running successful gene therapy trial tests on dogs, as of December, 2013. I have not seen any communication of how these trials are progressing since then. My concern, yet again, is that they were bought out, and yet again I desperately hope I'm wrong.

As Congress, how do you fix this? I don't have concrete answers. I would hope and think that passing laws or bills that would prohibit the selling of research (by universities and research labs to pharmaceutical companies), which are ready to be released and has the potential to be a viable cure for any disease, could be passed. Why are universities and research labs spending so much money to come up with cures if they don't intend on making them available to the general public? If they were incentivized with grants or research monies from the government or by all of the monies earned by fund raising that occurs for so many diseases out there, they would be more willing to follow through with general distribution.

I commend you for taking on this effort. We hope you continue to show empathy for all people that struggle day-to-day with afflictions where you know a cure exists out there but not readily available. Thank you for your human kindness.

Diane [redacted]

[redacted]

[redacted]

Dear Chairman Upton- I applaud your position and chairmanship of this committee. Our family has been dealing with PKD ( polycystic kidney disease ) and its effects since my mother in law was first diagnosed with kidney failure at age 62 back in 1991. We found out she had PKD and it was hereditary. My husband Bob ( oldest of his 3 siblings ) was first to get tested. He found out at age 33 that he had it, our kids got tested- our son , now 26, was clear, but our daughter , now 22 , tested positive. One of Bob's sisters has it, his brother has it, and his brother's son has it. My mother - in -law had to go on dialysis and we began our journey with this disease. We learned all of the do's and don'ts that dialysis and end stage renal disease restrict you to. Because she had no other health issues, she was able to push ahead and managed to get on transplant lists. Luckily, her prayers were answered about 11 months later when Westchester Medical Ctr. in NY called to say they had a match!! She received both kidneys from the donor ( a 4 year old... ). The kidneys continued to grow inside and the "Chemistry Test " began- managing all of the new immune supressants and life after transplant.There were a lot of ups and downs and monitoring. My mother in law insisted that this was not going to let her down. She was so happy when she was able to go back to church daily and baby sit our children. She did so well ( almost 8-9 years ) until she contracted a killer bacterial disease known as C-Dif after a routine colonoscopy at a local hospital.Because her immune system was under constant attack, the C-Dif took over in a hurry- there was only one strong anti biotic that she could take and it unfortunately destroyed the transplants. She almost died- was in hospital for 6 weeks and had to go to a re hab facility for ANOTHER 6 weeks to gain strength, weight and learn to walk on her own again.OF COURSE- it was back to dialysis where she stayed until we lost her on April 11, 2012 ( she died after her husband died - just 2 months prior on Feb. 14, 2012 . He died from complications of a stroke he suffered that Jan. - she died of a broken heart - literally ).

My husband Bob went into kidney failure that November. He started showing the signs that I remembered his mom had exhibited - was not able to keep food down . The kids and I begged him to go to a kidney specialist- went as far as dialing phone and putting it into his hand. He caved and went. To his dismay, the doctor told him his kidneys were at 10% ( Bob thought it wasn't that bad - until the doctor told him he was only filtering at 10%!!!! ). What an awakening... Dr. [redacted] started him on all new meds, a strict diet and bi weekly infusions at his office ( these contained anti inflammatories, anti oxidants and vitamins ). Hi creatinine ( chemical in blood used to rate kidney function ) was considered very high. Bob did not want to have to endure dialysis - we had seen that route with his mom. He put his trust into Dr. [redacted] who felt that if the two of them worked together, Bob could improve his quality of life and buy a little time. With PKD - it's either Dialysis, Transplant or Death.

The dietary restrictions and new meds and an exercise program DID wonders for Bob. When he first started out , he weighed 289 lbs.He mainly rode a stationary bike and did some upper body weights. He was restricted from any abdominal work due to condition of kidneys. He continued to work his full time job- never missing a day.

In Feb. of this year, I felt we had wasted enough time and made an appointment with NY Pres./Weill Cornell in NYC. We started the process of getting on a transplant list. We heard the wait in this area can be as long as 5 years. I offered to get blood work drawn to see if I might be compatible. He was not happy that I volunteered- but I reminded him of dialysis. I got a call less than a week later that I WAS A MATCH!!!! Who knew after 33 years that we would really be so compatible!! We continued with all of the rigorous testing and interviews. In the meanwhile, as his kidneys were petering out, he suffered through repeated bouts of gout, as well as brochitis

and a sinus infection. His body was trying so hard to keep the kidneys going that everything else atred to suffer. Our daughter was due to graduate on May 17 so I prayed that he would hang in there til after that. We met a wonderful surgeon there- Dr. [redacted]- who leads the hosp. in their kidney/pancreas transplant program. Bob's kidneys were so enlarged , he told us he would have to remove them both. A normal kidney is the size of one's fist ( mine were 10 cm each ). Bob's were 29 cm EACH and EACH were the size of footballs. It turned out, they were a combined weight of 14lbs!! We have affectionately nicknamed the "The Twins " . We had our surgery this May 27. It was such a success!! My left kidney was removed laparoscopically- I was allowed to go home on May 29. He came home on May 31!! We are learning a new routine now but because of a few days of discomfort for me- I have extended years onto my husband's life. We could not bear to have him endure dialysis. He is only 56 , I am 55. We feel blessed and fortunate and hope our story may help others not to fear the donation process. We also are grateful to have a good insurance plan - others less fortunate are given no choice - for them it's dialysis or death.We know that there are not as many lucky as us.

