January 2019 Communication
2018 Recap

2018 has been an amazing year for our group. We have accomplished so much in such a short period of time. I wanted to recap some of our 2018 accomplishments and discoveries; none of which would have been possible without our families and research teams working together with our children in mind!

Our Families:

- Our community grew by 31 families in 2018 as we are now connected to 78 families globally
- 53 of our families are now registered to SimonsVIP 37 of which have submitted their clinical reports. We need your help getting participation in the research close to 100% as this data is critical to finding answers! For any questions on this process, contact Carole at carole.bakhos@gmail.com or at 720.725.1727.
- 2019 conference scheduled for next March! We are excited to have 47 families attending and our entire research team! This will be a great opportunity for our families to connect with each other and with the experts who will also be learning from us.

Our Research:

- In 2018, additional year 1 proposals and agreements were put in place with each of the research institutions and $496,665 was spent in support of the research.
- Visit http://jordansguardianangels.org/research-details-impacts/ for details regarding the research.
- $12M grant was allotted by the state of California to support Jordan's Syndrome. The funds will be distributed and managed by UC Davis to support the next 3 years of research. JGA, UC Davis, and the rest of the participating institutions are in the process of establishing the scope of work for the next 3 years that best support the mission of finding answers for our children!
- Our wonderful research team has made significant progress in their efforts to find a treatment and cure for our children over the last year. Below is a summary of recent updates provided by our research team:
    1. Our team has learned much about the structure of Phosphatase 2A which is impacted by the PPP2R5D mutations. They will be learning how the positions of atoms and amino acids are altered by the mutations with the goal of designing chemical therapeutics to restore the normal shape and function of PP2A.
    2. The team has discovered that the mTOR pathway is one of the cellular signaling pathways that is altered by the mutations. There are existing drugs that work on the

mTOR pathway that can be tested in mouse models of PPP2R5D to see if they would work.

3. Our team has developed antibodies that will be useful to recognize the different forms of the PPP2R5D protein.
4. The team has, using CRISPR gene editing technology, developed mice with some of the same mutations in our children. They will soon be studying those mice to learn more about the impact of the mutations.
5. Researchers have also identified and characterized novel genetic variants in not only PPP2R5D, but also in PPP2R1A, PPP2R5C and PPP2CA in children with neurodevelopmental disorders. This information has reinforced the concept that the mutations in all of these genes are part of a common PP2A-related developmental disorder.
6. Finally, the team has developed and stored, from children's samples taken at our Houston Gala, cells from each sample to study how our children's PPP2R5D mutations change the way the protein works.
7. The team has determined that they have learned enough about our children's mutations to begin mouse model clinical trials on possible therapeutic treatments.

These are truly amazing advances for our children in such a short period of time and provide great hope for our continued work towards a treatment and cure for our children, as well as learning more about how our research may provide advances for several other major diseases.

Our Fundraisers:

- Many fundraising events have been held around the globe. Two of the large events include the first Gala in Houston and the Golf Tournament collectively raising $526,943. Thank you for your commitment and for all the families that held local or virtual events in support of our mission! While the CA grant is a huge relief and will propel the research forward, it is limited to specific work completed by the institutions and doesn't cover all aspects of the research, future work unknown for now, and expenses related to family conferences.