BEFORE THE

INDEPENDENT CITIZENS' OVERSIGHT COMMITTEE
AND THE APPLICATION REVIEW SUBCOMMITTEE
TO THE
CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE
ORGANIZED PURSUANT TO THE
CALIFORNIA STEM CELL RESEARCH AND CURES ACT

REGULAR MEETING

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| LOCATION: | CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE<br>1999 HARRISON STREET, SUITE 1650<br>OAKLAND, CALIFORNIA |
| DATE: | OCTOBER 11, 2018<br>12 P.M. |
| REPORTER: | BETH C. DRAIN, CSR<br>CA CSR. NO. 7152 |
| FILE NO.: | 2018-13A |



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THURSDAY, OCTOBER 11, 2018; 12:00 P.M.

CHAIRMAN THOMAS: WELCOME, EVERYBODY, TO THE REGULAR MEETING OF THE ICOC AND THE APPLICATION REVIEW SUBCOMMITTEE FOR OCTOBER 2018. MARIA, PLEASE CALL THE ROLL.

MS. BONNEVILLE: ANNE-MARIE DULIEGE.

DAVID HIGGINS.

DR. HIGGINS: PRESENT.

MS. BONNEVILLE: STEVE JUELSGAARD.

MR. JUELSGAARD: HERE.

MS. BONNEVILLE: SHERRY LANSING. DAVE MARTIN.

DR. MARTIN: HERE.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: HERE.

MS. BONNEVILLE: ADRIANA PADILLA.

DR. PADILLA: HERE.

MS. BONNEVILLE: JOE PANETTA. FRANCISCO PRIETO. ROBERT QUINT. FRANCISCO PRIETO.

DR. PRIETO: HERE.

MS. BONNEVILLE: AL ROWLETT.

MR. ROWLETT: HERE.

MS. BONNEVILLE: JEFF SHEEHY.

MR. SHEEHY: HERE.



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MS. BONNEVILLE: OS STEWARD.
DR. STEWARD: HERE.
MS. BONNEVILLE: JONATHAN THOMAS.
CHAIRMAN THOMAS: HERE.
MS. BONNEVILLE: ART TORRES.
MR. TORRES: HERE.
MS. BONNEVILLE: DIANE WINOKUR.
EVERYONE, WE ARE JUST AT QUORUM. SO PLEASE STAY ON FOR THE LENGTH OF THE MEETING. THANK YOU SO MUCH.
CHAIRMAN THOMAS: WE'RE GOING TO GO DIRECTLY TO ITEM 3, CONSIDERATION OF APPLICATIONS SUBMITTED IN RESPONSE TO THE PARTNERING OPPORTUNITY, QUEST AWARDS. AND I'LL TURN THE MEETING NOW OVER TO MR. SHEEHY.
MR. SHEEHY: THANK YOU, CHAIRMAN THOMAS. DR. SAMBRANO HAS A PRESENTATION FOR US.
DR. SAMBRANO: YES. THANK YOU, MR. SHEEHY.
SO I HAVE A SLIDE PRESENTATION THAT WAS DISTRIBUTED AND ALSO SHOWING ON WEBEX. SO THIS IS BASICALLY A REMINDER OF WHERE WE LEFT OFF ON THE QUEST RECOMMENDATIONS FROM THE GWG FOR THIS PROGRAM. SO JUST A REMINDER OF WHAT THE QUEST PROGRAM IS ABOUT. THIS IS BASICALLY OUR DISCOVERY ENGINE



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PROGRAM THAT TAKES PROMISING NEW STEM CELL-BASED TECHNOLOGIES TO THE POINT WHERE THEY CAN BEGIN TRANSLATIONAL STUDIES WITHIN A PERIOD OF ABOUT TWO YEARS.

WHEN WE PRESENTED THIS IN JULY, THE RECOMMENDATIONS FROM THE GRANTS WORKING GROUP WERE SHOWN ON THE TABLE. SO WE HAD 14 APPLICATIONS FOR WHICH THERE WAS A TOTAL REQUEST ASK OF ABOUT $19 MILLION. HOWEVER, THE FUNDS AVAILABLE OR ALLOCATED FOR THIS PARTICULAR CYCLE WAS 10 MILLION. SO THE AMOUNT REQUESTED WAS CERTAINLY WELL OVER THE 10 MILLION.

WHAT HAPPENED THEN IN THE JULY 19 ICOC/ARS MEETING WAS THAT THIS COMMITTEE APPROVED FUNDING OF $10 MILLION FOR EIGHT DISC2 APPLICATIONS THAT INCLUDED PARTIAL FUNDING FOR TWO OF THEM. AND THEN THE REMAINING SIX APPLICATIONS THAT WERE RECOMMENDED BY THE GRANTS WORKING GROUP WERE DEFERRED IN TERMS OF MAKING A DECISION WITH THE POSSIBILITY OF ALLOCATING FUTURE FUNDS TO THOSE.

SUBSEQUENT TO THAT MEETING, CIRM RECOVERED ABOUT $865,000 FROM ONE OF THOSE APPLICATIONS. IT WAS THE DISC2-11192. WHAT HAPPENED THERE WAS THE PROJECT PI MOVED OUT OF STATE AND SO THE FUNDS WERE NOT AWARDED. THIS IS ONE OF THE PARTIALLY FUNDED



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APPLICATIONS. AND SO WE RECOVERED THAT AMOUNT.

AND SO AS A CONSEQUENCE WHAT WE ARE RECOMMENDING IN TERMS OF ACTIONS MOVING FORWARD IS TO FULLY FUND THE OTHER PARTIALLY FUNDED APPLICATION, WHICH IS DISC2-11109. THAT WOULD UTILIZE ABOUT 550,000 OF THOSE AVAILABLE NOW 865,000 THAT WE RECOVERED.

AND THEN THE OTHER RECOMMENDATION WOULD BE NOT TO FUND THE REMAINING SIX RECOMMENDED DISC2 APPLICATIONS IN LIEU OF THE BUDGET. AND THOSE ARE OUR RECOMMENDATIONS, MR. SHEEHY.

MR. SHEEHY: THANK YOU.

