On April 10, 2015, TLC hosted the first BFRB Precision Medicine (BPM) Forum, providing participants an opportunity to hear directly from our researchers about the progress and vision of the BPM Initiative. A brief summary from each presenter follows.

**QUICK TAKES:**

- **Dr. Grant:**
  - 70% Remission Is Achievable

- **Dr. Dougherty:**
  - The CliffsNotes on Precision Medicine

- **Dr. Garner:**
  - Mighty Mice Lead the Way

- **Drs. Keuthen, Flessner, and Scharf:**
  - A National Treasure in Current BFRB Data

- **Dr. Piacentini:**
  - Starting Small to End Big

- **Dir. Raikes:**
  - Funding the BPM Initiative

**ON THE HORIZON:**

**Online version of the BPM Forum**

**May 19, 2015**

1:00pm PST

For those who weren’t able to attend the BPM Forum in Washington, D.C., we’ve planned a special web conference event with Dr. John Piacentini, Dr. Darin Dougherty, and TLC Executive Director Jennifer Raikes.

To RSVP or to learn how to join the web conference:

jennifer@trich.org

**SUMMARIES:**

**Understanding the BPM Initiative’s Vision and Structure**

Dr. Jon Grant (University of Chicago)

The BPM Initiative is fundamentally different from any previous hair pulling or skin picking research efforts.

I see the BPM Initiative as a groundbreaking opportunity to address our biggest challenge—that today’s hair pulling and skin picking treatments are only moderately successful and rarely lead to permanent...
The BPM Initiative aims to increase remission rates from the current 10%-20% to as high as 70% within five to seven years.

Two things set the BPM Initiative apart as historic—national collaboration among scientists and the application of precision medicine to BFRBs.

The collaboration around the BPM Initiative is unprecedented—we have brought together the leading researchers from across the country in the fields of hair pulling and skin picking. This collaborative approach is unlike anything currently taking place in mental health research, so TLC is at the leading edge of both BFRB research and the broader field of mental health research.

Precision medicine will enable this initiative to identify very targeted treatments in a relatively short period of time. We will be compiling the most comprehensive set of BFRB data in history, including biology, brain scans, and genetic data, in order to form composite profiles that address the nuances of hair pulling and skin picking behaviors. These profiles will help us determine how and why certain treatments work for some people but not for others, and ultimately lead us to new treatments.

Precision medicine is the key to identifying new treatments that will dramatically change BFRB remission rates.

Precision medicine uses biological and genetic traits to describe an individual pattern of disease. We’ve seen this approach produce revolutionary results for cancer, and the National Institute of Mental Health is leading the way in applying this approach to mental health disorders. As a scientist, I can say that the BPM Initiative is truly forging a new path by applying these cutting edge research strategies to the discovery of new treatments for hair pulling and skin picking.

Current treatments often focus on all hair pullers and skin pickers as a single group, without distinguishing different pulling and picking behaviors. But the consensus among TLC’s Scientific Advisory Board is that there may be six to ten different subtypes of pullers and pickers. Hypothetical examples of these might include behavior patterns like reward seekers and impulsive, anxiety-driven, and habitual pullers and pickers.

The BPM Initiative will enable us to identify and refine these different subtypes (phenotypes) and target therapies to each one based on brain imaging, blood analysis, and behavioral testing. Generally speaking, the simpler a phenotype is, the more likely we are to find successful treatments using precision medicine. I don’t consider Trich excessively complicated as a disorder, so I’m confident that this initiative will bring new and more effective treatments for hair pulling and skin picking.

The BPM Initiative’s animal studies will help to accelerate the pace of research discoveries by identifying the most promising hypotheses to test in studies with human patients.

I’ve worked with mice who pull their own hair, or “barber,” since 2001, and more recently with mice that scratch and chew at their skin. In general, research on animal models enables us to ask questions we couldn’t—and wouldn’t—in humans. In particular, because mice age quickly, going from conception to old age in one year, we can discover and manipulate life-long developmental processes that generate the patterns we see in human physiology. Ultimately, studying mice can lead to faster and cheaper proof-of-concept drug trials.