I hope that you can share our story with the committee and your fellow representatives. I am also attaching a photo of just ONE of Bob's kidneys so you can see first hand ( and pass the shocking photo along - and that is just one kidney in the bowl!! ) what PKD does to a person's kidneys.The gene has been identified, foreign countries have had successful clinical trials and studies. So far , the FDA is not interested- of course - look at the money maker that dialysis is!!!! But if the push to allow for a viable pharmaceutical treatment to slow the progression can happen - how many more people would be able to live a better quality of life and not have to live in fear that their kidneys are going to shut down in their 50's, 60's. ??? There is also a form that affects babies and young children. Shouldn't they deserve a fighting chance to grow up??

I , in advance, thank you for your time and effort in this cause and hope I have opened your eyes to PKD a bit more from a human VS a clinical point of view. God Bless!!

Dianne and Bob[redacted]

[redacted]

[redacted]

[redacted]

We are a 5 generation family with PKD. We need to find a cure that would make the kidney cysts from growing at all, increasing in size, and shrivel up the cysts that are already there We are told there is no cure and that is very devastating. That is very difficult to deal with for myself and my loved ones. We feel helpless and hopeless at times. I struggle everyday with depression due to this disease. We struggle with the idea of when it will become a reality that our kidney function is down tremendously. It is like a ticking time bomb waiting to go off. It is not only a physical disorder but a mental disorder. Waiting to find out how the monthly labs come out each month is torture. Then when the kidney function has decreased enough to get on the transplant list it is another waiting game. Then again we do the monthly labs and wonder when the kidney function is low enough for dialysis. We, also, deal with lethargia, just a feeling of not feeling well, and sometimes a bad case of nausea. Our blood is not being cleaned out properly so these symptoms develop. Please help us with more research to find a drug to help with the kidney cysts so they do not destroy our kidney function. Below is my contact info if you have any questions I would be glad to help: [redacted]
Donna [redacted]
[redacted]
[redacted]

Hello, my name is Donna [redacted] and I have had rheumatoid arthritis for over 13 years. I am very fortunate to be a patient of the Cleveland Clinic. I am currently using an infusion twice a year for treatment and it has helped me to have a better quality of life. I also participate as a advocate for the Arthritis Foundation.

I have found that treatment for arthritis is painful and expensive. After and auto accident, I developed cervical neck and thoracic arthritis. I was a Registered Nurse for several years and have severe arthritis throughout the lumbo-sacral area of my back that was exacerbated with an injury. Then I went on to develop what was determined to be Rheumatoid arthritis and was treated for > than 5 years with various oral and injectable medications. After failing therapies, I was sent to the University of Utah and a DX of Psoriatic Arthritis was made in December of 2013. I was then placed on Enbrel and failed that therapy but it is extremely expensive. Fortunately, I have been able to receive assistance for the co-pay since I am on Medicare. Now I am on Stelara and the costs of one injection is $9,000.00 and again I have received assistance with co-pay but am very nervous about 2015. There are no cures at this time but feel research needs to be done to decrease the disability that is created by this disease.
Thanks

Dorothy [redacted]
[redacted]

Dear Sir/Madam,

Our health insurance does not cover any of the costs of special, prescribed medical foods my twins need in order to live normal healthy lives. Our previous insurance would reimburse us only up to $2500 a year after we submitted receipts and prescriptions for the food each time.
It is imperative to pass HR 3665 so my children and others affected by PKU have universal and easy access to the foods and formula needed to grow and function normally. We need to set a mandate to ensure that no parent has to wonder how they will feed and nourish their child without causing irreversible brain damage.

Please support your constituents and their families affected by PKU with our endeavor to ensure this coverage.

Sincerely,
Elissa [redacted]
[redacted]
[redacted]
[redacted]

To the committee:

I cannot stress strongly enough how devastating Poly Cystic Kidney Disease is. My husband and his son have it and my children are at risk as there is a 50% chance that every child of a person with the PKD gene will pass it on to their children.

The kidneys of a PKD patient are slowly and painfully destroyed by cysts that invade and kill the kidneys and can effect other organs.
THERE IS NO TREATMENT FOR POLY CYSTIC KIDNEY DISEASE. NONE!