SO FIRST OF ALL, DO WE -- WE'LL KIND OF BREAK THIS UP. DO WE HAVE A MOTION TO ACCEPT THE FIRST RECOMMENDATION, WHICH IS TO PARTIALLY FUND -- FULLY FUND THE PARTIALLY FUNDED APPLICATION QUEST2-11109?

DR. JUELSGAARD: SO MOVED.

MR. SHEEHY: IS THERE A SECOND?

DR. PRIETO: I'LL SECOND.

MR. SHEEHY: IS THERE ANY DISCUSSION? IS THERE ANY PUBLIC COMMENT ON THIS MOTION EITHER HERE OR AT ANY OF THE SITES?

WE'RE GOING TO TALK ABOUT THE REST OF THE APPLICATIONS WITH SOME SORT OF MOTION FOLLOWING.



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MR. REED: SO THE 865,000 IS NOT INCLUDED IN WHAT YOU ARE SAYING? JUST FOR THE RECORD, IF THE 865,000 WAS INCLUDED, HE SAYS IT'S NOT.

MR. SHEEHY: FIVE FIFTY IS INCLUDED TO FULLY FUND THE APPLICATION WE ONLY FUNDED HALF OF.

MR. REED: THE 865,000 -- THEN DO NOT REFUND THE REMAINING, WE'RE NOT TALKING ABOUT THAT YET?

MR. SHEEHY: YES, WE ARE. WE'RE TALKING ONLY ABOUT THE FIRST TEAM RECOMMENDATION, WHICH IS TO TAKE -- WE GOT $865,000 BACK -- TO TAKE ABOUT 550 OF THAT AND TO FULLY FUND AN APPLICATION THAT WE PARTIALLY FUNDED AT THE LAST MEETING.

MR. REED: SO WHAT WE WOULD BE DISCUSSING RIGHT NOW IS THAT THERE'S NO WAY TO FUND THE REMAINING GRANTS?

MR. SHEEHY: WE'LL TALK ABOUT THE REMAINING GRANTS WITH ANOTHER MOTION, WITH A SECOND MOTION.

MR. REED: NOW IS NOT THE TIME TO DISCUSS THAT?

MR. SHEEHY: NO. THANKS, DON. ANY OTHER PUBLIC COMMENT? COULD WE CALL THE ROLL.

MS. BONNEVILLE: ANNEMARIE DULIEGE. DAVID HIGGINS.



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DR. HIGGINS: YES.
MS. BONNEVILLE: STEVE JUELSGAARD.
MR. JUELSGAARD: YES.
MS. BONNEVILLE: SHERRY LANSING. DAVE MARTIN.
DR. MARTIN: YES.
MS. BONNEVILLE: LAUREN MILLER.
MS. MILLER: YES.
MS. BONNEVILLE: ADRIANA PADILLA.
DR. PADILLA: YES.
MS. BONNEVILLE: JOE PANETTA. FRANCISCO PRIETO.
DR. PRIETO: AYE.
MS. BONNEVILLE: ROBERT QUINT. AL ROWLETT.
MR. ROWLETT: YES.
MS. BONNEVILLE: JEFF SHEEHY.
MR. SHEEHY: YES.
MS. BONNEVILLE: OS STEWARD. JONATHAN THOMAS.
CHAIRMAN THOMAS: YES.
MS. BONNEVILLE: ART TORRES.
MR. TORRES: AYE.
MS. BONNEVILLE: OS, I THINK YOU'RE ON MUTE.



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DR. STEWARD: YEAH. ACTUALLY I WAS ON THE OTHER PHONE WHICH APPARENTLY PUT ITSELF ON MUTE. SO THE ANSWER IS YES.

MS. BONNEVILLE: MOTION CARRIES.

MR. SHEEHY: THANK YOU. OKAY. SO WE NEED TO COME TO SOME SORT OF CONCLUSION ABOUT THE REMAINING SIX RECOMMENDED APPLICATIONS. THE TEAM RECOMMENDED NOT FUNDING THEM. I KNOW THAT THERE IS AN OPTION --

CHAIRMAN THOMAS: J.T. WITH RESPECT TO THAT, TO GET THE CONVERSATION GOING HERE, I'D LIKE TO MAKE A MOTION WITH RESPECT TO THE REMAINING AWARDS, WHICH IS I MOVE THAT WE CONTINUE CONSIDERATION OF THESE AWARDS TO A FUTURE MEETING OF THE APPLICATION REVIEW SUBCOMMITTEE IN THE EVENT THE ICOC APPROVES THE USE OF BRIDGE FUNDS TO FUND THESE AWARDS.

MR. TORRES: SECOND.

MR. SHEEHY: SECOND BY ART. DO WE HAVE DISCUSSION? WE HAD TALKED AT A PREVIOUS MEETING ABOUT PUTTING IT OFF. SO WHAT ARE PEOPLE'S THOUGHTS ON THIS?

DR. JUELSGAARD: WE DON'T HAVE THE MONEY AT THIS POINT. SO IT'S OVER WITH, RIGHT? I DON'T KNOW WHAT DISCUSSION CAN BE HAD AT THIS POINT.



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MR. SHEEHY: OKAY. IS THERE ANY OTHER COMMENT BY ANY BOARD MEMBERS OR QUESTIONS?

DR. PRIETO: MR. SHEEHY, MR. CHAIRMAN, THIS IS FRANCISCO PRIETO. SO QUESTION. IF WE ACCEPT THIS MOTION, DOES THAT JUST KEEP THESE APPLICATIONS ALIVE AS OPPOSED TO REJECTING THEM SO THAT WHEN FUNDS BECOME AVAILABLE OR IN THE NEXT FISCAL YEAR, WE COULD THEN SIMPLY VOTE ON THEM BECAUSE THEY'VE ALREADY BEEN APPROVED BY THE GWG?

MR. SHEEHY: THIS DOES KEEP THE APPLICATION ALIVE, BUT SOLELY FOR BRIDGE FUNDING.

DR. PRIETO: OKAY. THANK YOU.

MR. SHEEHY: MAYBE WE SHOULD ASK SOME CLARIFICATION ABOUT BRIDGE FUNDING.