We can take both a forward- and a reverse-translation approach in animal models. A forward approach means that discoveries with mice can guide human work, enabling us to narrow what to look for, apply precision medicine, and discover effective drugs. A reverse-translation approach uses human study results to inform mouse studies. The mouse models of hair pulling and skin picking were developed from the ground up to ask the same questions as BPM (such as looking for screening biomarkers and preventative treatments). Today, the animal models have validated genes and biomarkers to test in humans as part of our precision medicine approach to hair pulling. In skin picking, we have discovered that glutathione seems to be an effective new drug and needs to be examined further.

First Step in the BPM Research Plan—Analyzing The Data We Have

Dr. Nancy Keuthen (Harvard University and Massachusetts General Hospital) and Drs. Jeremiah Scharf (Harvard University) and Chris Flessner (Kent State University) (not pictured)

Analysis of existing behavioral data on 800 subjects will lead us to a powerful early understanding of BFRB profiles.

Because the BPM Intitiative is built on collaboration, we already have access to data from 800 subjects across five sites. I can’t emphasize enough how valuable this will be as a foundation for all future BFRB research efforts. By combining existing data sets, we will boost the sample size and demographic diversity of our data, and establish key early hypotheses about BFRB profiles. It will also generate huge benefits for predictive modeling, for teasing out other factors (co-morbidity), and for understanding the influence of age, gender, and ethnicity on these disorders.

In addition, DNA from 400 individuals has already been transferred to the National Institute of Mental Health (NIMH), which is holding this data. It can be used for genotyping to help understand the genetic factors involved with BFRBs. NIMH’s assistance brings a huge cost savings and boosts the profile of the BPM Initiative.
Launching Our First BPM Pilot Study
Dr. John Piacentini (UCLA)

Why the BPM Initiative’s first pilot study will be a critical step in testing data collection standards before taking the research to a larger scale.

We are embarking on a multi-site coordinated research effort, which brings inherent challenges for comparing data from different locations. In February of this year, several BPM scientists met in Salt Lake City to finalize our research protocols. These are the data collection standards that will allow us to compare data across sites. Our next step will be to test and refine those protocols with a pilot study involving thirty subjects across three sites, to be conducted in Fall 2015. Throughout this pilot study, we will make any necessary adjustments to the research protocols with this limited number of subjects. Once we’ve tested our research protocols, we will be ready to launch the full BPM Initiative with additional patients across a greater number of research sites.

BPM Funding Update
TLC Executive Director Jennifer Raikes

An overview of our BPM fundraising success to date, and what philanthropic support is needed for the next phase of this groundbreaking research work.

Over the past year, I have been blown away by a truly visionary group of donors who have already contributed more than $600,000 to help launch the BPM Initiative. In addition to these financial supporters, our many scientists and volunteers have already donated hundreds of hours just to get us through the planning phase of the BPM Initiative.

Our next focus is to raise an additional $400,000 to fully fund our pilot study of thirty new patients, which will be a crucial first test of our research protocols. We will need these funds in hand by Summer 2015 in order for the pilot study to proceed as scheduled in Fall 2015.

Please consider investing in this next pilot study phase of our research. And please think about friends and colleagues in your network who might want to help advance this work, including foundations and corporate sponsors. As a community, I know that we can raise the resources we need for the BPM Initiative to succeed.

If you have additional questions about the BPM Initiative, please contact TLC Executive Director, Jennifer Raikes, at jennifer@trich.org or (831) 457-1004.
TLC has been the trusted leader in BFRB education, advocacy, and research for over twenty years. The groundbreaking BPM Initiative is an exciting turning point in our history—a bold step towards a brighter future for all of us.

For more information or to make a donation towards the BPM Initiative, please contact TLC Executive Director Jennifer Raikes at jennifer@trich.org or 831-457-1004.

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