The only thing that can be done is the horror of living (if you can call it that), tied to a dialysis machine which shortens life expectancy and is a miserable existence, or a kidney transplant. Since organ donations fall far short of the need, (almost 100,000 are waiting), many people awaiting transplants are doomed to die.

Since 1 in 500 people carry the gene, you or I may have the gene, not know it, and pass it on to our children. It is the most common genetically transmitted disease in the world and practically nothing is being done (where's government funding?), to find a treatment to slow the disease or cure it.

I beseech you to allocate funding to end the cycle of pain and death faced by the 1 in 500 people afflicted with Poly Cystic Kidney Disease.

I would also like to suggest that you consider creating a bill that would designate everyone in this country to be considered an organ donor unless they opt out. This is successfully being done in other countries and should be done here in order to save lives.

Please give this careful consideration. Lives depend on it.

Respectfully submitted,

Elissa [redacted]

Dear House Energy and Commerce Committee

Hope this email finds you well!
Attached you will find my letter about Polycystic Kidney Disease (PKD) and how it has impacted my families life. Hopefully one day we will have a cure for PKD, so no one has to deal with the struggles of PKD. Please feel free to email with any questions or comments.

Thank You,
Elizabeth [redacted]

Dear House Energy and Commerce Committee

I sit at my desk thinking about what to say to your committee about polycystic kidney disease (PKD), thinking about my mothers and grandmothers battle with PKD. I could throughout stats one after another which I am sure you have heard/read and hearing my personal/families story of the struggles of this genetic disease with no cure might make it reality. It will be four years this September when I lost my mom to her battle with PKD, and it still brings tries to my eyes because there is not a day that goes by that I do not think of her and how I would love to have at least five minutes with her. My mom lost her mom to PKD at the age of 26, my grandmother had both kidneys removed towards the end of her battle (they were going to rupture and the doctors good not let her go another day with her PKD kidneys). While an intern was removing a kidney they accidental sliced one of the cyst and the cyst soon spread throughout her body, she never left Stanford Hospital and everyone new [redacted] from the maternity, icu to the burn unit floors. I never got to meet this very strong woman because PKD took her to early, she lost out on seeing her grandchildren and great grandchildren reach milestone events in everyone life. At the age of 26 my mother was diagnosed with PKD and had to deal with losing a mother and a live with PKD. My mother had three children and two grandchildren (one of which was 2 years old when she past at 64 and was only months away from meeting the other grandchild. I will never get the picture out of my mind of him crying at her grave site when he was told to say goodbye to grandma.)

As I look back not when mom first went it renal failure not really knowing what PKD actually was a, I did know my grandmother passed about from kidney disease and my mom had it and could be passed on to us; however I was unaware of the specifics till mom got sick. My mom lived a pretty healthy life until about her fifties when her body started shutting down and it was time for dialysis, she was so sick I can remember asking mom if it was her kidneys , she said yes. My sister and I were about to graduate High School , while my brother was off playing baseball. We were young and this was a time in my mothers life she should be enjoying, instead she was dealing with the reality of PKD. To the outside world you don't look sick, but you are. When my mom was in renal failure no one in town or work knew, not until it completely took over her life. One also does not realize that

simple things in your life change, for example traveling you need to find a center where ever you are going so you can have dialysis so your body does not fill up with toxins, or like my mom having a defibrillator had to have different screening at the airports. Your life changes with PKD in more ways than one.

The first doctor my mother say in the ER basically said there was nothing they really could do for her, besides send her home with blood pressure pills and said your kids are grown you will mostly likely never get a kidney and sent her home. Mom felt good for a few days, until about the fifth day and she was acting very strange and late that afternoon I heard a very loud scream from her bedroom. My brother and I walked in and saw her having a seizure, we called 911 and ended up back in the ER. Through that horrible experience and a picture I will NEVER get out of my mind she found WONDERFUL Dr. [redacted] who was actually taught by two of my grandmothers doctors at Stanford. I still can remember being in the hospital room with her and him saying we need to get you on dialysis and asked when her mom past and at that time mom was about 2 years away from age her mom past. Dr. [redacted] asked if she was scared and I saw the look in her eyes and she said yes. The doctors did wanted to test all the kids but my mom said no, I want them to live life not be afraid of life.

Mom was on dialysis for about eleven years and the first couple of years she felt great, better than she had in years. I took mom to her first dialysis treatment at the clinic (which she called the club) and being seventeen/eighteen years of age not truly knowing what was going on and listening to things like, who is your next of kin, wills, what life saving measure should be take and then walking in the center seeing it all was a life change experience. I remember going home and crying in the shower so mom would not hear me. Completely scared wondering exactly what was going to happen to my mom. She actually didn't realize how sick she was until she went on dialysis, before she would get home from work and rest and stay in bed almost all weekend. Now she was active with us, wanting to go out. She never thought she would see any of her kids get married and she did or see a grandchild born and she almost was able to see two. It was those kids that kept her going, because the doctors didn't know how she was doing it with all her body had been through. There were blood transfusions, medications that cost over $900 with insurance, foods that would make her sick, a husband asking for a divorce because he did not realize how sick she would be or how it would impact him, seeing friends at the center/club have transplants that did not work, having people die on dialysis next to you.