DR. JUELSGAARD: JEFF, BEFORE WE GET INTO THAT, THE WHOLE IDEA OF WHAT WE'RE GOING TO DO WITH OUR MONEY NEXT YEAR IS A SUBJECT YET TO BE BROACHED. I KNOW WHAT THE RECOMMENDATIONS ARE GOING TO BE, BUT UNTIL WE HAVE AN ACTUAL ICOC MEETING AND MAKE THAT DETERMINATION, THIS IS A PLAN AT THIS TIME. THAT'S WHAT I UNDERSTAND.

CHAIRMAN THOMAS: THAT'S CORRECT, STEVE.

MR. SHEEHY: SO IS THERE ADDITIONAL DISCUSSION?

MR. ROWLETT: I DON'T HAVE ANY OBJECTION



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TO THE POSSIBILITY OF A DISCUSSION ASSOCIATED WITH BRIDGE FUNDING. THE OUTCOME OF THESE APPLICATIONS COULD BE THE SAME AFTER THAT DISCUSSION IF YOU CHOOSE NOT TO DO BRIDGE FUNDING. SO I DON'T HAVE ANY OBJECTION TO IT.

MR. SHEEHY: A DISCUSSION OF BRIDGE FUNDING?

CHAIRMAN THOMAS: NOT A LOT TO DISCUSS IN THIS FORUM OTHER THAN WE ARE BUSILY OUT LOOKING TO RAISE THAT WITH A NUMBER OF PEOPLE. I DON'T REALLY WANT TO HAVE A REPORT ON THAT BECAUSE THIS ISN'T SORT OF THE TIME. I'LL GET INTO THAT MORE AT OUR BOARD MEETING NEXT WEEK.

MR. SHEEHY: OKAY. SO WE HAVE A MOTION. IS THERE FURTHER BOARD DISCUSSION? THEN I OPEN UP TO PUBLIC COMMENT.

MR. REED: I JUST THINK IT'S IMPORTANT THAT WE KEEP THESE GRANTS ALIVE AND OPEN FOR WHEN THERE WILL BE, I BELIEVE, SOME MONEY COMING IN. I JUST HAVE A BELIEF THAT THERE WILL BE SOME MONEY COMING IN. I HAVE FAITH IN J.T., I HAVE FAITH IN A LOT OF PEOPLE. I THINK WE WILL GET SOME MORE MONEY. I DON'T WANT TO SEE THESE SIX OUTSTANDING PROGRAMS -- ALL OF THEM ARE GOOD. I HAVE MY FAVORITE, BUT THEY'RE ALL GOOD -- I DON'T WANT TO



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SEE THEM CUT OFF. SO I THINK IT'S IMPORTANT THAT WE LEAVE THEM OPEN FOR THAT.

MR. SHEEHY: WE HAVE ANOTHER PUBLIC COMMENT HERE IN SAN FRANCISCO.

DR. BEACHY: GOOD AFTERNOON, EVERYONE. I'M PHIL BEACHY. I'M A PROFESSOR AT STANFORD UNIVERSITY MEDICAL CENTER. I HAVE APPOINTMENTS IN DEPARTMENTS OF UROLOGY, DEVELOPMENTAL BIOLOGY, CHEMICAL AND SYSTEMS BIOLOGY, AND, OF COURSE, I'M A MEMBER OF THE STANFORD STEM CELL BIOLOGY INSTITUTE, AS WELL AS THE CANCER INSTITUTE.

JUST BY WAY OF BRIEF INTRODUCTION, I HAVE SOME EXPERIENCE WITH DRUG DEVELOPMENT. I HAVE BEEN A CO-FOUNDER OF THREE CALIFORNIA BIOTECHS. ONE OF THESE IS (INAUDIBLE), ANOTHER IS IN PHASE 3 TRIALS NOW, AND ANOTHER ONE ACTUALLY HAS BEEN PUBLICLY TRADED SINCE 2013.

THE REASON WE'RE HERE TODAY IS BECAUSE OUR TEAM SUBMITTED A PROPOSAL ON USE OF EMBRYONIC STEM CELLS TO PROVIDE A DEFINITIVE, LONG-TERM CARE FOR BLADDER CANCER. AND THAT'S WHAT WE WANT TO TALK ABOUT.

BLADDER CANCER IS THE FIRST MOST COMMON CANCER IN MEN. IT ALSO OCCURS IN WOMEN. BUT CIRM HAS NOT PREVIOUSLY FUNDED ANY WORK ON BLADDER

CANCER. NOW, THE SCIENTIFIC PANEL RANKED OUR PROPOSAL IN A TIE FOR THIRD PLACE AMONG 41 APPLICATIONS, BUT OUR APPLICATION HAS NOT YET BEEN FUNDED. WE SUBSEQUENTLY LEARNED THAT AN IMPORTANT PART OF OUR PROPOSAL IS TO PRESENT IT TO THIS COMMITTEE. AND SO WE'RE GRATEFUL TO HAVE A CHANCE TO DO THAT TODAY.

THE MAJOR PROBLEM WITH BLADDER CANCER IS THAT IT OFTEN RETURNS, EVEN AFTER THE PRIMARY TUMOR IS REMOVED. AND THIS MAKES BLADDER CANCER VERY RISKY TO HAVE, AND ALSO VERY DIFFICULT TO TREAT BECAUSE EVEN AFTER SUCCESSFUL TUMOR REMOVAL, THE PATIENT HAS TO BE CONTINUOUSLY MONITORED, AND THIS MAKES IT THE MOST EXPENSIVE CANCER TO TREAT PER PATIENT OF ANY CANCER.

NOW, IN MY LAB'S RESEARCH, WE LEARNED THAT THE CANCER RETURNS BECAUSE THE ENTIRE LINING OF THE BLADDER THAT REMAINS AFTER TUMOR REMOVAL COMES FROM THE SAME INITIAL STEM CELL THAT GAVE RISE TO THE TUMOR. AND THIS CORRUPTIVE BLADDER LINING THEN HAS SOME OF THE CHANGES ALREADY PRESENT THAT GIVE RISE TO THE TUMOR, AND THIS MAKES IT ACTUALLY MUCH EASIER FOR THE TUMOR TO RETURN AFTER EXCISION OF THE PRIMARY TUMOR.