In those eleven years we did have ups and downs, from having a shunt put into her arm and clotted the next day, shattering her elbow and having surgery to fix it, crashing on the dialysis machine twice (I used to say my mom had nine life's), trips to have your catheter cleaned, having a defibrillator put in, to having both kidneys removed and not realizing till the doctors removed them that they could have ruptured. When she did have both kidneys, mom looked 10 months pregnant and had thin arms/legs, it was a picture. She was bigger than my sister who at the time was 9 months pregnant. Mom used to say I have it good, I only have to be on dialysis for three to four hours there are other people at the center/club that sit there longer and have cancer or have had hands, arms, legs cut off. If this is my battle I will take it and she fought it till it took her.

Eleven years on dialysis is brutal on the body and the last two years were awful. Mom was weak and it took a lot of her to walk and she spent most of her time in bed. We were in and out of the

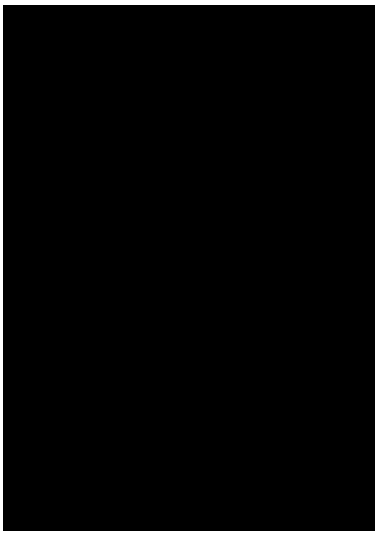
hospital, because now PKD had taken its affect on her liver and digestive system. We actually had to arrange for a private ambulance to take her to and from dialysis, because she need help getting out of bed and walking. I flew home a month after she had a fall and when I left I knew that would be the last time I would see her alive. Two week later, after her turning sixty-four she was gone. I am lucky in a way, I was able to have eight more years with my mom that she didn't have with hers.

Everyone's battle with PKD is different and we all have our stories, it affects the patient and the family. You are dealing with a lot, not only the daily medical items but this is a genetic disease it doesn't stop a one family member. And the mental struggles you face passing it on, it is a fifty fifty chance you will pass it on. There are people that say/said she should have never had children, but I am happy she did because I would never take one moment back I spent with my mom (maybe the teenage years, I had my moments.) I know she loved everyone moment and the memories all three kids and grandchild gave her, it kept PKD from taking her earlier. Both those woman may have the left the world to early, but the life lessons, memories and skills they gave us never be forgotten. I feel for my nephew and niece because they truly were deprived of not knowing this woman and probably will not understand the whole circumstance till they are older.

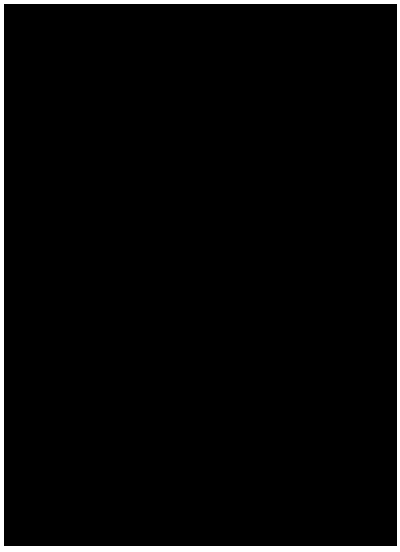
This is probably the most all over the place letter you will read, but it's difficult/emotional topic to write about and condense into two/three pages is tough. My words may not be powerful enough for ya'll to understand exactly what PKD does to a person/family (I have included a picture of my grandmother, mom and their grand/great children so you can put a face with a store), so I encourage you to go to a dialysis center and to shadow a person with PKD and see it for real life because you will never forget it. Statistics and charts may say something but when you see it and live it then it hits home. The main point I am trying to make is PKD has taken to many lives to early and its time we find a cure because a life on dialysis or hoping for a transplant is not a way to live.

Sincerely,

Elizabeth [redacted]



Grandmother- Mary [redacted]



Mom- Susan [redacted]

Grandkids of Susan [redacted] who kept her going. And will one day learn of their grandmother PKD story and her strength and fight

Dear Sir or Madam,

My daughter, [redacted] is 12 years old and has juvenile neuronal ceroid lipofuscinosis (Batten disease). It is a lysosomal storage disease that causes primarily neurological problems. [redacted] was healthy up until age 8, when she lost her vision and began to regress. Now, at age 12, she is blind, she has dementia, she cannot walk without help, her speech is very difficult to understand, and she is on 2 medications to control her seizures. She will eventually be bedridden, nonverbal, and unable to eat. She will most likely die of pneumonia or uncontrollable seizures. Her life expectancy is late teens to early twenties.