SO THE ONLY WAY TO REALLY SOLVE THIS



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PROBLEM IS TO GET RID OF THE CORRUPTED LINING, AND THAT'S EXACTLY WHAT WE PROPOSE TO DO. WE PLAN TO REMOVE THE OLD LINING WITH A SPECIAL DRUG AND REPLACE IT WITH PRISTINE LINING CELLS THAT ARE DERIVED FROM EMBRYONIC STEM CELLS. THIS SHOULD PROVIDE A PERMANENT SOLUTION AND REDUCE RISK AND REDUCE EXPENSE OF BLADDER CANCER TREATMENT.

TO HELP US DO THIS, WE'VE ASSEMBLED A TEAM THAT CONSISTS OF DR. JOE LIAO, WHO'S A BLADDER CANCER SPECIALIST AND A UROLOGIST AT STANFORD. HE'LL SPEAK TO US IN A MINUTE. AND DR. LAY TENG ANG AND DR. KYLE LOH, BOTH OF WHOM ARE REAL WHIZZES AT GETTING EMBRYONIC STEM CELLS TO DIFFERENTIATE AND TO MAKE WHATEVER KINDS OF CELLS ARE NEEDED.

I'LL JUST CLOSE QUICKLY BY SAYING THAT I'LL TURN IT OVER TO MY COLLEAGUES HERE, AND WE HOPE THAT YOU WILL CONSIDER OUR APPLICATION FOR FUNDING. THANK YOU.

MR. SHEEHY: YOU CAN BORROW TIME FROM ONE OR TWO OF YOUR COLLEAGUES IF YOU'D LIKE TO DO THAT.

DR. BEACHY: ESSENTIALLY I JUST WANTED TO INTRODUCE MY COLLEAGUES. I'VE ALREADY INTRODUCED JOE AND KYLE AND LAY TENG. KYLE IS ALSO A PROFESSOR AT STANFORD IN THE STEM CELL INSTITUTE, AND LAY TENG IS AN INDEPENDENT RESEARCH FELLOW. SO THANK YOU.

DR. LIAO: THANK YOU, PHIL. MY NAME IS JOE LIAO. I'M A PROFESSOR OF UROLOGY AT STANFORD SCHOOL OF MEDICINE, AND I ALSO SERVE AS THE CHIEF OF UROLOGY AT THE PALO ALTO VA HOSPITAL.

SO AS A CANCER SURGEON AND A RESEARCHER, I'VE BEEN COLLABORATING WITH DR. BEACHY FOR THE PAST FOUR YEARS. I VERY MUCH SHARE HIS ENTHUSIASM TO BE HERE TODAY TO DESCRIBE TO YOU OUR RESEARCH MISSION TOWARD FINDING A DEFINITIVE CURE FOR BLADDER CANCER.

IN MY CLINICAL PRACTICE I TAKE CARE OF A LARGE NUMBER OF BLADDER CANCER PATIENTS ACROSS DIFFERENT STAGES. AT AN EARLY STAGE, THE TUMOR CAN TYPICALLY BE RESECTED THROUGH A CAMERA AND AN ENDOSCOPE. HOWEVER, AS DR. BEACHY MENTIONED, THE RECURRENCE RATE OF BLADDER CANCER IS VERY, VERY HIGH, AND THE MAJORITY OF THE CANCER WILL INDEED RECUR. PATIENTS HAVE TO UNDERGO FREQUENT INVASIVE ENDOSCOPY PROCEDURES CALLED CYSTOSCOPIES AND FREQUENT TRIPS BACK TO THE OPERATING ROOM WHEN THEY DO RECUR.

OUR RESEARCH HAS SHOWN THAT THE HIGH RECURRENCE RATE IS IN LARGE PART DUE TO THE PERSISTENCE OF CORRUPTED BLADDER LINING EVEN AFTER SURGERIES. ONE OF THE TREATMENT OPTIONS WE HAVE IS CALLED BCG IN WHICH WE INTRODUCE A LOW-GRADE



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INFECTION INTO THE BLADDER IN THE EFFORT TO REV UP THE IMMUNE SYSTEM TO REDUCE THE CHANCE OF CANCER RETURNING. HOWEVER, THE RESPONSE RATE OF BCG IS SUBOPTIMAL. AND IF A PATIENT WERE TO CONTINUE TO HAVE RECURRENCE DESPITE BEING ON BCG, THEN HE OR SHE IS FACED WITH THE POSSIBILITY OF REMOVAL OF THE ENTIRE BLADDER AND RECONSTRUCTION OF A NEW BLADDER USING INTESTINAL SEGMENTS. AND THIS IS A HIGHLY CHALLENGING AND COMPLICATED SURGERY WHERE ESSENTIALLY WE ARE COMPLETELY CHANGING THE PLUMBING SYSTEM, IF YOU WILL, FOR THE PARTICULAR PATIENT. OUR GOAL IS TO CHANGE THAT TREATMENT PARADIGM.

I WILL INTRODUCE YOU NEXT TO A PATIENT OF MINE FROM THE VA. VERNON BROWN IS A VETERAN AND A RETIRED DENTIST. HE HAS GRACIOUSLY AGREED TO SHARE WITH YOU SOME OF HIS STORY AND JOURNEY AND BATTLE WITH BLADDER CANCER. UNFORTUNATELY HE DOES HAVE RECURRENT, HIGH-RISK BLADDER CANCER AND HAS HAD INTESTINAL RESECTIONS AS WELL AS BCG TREATMENT.

AND HE'S EXACTLY THE TYPE OF PATIENT, THE TYPE OF RESEARCH THAT WE'RE PROPOSING WE'RE LIKELY TO HELP. AND IT IS MY FIRM BELIEF THAT THE BEST BLADDER IS THE ONE THAT YOU WERE BORN WITH, AND THAT IS OUR INTENT THROUGH THIS RESEARCH PROJECT. I'M GOING TO TURN IT OVER TO VERNON NOW. I'LL KEEP



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JOINING ON A LINE FROM MONTEREY.