There are no treatments for Batten disease. It is 100% fatal.

I understand that the Energy and Commerce Committee wants to know how to help patients with rare diseases and their families. I think there is a lot of room for improvement in the diagnosis and treatment of Batten disease and in supporting families as they move through the tragic course of the disease.

Diagnosis: since Batten disease is rare, it is common for the workup to take years and tens of thousands of dollars. It is a nerve-wracking time as we watch our children decline, not knowing what to expect and wondering if we are missing something treatable. The diagnosis of [redacted] type of Batten disease (juvenile) is hampered by the absence of an enzyme assay, which would be a simple blood test. This type of assay is available for other types of Batten disease (infantile and late infantile) and means that the families can get an answer more quickly. The diagnosis is also hampered because doctors are just not thinking about degenerative diseases and because they do not know anything about Batten disease. I suspect that some Batten patients are never diagnosed. Getting an exact diagnosis is important so that we know what to expect and so that we can be proactive in family planning. If there is ever a treatment for Batten disease in the future, it will be important to make the diagnosis early, before too many brain cells are lost.

Treatment: there are so many potential ways to treat Batten disease. One could replace the faulty gene, replace the faulty enzyme, boost the activity of the faulty enzyme, find another way to do what the faulty enzyme does, or regenerate damaged brain cells. None of those treatments are currently available, or even close to being available, but in my opinion, we should be researching all of them. Some of the more general treatments may apply to other rare diseases; for example, a treatment to get rid of abnormal vacuoles could help patients with any lysosomal storage disease. We also need to understand other factors that might affect the course of the disease: good seizure control, infections, diet, and exercise are possibilities. Families would welcome anything that slowed the progression of the disease. We also need better treatments for the symptoms of Batten disease, such as seizures, other abnormal movements, and difficult behaviors.

Family support: Batten disease is devastating to the entire family emotionally, physically, and financially. I can't begin to describe how it has turned our lives upside down, and we are just getting started on this journey. Nothing can take away the emotional impact of Batten disease, but the government can help with easing the physical and financial burden of taking care of a child who is becoming more and more dependent. Physically, lifting an adult-sized Batten child can cause injuries; [redacted] weighs only 85 pounds, but in the past 6 months I have injured my back, my shoulder, and my calf muscle while taking care of her. We are in the process of getting equipment to help with the lifting and the transportation, but it is not all in place yet. Financially, all the doctor's visits, tests, medications, hospitalizations, medical equipment, and skilled caregivers are very expensive. In addition, parents need to spend a lot of time taking care of a Batten child and they need to be available in case of emergencies, both of which make keeping a job difficult. I am only able to work part time and I struggle to pay the bills. Some states are better than others at helping families with these burdens by providing respite care, medical care, medical equipment, and general financial assistance. California is a very good state, but it is broke, so its support may not be sustainable. Sadly, some families are in such bad financial shape that they feel that putting their child on hospice is the only way to get help at home.

The only success story I can share involves a [redacted] group of parents of children with Batten disease, run by the Batten Disease Support and Research Association (BDSRA). Because Batten disease is so rare, most doctors are not familiar with it, and our family and friends often do not understand the reality of our lives. But other Batten parents understand. As a group, we also have a lot of experience with the medical aspects of the disease. We talk about which seizure medications are better in Batten disease, which equipment works best, and how to deal with every aspect of the disease. We can then pass this information on to our children's doctors as needed. In our case, I knew to advocate for clonazepam, which ended up being very effective for [redacted] seizures. Through this group, we have become somewhat like experts in Batten disease.

I don't know enough about Congress to make any specific suggestions. I just hope that you will support research into Batten disease and into lysosomal storage diseases in general. I hope you will also consider how the government can help parents with the financial burden of taking care of a child with Batten disease. I would be happy to speak with any lawmakers about any of these issues in further detail.

Thank you for your concern.

Sincerely,

Elizabeth [redacted]

Hello legislators:
I am writing on behalf of my family and most particularly my 25 year old son who has Friedreich's ataxia. This is a disease with no cure and no treatment. It is one of the diseases on the list for compassionate allowance for SSDI, which tells you how serious it is.

[redacted] has been able to complete college although it took 6 years instead of 4 because of growing fatigue which meant he dropped to part time status. Now also due to the fatigue, he cannot hold a full time job. He has suffered serious falls and broke his shoulder last fall. Now he uses a wheelchair all the time in order to avoid falls. His hearing is affected and his heart is affected.

We need you to support the FDA to get promising therapies through faster. We need you to support NIH to get promising therapies developed faster.

- What is the state of discovery of cures and treatments for your disease? Due to the work of FARA, there are multiple avenues being explored. See www.curefa.org
-

Are there cures and treatments now or on the horizon? On the horizon, but our time is limited for each individual. Through our parents group we regularly hear about young people dying.