DR. BROWN: HELLO. YES. I'M VERNON BROWN, AND I'M 78 YEARS OLD AND I'M A RETIRED DENTIST AND ALSO A VETERAN OF THE VIETNAM WAR. I LIVE IN MONTEREY, AND I PRACTICED IN MONTEREY FOR ABOUT 34 YEARS AFTER LEAVING THE MILITARY.

I WAS DIAGNOSED WITH BLADDER CANCER IN EARLY 2017. IT SHOWED UP IN A CT SCAN THAT I WAS HAVING FOR PROSTATE CANCER. AND I WAS LUCKY IT WAS FOUND BECAUSE I HAD NO SYMPTOMS AND NO PROBLEMS WITH MY BLADDER AT THAT POINT. I DID HAVE A FRIEND WHO JUST RECENTLY DIED OF BLADDER CANCER. HE WAS NOT SO LUCKY.

SO, ANYHOW, I HAD THE CYSTOSCOPY OF WHERE THEY FOUND THE LESION. IT'S A SCOPE THAT GOES UP INTO THE BLADDER AND SHOWS WHERE THE CANCER IS. THEN I HAD A SEPARATE APPOINTMENT DONE FOR A BIOPSY OF THE LESION BY ENDOSCOPIC PROCEDURE UNDER GENERAL ANESTHESIA. THE PATHOLOGY REPORT SHOWED, FORTUNATELY, THAT THE CANCER DID NOT GO INTO THE MUSCLE OF THE BLADDER, BUT IT WAS STILL A HIGH LEVEL CANCER.

SO AFTER HEALING FROM THAT PROCEDURE, I HAD ANOTHER BIOPSY -- I HAD A PROCEDURE WHERE THEY WENT FOR FOLLOW-UP TO GET THE REST OF THE CANCER



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OUT, AND THAT WAS DONE ALSO BY ENDOSCOPIC PROCEDURE. THERE WAS A LONG TIME HEALING FROM THAT, A LOT OF BLEEDING, A LOT OF BLOOD CLOTS. TOOK A LONG TIME TO HEAL. AFTER THAT, I FINALLY WENT INTO THE BCG TREATMENTS WHICH TOOK ABOUT SIX WEEKS, ONE TREATMENT A WEEK.

SO THAT LEAVES ME ABOUT WHERE I AM RIGHT NOW. AND MY NEXT EXAMINATION IS NEXT WEEK WITH ANOTHER CYSTOSCOPY. AND THIS CANCER COMES BACK, SO I'M GOING TO FACE A LOT OF TREATMENTS OR FOLLOW-UP TREATMENTS WITH CYSTOSCOPIES AND BCG TREATMENTS AND MOST LIKELY FOR THE REST OF MY LIFE.

THIS IS SOMETHING THAT I HAVE TO FACE AND SOMETHING THAT ALL OF THE OTHER PEOPLE THAT HAVE BLADDER CANCER HAVE TO FACE. SO I'M REALLY HOPING FOR A DEFINITIVE CURE THAT WILL HELP ME AND HELP OTHERS WHO HAVE BLADDER CANCER.

I THINK DR. BEACHY AND DR. LIAO'S RESEARCH FOR THIS CURE WILL BE VERY, VERY HOPEFUL. SO THANK YOU.

DR. BEACHY: THANK YOU, VERNON. THANK YOU SO MUCH.

DR. LOH: GOOD AFTERNOON. MY NAME IS KYLE LOH. I'M ASSISTANT PROFESSOR AT THE STANFORD CANCER INSTITUTE. I'M WITH MY COLLEAGUES HERE TODAY TO

DISCUSS OUR PROPOSAL, DISC2-11105, TO USE EMBRYONIC STEM CELL TECHNOLOGY TO DEFINITIVELY CURE BLADDER CANCER.

SO TO PROVIDE SOME CONTEXT, EMBRYONIC STEM CELLS HAVE BEEN MY ABIDING LOVE SINCE I WAS 14 WHEN I BEGAN COLLEGE AND WORKED IN A STEM CELL RESEARCH LAB. AS YOU KNOW, ONE OF CIRM'S MISSIONS IS TO MAKE EMBRYONIC STEM CELL THERAPIES A REALITY. EMBRYONIC STEM CELLS ARE REMARKABLE CELLS BECAUSE THEY CAN TURN INTO ALL THE DIFFERENT KINDS OF CELLS IN THE HUMAN BODY. HOWEVER, AS THEY SAY, IN LIFE IT'S NOT A GOOD THING TO HAVE TOO MANY CHOICES, AS YOU CAN SEE BY TODAY'S DISCUSSION. IT IS CERTAINLY THE CASE FOR EMBRYONIC STEM CELLS. BECAUSE THEY CAN TURN INTO ALL THE DIFFERENT CELL TYPES OF THE BODY, IT'S VERY DIFFICULT TO EFFICIENTLY TURN THEM INTO A SINGLE KIND OF CELL.

IT IS EXACTLY WHAT OUR CIRM QUEST TEAM HAS SUCCEEDED IN. SO BACKED BY PREVIOUS CIRM TOOLS AND TECHNOLOGIES AND QUEST AWARDS, WE'VE SUCCEEDED IN TURNING, FOR THE FIRST TIME, HUMAN EMBRYONIC STEM CELLS INTO PURE BATCHES OF LIVER, BONE, AND HEART CELLS. THAT WAS REPORTED IN JOURNAL OF *CELL* AND *CELL STEM CELL* WITH CIRM SUPPORT.

NOW WE'VE SUCCEEDED IN CREATING, FOR THE

FIRST TIME, PURE BATCHES OF HUMAN BLADDER CELLS IN A DISH FROM EMBRYONIC STEM CELLS. AND OUR MISSION IS TO THEN INJECT THESE NEW HUMAN BLADDER CELLS INTO PATIENTS WITH BLADDER CANCER TO REGENERATE THEIR HEALTHY BLADDER LINING.