* What programs or policies have you utilized to support and foster research, such as patient registries, public-private partnerships, and venture philanthropy? Our group, FARA, is our main advocate and supporter for all of the above. Our kids are on the patient registry.

* How can Congress incentivize, coordinate, and accelerate basic research for diseases we know relatively little about? Tax breaks for this research, meetings across related disorders.

* How can we work together to better translate advances in science into safe and effective new therapies for patients? Support the experts financially.

* How do you coordinate your research and outreach with other patients? FARA (curefa.org)

* How do you learn about new treatments and cures? How do you communicate with other patients regarding treatments and cures? FARA and FA parents group

* What can we learn from your experiences with clinical trials and the drug development process? The registry is essential.

* What is the role of government in your work, including any barriers to achieving your goals and advancing breakthroughs? Funding and support for NIH and FDA.

* How have you worked with other patients to support one another?

* What is the financial burden of your disease? How would better treatments
and cures help save money for your family and the federal government? Our son cannot work full time

and we will need to support him.  My husband who is only 55 is going to give up his job shortly so that he and our son can try to start a small business.

- How can Congress help? $$$

Thanks for your ear and support.
Ellen [redacted]

RA cured with Road Back protocol 2003-04
Doctors: [redacted]

PMR/TA cured with prednisone tapered off 2009-12

PMR/prednisone side effect (abdominal muscle pain and weakness) gradually tapered off over the last 2 years. Shoulder weakness persists, but is currently being worked on with PT in conjunction with PT for spinal stenosis.

PMR/TA doctors: [redacted]

-Eric [redacted]

Good Morning.

My name is Erin [redacted] and I am the mother of 12 year old boy with AD-PKD. He was diagnosed at the age of 5.

My son, [redacted], is bright, funny and a true joy to be around and he does not let his disease stop him in any way. He greets each day with a smile and lives life to the fullest. He is the light of my life and I don't know what I would do without him!

BUT I am scared that when he reaches adulthood he will be mired in hospital visits, dialysis and hopelessness because today there is no treatment for his disease.

PLEASE, I beg of you, start looking for a treatment for PKD. Something needs to be done for [redacted] and the thousands of other children and adults living with PKD. I believe these people deserve to life with hope and not fear.

I am just one mother but I hope my voice is one of hundreds more you will be hearing from in the days to come. Something MUST be done to help!!

Thank you for your time.

Sincerely,

Erin [redacted]

Hi - I am one of the 600,000 Americans with PKD. There is so little research currently being done to find an effective treatment. Please support funding PKD research and help us before it is too late.

Sincerely,
Eugenia [redacted]
[redacted]

House Energy and Commerce Committee,

My experiences with treatment has been varied, but I want it to be better. I do not like that the insurance companies only allow so many visits for physical therapy when arthritis is not only for a few weeks , it is a lifetime disease. My arthritis started out as gout and then it proceeded to other areas of the body. I currently have over 10 different types of arthritis. I was diagnosed one year after my symptoms began.

In addition, I believe that people with arthritis should have unlimited physical therapy and insurance companies should pay 100% for any and all devices needed to assist you with the arthritis. The drugs used to alleviate pain associated with arthritis and to slow down the disease are harsh and do more harm to your body which is why I am calling for safer drugs to treat my arthritis. My doctor prescribed drugs that makes major impacts on my eyes. I do not want my eyes altered in anyway because I need to see and have sight for the rest of my life.

Also, I went to the podiatrist for a first visit and she recommended shoe insoles designed specifically for my feet. Once she told me the cost was $650.00 because insurance will not pay for it , I said why even find out what will help because if you can't afford it your feet will continue to hurt. I asked the doctor about other options and she told me surgery on my feet. That is the last thing I want done because it will not cure the arthritis; Surgery will only put a Band-Aid on it.

What about more research for a cure. I would like to see a cure during my lifetime. I understand that committees take in information from advocates , but what happens after that.

Felicha [redacted]

Americans are pretty used to getting answers, solving problems. I can't count the number of times friends and colleagues have commented on my asomal dominant polycystic kidney disease (ADPKD)--"isn't there something you can *do* about it?" or "what's the treatment?" My disability insurance carrier asked that question for three months before they understood. For some of us with certain diseases, there is NO cure, there is NO treatment. I inherited this disease...I only pray I haven't passed it on to my children. So there's a deep, depressing gap between diagnosis and treatment. If you have ADPKD you keep on keeping on...hoping that someday there will be a light at the end of the tunnel that isn't high speed rail.
The next time you pop an aspirin for a headache, think of us. You have an answer to your symptoms. Mostly, we don't. We can't even pop aspirin, bad for our kidneys, you know.
Find a way to fund research for those of us waiting in the darkened tunnel, *please.*

*Floy*

Dear Congressmen:

Thank you for this opportunity to comment on your worthy 21st Century Cures initiative. I shall be brief and limit my suggestions to legislation that could enhance the discovery and development of new therapies, principally medications, as this is my area of expertise. By way of background, I am a physician-scientist and have spent the entirety of my 19-year career post-training engaged in R&D, licensing, and market preparation for the pharmaceutical industry. At the moment, I am serving as a full-time consultant to the industry, and the following views are my own.