SO HAVING WORKED WITH CIRM BEFORE, I KNOW OF CIRM'S URGENCY TO ACCELERATE STEM CELL TREATMENTS TO PATIENTS WITH UNMET MEDICAL NEEDS. AS YOU JUST HEARD FROM VERNON AND FROM JOE, TREATING BLADDER CANCER IS CERTAINLY AN UNMET MEDICAL NEED. THE PROCEDURES THEY TALKED ABOUT TODAY ARE BASICALLY GIVING PATIENTS A BACTERIAL INFECTION TO BCG, GIVING THEM REGULAR MONITORING, AND EVENTUALLY POTENTIALLY REMOVING THEIR ENTIRE BLADDER.

SO OUR TEAM HAS THE SPEED AND THE CAPABILITY AND THE SCIENTIFIC EXCELLENCE TO REALLY MAKE THIS TREATMENT A REALITY. AND I'M HERE TO ASK YOUR HELP TO DO SO. THANK YOU.

DR. LAY TENG ANG: MY NAME IS LAY TENG ANG. I'M AN INVESTIGATOR AND INSTRUCTOR AT STANFORD STEM CELL INSTITUTE. TODAY I WOULD LIKE TO SHARE WITH YOU ON A MORE PERSONAL NOTE OF MY INTEREST AND WHY I'M INTERESTED -- WHY I'M MOTIVATED TO WORK EMBRYONIC STEM CELLS.

WHEN I WAS 14, MY AUNT SUDDENLY PASSED

AWAY FROM KIDNEY FAILURE. AND SINCE THEN I HAVE COMMITTED MY RESEARCH TO WORK ON STUDIES THAT HAVE THERAPEUTIC POTENTIAL BECAUSE MY LONG-TERM GOAL IS TO TURN EMBRYONIC STEM CELLS INTO HIGHLY USEFUL AND THERAPEUTICALLY USEFUL TISSUE CELL TYPES.

OVER THE PAST DECADE, I HAVE DEDICATED MY RESEARCH TO GENERATE HUMAN LIVER AND BLADDER CELLS FROM EMBRYONIC STEM CELLS. I RECENTLY CAME TO STANFORD FROM SINGAPORE. OVER THE PAST SEVEN YEARS, I'VE COLLABORATED WITH EXCELLENT SCIENTISTS AT THE STANFORD STEM CELL INSTITUTE, INCLUDING PHIL BEACHY, KYLE LOH. AND I'M VERY INSPIRED. THAT'S THE REASON ALSO WHY I'M HERE. I CHOOSE TO BE HERE BECAUSE I BELIEVE, I STRONGLY BELIEVE THAT THIS IS THE PLACE WHERE I CAN TRANSLATE MY RESEARCH AND EXTEND MY RESEARCH TO BRING IT TO PATIENTS.

SO FAR WE HAVE BEEN VERY SUCCESSFUL IN TURNING EMBRYONIC STEM CELLS INTO BLADDER CELLS. AND I PLAN TO MAKE MY TIME HERE WORTHWHILE BY GIVING IT MY BEST EFFORT AND PUTTING MY BEST FOOT FORWARD. I WILL BE HAPPY TO TAKE QUESTIONS.

MR. KHALID: GOOD MORNING, LADIES AND GENTLEMEN. MY NAME IS ALI. I'M THE FATHER OF THREE YEARS OLD WHO WAS DIAGNOSED WITH A SEVERE GENETIC DISORDER, CHROMOSOME 5, WHICH CONTAINS ONE MILLION

BASE, 6 PERCENT OF TOTAL BRAIN CELLS. THIS IS ONE OF THE FIFTH LARGEST CHROMOSOMES. AND THE LESION IS 5 Q PARTIAL DELETION AREA 14.3. AND THE SIZE OF THE LESION IS 1.7 HKB WHICH IS LOCATED IN MEF2C GENE. IT'S A VERY ACTIVE PART OF THE BRAIN WHICH CONTROLS OTHER FORM OF RELATED AUTISM.

AND IT'S A KEY TO -- FOR OTHER -- TO TREAT OTHER -- WE ARE VERY HOPEFUL PARENTS THAT THIS IS THE ONLY HOPE WE HAVE, WHICH IS DR. STUART LIPTON. HE'S BEEN WORKING WITH US FOR ABOUT SIX MONTHS. DR. LIPTON IS STUDYING HEAD CELLS MADE FOR MY SON AS A MODEL OF THE DISEASE, AND THIS ALL FOR HOPE TO FINDING A DRUG TO REVERSE THE AFFECTED NERVE. IT ALSO CONTROLS THE OTHER PART OF WHICH ARE IMPORTANT FOR ALL AUTISM KIDS.

AS PARENTS WE BRING BRIGHT AND COLORFUL FUTURE FOR OUR SON. EVERY DAY WE SEE HIM GO THROUGH SADNESS, DEPRESSION, AND WE SEE PAIN IN HIS EYES. HE CANNOT EXPRESS HIS FEELINGS. HE CANNOT TELL WHAT HE FEELS EVERY DAY. AND EVERY NIGHT HE WAKES UP AT 2 A.M. OR 3 A.M. AND HE CANNOT GO BACK TO SLEEP. HE CANNOT SHUT OFF HIS BRAIN. AND WE SEE HIM LIKE THIS EVERY DAY, AND WE ARE SUFFERING OUR LIVES. IT'S AFFECTING ON THAT. AND THIS IS THE ONLY HOPE WE HAVE.



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DR. LIPTON IS DOING SOME RESEARCH ON HIM. AND WE DON'T HAVE A NORMAL LIFE ANYMORE AS A PARENT. WE LOOK ANYWHERE -- EVERYWHERE IS DARK. WE HAVE NO HOPE, NO OTHER PLACE WHERE YOU CAN GO. THIS IS THE ONLY CHANCE WE HAVE IN THIS WORLD THAT CAN HELP CURE MY SON.

WE'VE BEEN DEALING WITH THIS FROM LAST THREE YEARS. WE DON'T HAVE A NORMAL LIFE, ME AND MY WIFE. WE HAVE ANOTHER EIGHT YEARS OLD. WE CANNOT GO OUT. WE CANNOT EAT. WE ARE ALL IN DEPRESSION BECAUSE OF THIS DISEASE. IT AFFECT OUR FAMILY REALLY BAD.