Major Objective: Encourage innovation and investment.

The interactions of three interested parties: regulators, payers, and investors largely shape the innovation landscape of for-profit therapeutics R&D.

1. Regulators FDA is probably not the primary impediment to speed-to-market, but it is an impediment, as it is intended to be under law. FDA was initially authorized to ensure that medicines were not excessively dangerous and later evolved to become the primary arbiter of therapeutic utility in a broad sense. Its role as a gatekeeper is expansive, intrusive, and omnipresent during all activities of R&D that follow Discovery. In addition to affecting speed-to-market, FDA also presents a risk to innovators throughout the R&D continuum. In industry parlance, regulators as a whole are lumped together and factored into forecasts as "Regulatory Risk".
2. Payers—insurers/PBMS and government primarily—increasingly demand disruptive innovations and favor evidence-gathering over speed-to-market. Payers as a whole are a key component of "Commercial Risk".
3. Investors are typically venture capitalists for emerging companies and, for established companies private equity funds, public markets, and/or the R&D companies' themselves via return of sales to R&D. Investors weigh expected gains versus the risk of investment when determining whether, when, and how much money to invest. Risk factors considered by investors include three general components: Regulatory Risk, Commercial Risk, and Technical Risk. This last component encompasses all intrinsic and extrinsic risk factors that aren't directly subsumed by Regulatory and Commercial Risks, factors such as the underlying mechanism-of-action hypothesis, trial design, statistical power, etc. The better (i.e. more accurately) that investors can estimate risk along the R&D continuum the more confident they will be when weighing expected risks against expected gains. In the last decade or so, confidence of investors has shifted decidedly to the downside, causing a shift in investment patterns away from early-stage R&D towards late-stage R&D (i.e. Clinical Phase 2 and later), because technical and commercial risks are believed to be reduced as development proceeds in time and evidence accrues.

The U.S. Federal government influences each of the above interest groups via existing laws. How might existing laws be altered (ideally slightly) to provide an optimal collective therapeutic pipeline that contains a wide-range of innovative therapies that are developed as quickly as possible, while also ensuring that therapeutic innovations are relatively safe when used as intended? I suggest that modest FDA reforms could have beneficial knock-on effects on non-regulatory interests. I further suggest that modest

FDA reform is among the quickest and most effective means of moving closer towards an optimal collective pipeline. Regulatory Risk can be quantified in dollar terms as the proportion of investment (i.e. R&D) funds that are forfeit if specific regulatory demands are not met and development must be delayed, significantly altered, or stopped altogether (it also includes a large opportunity-cost component). Later-stage development generally costs in aggregate much more than early-stage, and thus total dollars-at-risk due to Regulatory Risk can easily exceed dollars-at-risk in earlier stages of development due to this mass effect. However, if the relative degree of regulatory risk (i.e. uncertainty imposed on the likelihood of success by regulatory requirements per se) diminishes in the latter stages of development then the dollars-at-risk from Regulatory Risk could easily be the same or even lower than at earlier stages of development. The end result would be that Regulatory Risk would be a smaller component of overall risk, which itself would be less, as a drug moves forward in development time. Investors, knowing that less of their money is at risk across-the-board in the latter stages of development, would be more inclined to make larger bets more frequently and on intrinsically riskier projects earlier in development. Thus, a key goal of any regulatory reform should be lessening of Regulatory Risk, especially such risk that occurs later in development when more dollars are at risk.

I offer two specific FDA reform proposals aimed at reducing Regulatory Risk:

1. Reduce Regulatory Risk by accounting for key elements of discord among U.S. and EU regulatory agencies. Substantial efforts have been made by FDA to harmonize key elements of drug regulation with its counterparts in the EU and Japan under the umbrella of the ICH. Some of these efforts have been very successful, especially harmonization of certain parts of nonclinical development, manufacturing, and early clinical testing. Unfortunately, regulation affecting the most expensive (i.e. riskiest) part of drug development—demonstration of clinical efficacy and safety—has not been adequately harmonized. Putting aside Japan, which is probably beyond the scope of near-term FDA reform possibilities, profound differences exist between Europe and the US with regard to what is considered adequate evidence of efficacy (i.e. the population benefit in a benefit-risk equation). Both sides seem to have drawn deep lines in the sand, over which neither will venture, with FDA taking the position that above all else clean science must reign supreme, with evidence coming from multiple adequate and well-controlled studies. This seems perfectly reasonable, and European regulators would probably generally agree with the proposition, but the Europeans would add that such studies should generally be active-control studies, whereby the new therapy is compared directly against a current standard-of-care therapy unless such design is infeasible, whereas FDA generally takes the position that such studies should test the new therapy against a placebo unless such design is infeasible. This is a profound difference in philosophy that has equally profound effects on the cost, speed, and, yes, Regulatory Risk, associated with late-stage development. Congress cannot regulate the EU, nor can it force the two sides of this debate to reconcile their differences, but it can regulate how FDA responds to this significant difference of opinion. There are numerous ways this can be accomplished, and I am sure that Congress is in much better position than me to know the best levers to pull to settle the agencies' differences. The simplest way is to mandate that FDA relent to the adequacy of a Sponsor-chosen study design if such design is considered ethical, and if the study meets its primary efficacy endpoint, regardless of the choice of comparator and study blinding. However, while straightforward, this method might not be