SO I'M NOT FROM ANY HOSPITAL OR ANY OTHER PLACE. I'M JUST A PARENT, YOU KNOW. AND THIS IS A PRACTICAL BECAUSE I'M SEEING THIS, AND WE ARE FEELING, ME AND MY WIFE AND OUR FAMILY, FEELING THIS AND GOING THROUGH THIS EVERY DAY AND PART OF OUR LIFE.

SO THIS MEF2 GENE IS RELATED TO A LOT OF OTHER KIDS. A LOT OF KIDS ARE ASSOCIATED WITH THIS NOW. AND AUTISM IS BECOMING BIGGER AND BIGGER EVERY DAY. SO FOR THESE KIDS THERE'S A LOT OF RESEARCH, A LOT OF THINGS ARE GOING ON, BUT IT'S JUST TALK. I'M SORRY. I'M NOT TRYING TO BE DISRESPECTFUL, BUT I DIDN'T SEE ANYTHING THAT'S BEEN DONE WITH THIS KID.



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IF WE GO ONE TIME, WHEN I TAKE MY SON THREE YEARS OLD TO SCHOOL, I LOOK AT THE KIDS. SOMEBODY COMING IN WHEELCHAIR, SOMEBODY CANNOT TALK, SOMEBODY CANNOT SPEAK. I SEE THESE KIDS EVERY DAY. BEFORE I WAS JUST LOOKING AT THEM. NOW IT COMES ON ME AND I'M LOOKING AT MY KID GOING THROUGH THIS EVERY DAY. IT'S A VERY HARD THING.

AND THESE KIDS ARE NORMAL KIDS LIKE ANY OTHER KID. IF YOU LOOK AT THEM, THEY WANT TO COME HUG YOU. THEY WANT TO LOOK AT YOU. THEY WANT -- THEY HAVE THE FEELINGS LIKE OTHER KIDS. WE JUST NEED A CHANCE, AND THIS IS THE ONLY CHANCE THAT WE HAVE WHERE WE HAVE DR. LIPTON. AND HE'S THE ONLY PERSON IN THIS WORLD WHO'S WORKING ON THIS VERY BIG RESEARCH HE'S DOING.

MY SON WENT TO BIOPSY LAST TWO MONTHS BACK AT UC SAN DIEGO, AND THEY HAVE DONE -- WHAT DO YOU CALL THIS? -- BIOPSY. THEY HAVE DONE ON HIM SKIN BIOPSY FROM THERE. THEY SEND IT TO UC SAN DIEGO AND HE IS GROWING THE CELLS. THERE'S SO MANY OTHER KIDS ARE AFFECTED WITH THIS, YOU KNOW.

AS A PARENT, WE HAVE NOWHERE TO LOOK BECAUSE I'M -- I WORK FOR COMMISSION. I MAKE HARDLY ENOUGH MONEY TO SUPPORT MY FAMILY. MY WIFE AT HOME, SHE'S TAKING CARE OF THE TWO KIDS. SO THIS IS THE



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ONLY PLACE WE CAN COME AND LOOK TO YOU GUYS AND TO SEE IF SOMETHING CAN BE DONE FOR OUR KIDS LIKE US. BY THIS GENE, DR. LIPTON, HE HAS DONE A LOT OF THINGS IN THE PAST. IF HE CAN SUCCEED ON THIS, WE CAN MOVE FORWARD AND SAVE A LOT OF KIDS AND THEY CAN HAVE A NORMAL LIFE. THAT'S ALL. THANK YOU SO MUCH.

OPERATOR: LADIES AND GENTLEMEN, IF YOU WISH TO ASK A QUESTION, PLEASE DO PRESS STAR THEN ONE. WE DO HAVE DR. STUART LIPTON WITH US. PLEASE GO AHEAD, SIR.

DR. LIPTON: STUART LIPTON, PROFESSOR AT SCRIPPS RESEARCH INSTITUTE AT UCSD. I SUBMITTED A DISC2 APPLICATION 11070 ON AUTISM AS YOU JUST HEARD. WE RECEIVED A FUNDABLE SCORE OF 87. OUR TITLE IS "DRUG DEVELOPMENT FOR AUTISM SPECTRUM DISORDER USING HUMAN PATIENT IPSC'S."

I WANT TO THANK YOU ALL FOR THE HARD WORK YOU'RE DOING IN REVIEWING THESE GRANTS. I UNDERSTAND IT'S VERY DIFFICULT TO DECIDE WHO TO FUND AND WHO NOT TO, BUT I HAVE TWO BRIEF COMMENTS IN THIS REGARD.

FIRST, THIS IS THE ONLY APPLICATION IN FRONT OF YOU, TO MY KNOWLEDGE, ON AUTISM. AND AUTISM IS THE MOST COMMON DISEASE YOU ARE GOING TO CONSIDER TODAY. WITH AN INCIDENCE OF ONE IN 59



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PERSONS, ACCORDING TO THE LATEST CDC FIGURES, AND ACTUALLY HIGHER IN CALIFORNIA FOR REASONS THAT ARE NOT CLEAR, THERE'S NO CURE OR TREATMENT.

SECOND, BY TOTAL SERENDIPITY, OUR GROUP HAPPENED TO DISCOVER A GENE, AS YOU HEARD FROM THE KAHN FAMILY, CALLED MEF2C. IT'S A PRINCIPAL DRIVER OF AUTISM PHENOTYPES.

WE'RE STUDYING IPS CELLS FROM MANY PATIENTS, MORE THAN A DOZEN PATIENTS, WITH MEF2C HAPLO INSUFFICIENCY AND WITH OUR CRISPR-CAS9 CORRECTIONS AS CONTROLS. WE'RE USING THIS AS A MODEL FOR AUTISM.