the best solution nor the most politically tractable, as it represents more than a modest departure from existing law. I suggest that if this issue could be solved and no other issue was tackled, enough benefit would ensue to make a difference in Regulatory Risk rapidly noticeable.

2. Reduce Regulatory Risk by compelling FDA to offer informed guidance of **key clinical elements** required to satisfy evidentiary requirements for establishing clinical efficacy and safety in writing before the largest investments are made, i.e. prior to Phase 3 or its equivalent. This proposal is related to the above suggestion, in that it assumes that lack of harmonization is no longer an impediment to progress when enacted. Three important differences distinguish the proposed guidance from FDA guidance that is currently available to Sponsors (including the Special Protocol Assessment). First, the timing and specific **key clinical elements** of this guidance are codified. Second, this guidance must be considered as binding if the Sponsor chooses to incorporate all of the **key clinical elements**. Stated differently, Sponsors must receive assurance that if they follow FDA guidance on **key clinical elements** needed for approval, and if the drug successfully demonstrates evidence of efficacy and safety in trials that include those **key clinical elements**, then the drug shall be considered to have met FDA evidentiary requirements for clinical efficacy and safety. Third, FDA must be compelled to seek external input into such guidance, ideally to include not only bona fide US-based expertise but also clinical and regulatory expertise in Europe and perhaps from other regions, in an effort to offer the best-available guidance, and to meet with and discuss the **key clinical elements** with the Sponsor prior to guidance issuance. Proposed **key clinical elements** include the following: **Primary efficacy objective(s), primary efficacy measures and endpoint(s), Number of patients exposed (total program), average or median duration of exposure in efficacy studies, study drug dose(s) for efficacy and safety demonstrations, comparator(s) for efficacy demonstration, minimum number of independent efficacy demonstrations required**. Finally, Sponsors should not be penalized per se for choosing **key clinical elements** that differ from those FDA has recommended; Sponsors are taking a risk that such guidance represents FDA's best thinking, but FDA's best thinking is not necessarily the best path forward in all respects (e.g. FDA does not have to consider the impact of its suggestions on payers' willingness to pay for the approved drug). Therefore, FDA must continue to be compelled to provide due consideration to studies incorporating one or more **key clinical elements** that were not suggested or were rejected by FDA prior to Phase 3. The obvious expected effect of this proposal is reduction of regulatory uncertainty during and after conduct of Phase 3, the riskiest development Phase from a monetary standpoint.

I offer below one proposal to improve incentives for developing high-need therapies:

1. There are myriad government-created incentives available to drug developers. But there is only one most successful incentive, and there is a good reason for its success. That program is the Orphan Drug Designation incentive. Why has this program been so much more successful than all other incentive programs? Because it is the only program to offer a meaningful market exclusivity (i.e. monopoly) period following approval and launch. In the US, approval of an orphan-designated drug provides its application-holder with seven years of market exclusivity. Compare this incentive with the Hatch-Waxman data exclusivity periods of three and five years for approvals of reformulated active ingredients and new-molecular entities, respectively. Seven years is not as much as Europe's 10 years, but it is sufficient for an innovator to guarantee to its investors, early in the lifecycle of R&D, that if approved, the drug will have enough "runway" to assure a satisfactory return on investment, even if the innovator's patents are successfully

challenged. That is huge for a small-molecule innovation (biologics are protected even better than the orphan-drug's 7 years). I have no doubt that many small-molecule therapies indicated for orphan diseases today would never have been systematically studied for those diseases without the 7-year exclusivity; this is especially true of successful reformulations; examples are available upon request. The point is that a similar period of exclusivity should be made available for all conditions that meet certain innovative criteria that can be codified in legislation. Such legislation will be much more impactful than incentives like enhanced FDA interactions or priority-review vouchers. As a first step, I suggest that two currently codified therapy classes be incentivized with such exclusivity: drugs designated as breakthrough and qualified infectious disease products, with consideration for extending the incentive to fast-track therapies as well. Provide market exclusivity and watch innovation funding increase in tandem; we have seen it happen before.

Respectfully,
Fredric [redacted]
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