MOST IMPORTANTLY, MEF2C HAS BEEN SHOWN TO BE THE TRANSCRIPTION FACTOR THAT DRIVES EXPRESSION OF MANY OTHER AUTISM GENES. SO IT'S A TREATMENT FOR THE MEF2C TYPE OF AUTISM, BUT WILL LIKELY TREAT MANY OTHER FORMS OF AUTISM. IN FACT, WE'VE PUBLISHED PRELIMINARY DATA IN *NATURE* SHOWING THIS TO BE TRUE.

NOW, THIS RELATIONSHIP OF MEF2C TO OTHER FORMS OF AUTISM WAS ACTUALLY DISCOVERED AND PUBLISHED IN TWO PAPERS PUBLISHED IN *CELL* AND *SCIENCE* BY DANIEL GESCHLAND, M.D., PH.D., A NEUROGENETICIST WHO YOU KNOW, THE DIRECTOR OF AUTISM RESEARCH AT UCLA, AND WHO IS NOT IN ANY WAY CONNECTED WITH THIS APPLICATION.

DESPITE THIS FACT, I APPROACHED DR. GESCHLAND, AND HE, EVEN THOUGH I'M AT A DIFFERENT INSTITUTION, VOLUNTEERED TO WRITE YOU A LETTER THAT YOU HAVE BEFORE YOU NOW DOCUMENTING THE IMPORTANCE OF STUDYING SPECIFICALLY MEF2C AS A THERAPY BECAUSE IT DRIVES SO MANY OTHER FORMS OF AUTISM. HE URGES YOU TO FUND THIS APPLICATION.

FINALLY, SINCE SUBMITTING THE GRANT, WE'VE RECEIVED A SMALL DONATION FROM FAMILIES WITH AUTISM. AND WE USED THESE IPS CELLS TO SCREEN, AND FOUND THAT I STOCKED HIS OLD DERIVATIVE CAPABLE OF PASSING THE BLOOD BRAIN BARRIER THAT STIMULATES MEF2C ACTIVITY. AS YOU PROBABLY KNOW, I STOCKED HIS OLD DRUGS THAT HAVE PREVIOUSLY BEEN APPROVED BY THE FDA. SO WE'RE STARTING BY REPURPOSING THOSE DRUGS AND ALSO IMPROVING UPON THEM WITH OUR SCRIPPS CHEMISTS.

AS AN ACADEMIC THAT HAS ALREADY GAINED FDA APPROVAL OF OTHER DRUGS, AS YOU MAY KNOW, MERZ GROUP, WE DEVELOPED THE MULTIMILLION BILLION DRUG NAMENDA FOR ALZHEIMER'S DISEASE, WE KNOW THIS IS A FEASIBLE APPROACH AND LIKELY TO GAIN FDA APPROVAL. WE HAVE NO OTHER FUNDS FOR THIS WORK ON AUTISM. IF YOU DON'T FUND IT, THE PROJECT DIES.

SEVERAL FAMILIES ACTUALLY CONTACTED ME ABOUT TALKING TO YOU TODAY. AFTER TALKING WITH THE

KAHN FAMILY, I THOUGHT THEY BEST REPRESENTED THOSE MANY OTHER FAMILIES, AND THEY'RE PRESENT IN OAKLAND. THEY DROVE TO OAKLAND TO MAKE THIS PRESENTATION. I THANK YOU FOR YOUR ATTENTION AND HOPE THAT YOU CAN HELP THE MANY, MANY THOUSANDS OF FAMILIES WITH AUTISM IN THIS STATE BY FUNDING THIS WORK. THIS IS THE MOST COMMON DISEASE WE'RE TALKING ABOUT TODAY.

MR. SHEEHY: THANK YOU, DR. LIPTON.

OPERATOR: THE NEXT PERSON ON THE LINE WILL BE TRACY GRIKSCHEIT. PLEASE GO AHEAD.

DR. GRIKSCHEIT: HI. THIS IS TRACY GRIKSCHEIT. I'M A PEDIATRIC SURGEON AT CHILDREN'S HOSPITAL LOS ANGELES, AND I'M ALSO A SCIENTIST AT CHILDREN'S HOSPITAL LOS ANGELES AND USC.

AS WE LOOK DOWN THE LIST OF GRANTS, I'M THE FIRST GREEN ONE THAT WAS NOT FUNDED AT POSITION 4. IT'S DISC2-10979.

LIVER DISEASE AFFECTS 30 MILLION PEOPLE WORLDWIDE. AND AS A PEDIATRIC SURGEON, I TAKE CARE OF A LOT OF CHILDREN WHO HAVE A METABOLIC LIVER DISORDER. LIVER DISORDERS IN CHILDREN ARE A VERY RATIONAL PLACE TO START WITH CELL THERAPIES BECAUSE WE ONLY NEED TO REPLACE 5 TO 10 PERCENT OF THE LIVER IN ORDER TO HAVE THEM LIVE A FUNCTIONAL LIFE. AND RIGHT NOW THESE CHILDREN WAIT FOR A LIVER TRANSPLANT

AND THEN NEED TOTAL IMMUNOSUPPRESSION, AND THE GRAFT USUALLY LASTS UP TO FIVE YEARS IF IT LASTS THAT LONG, AFTER HAVING MULTIMILLION DOLLAR SURGERIES THAT CAN RESULT IN HOSPITALIZATIONS FOR UP TO A 180 WEEKS. SO THEY CAN HAVE A VERY LONG HOSPITALIZATION, AND IT'S ALSO VERY COSTLY WITH A VERY POOR QUALITY OF LIFE.

THE UPLIFT PROPOSAL IS SPECIAL IN THAT WE HAVE FORMED A COLLABORATION TO USE CELLS THAT ARE UNIVERSAL, MEANING THAT THEY CAN EVADE THE BODY'S IMMUNE SYSTEM. SO NOT ONLY DO WE WANT TO FIX LIVER DISORDERS IN CHILDREN, BUT ALSO GIVE THEM A THERAPY THAT WOULD NOT REQUIRE IMMUNOSUPPRESSION.

I UNDERSTAND THAT THERE MAY NOT BE MONEY FOR THESE GRANTS RIGHT NOW, AND I'M GRATEFUL FOR THE SUGGESTION THAT MAYBE THIS COULD STAY OPEN BECAUSE WE REALLY WOULD LIKE TO HELP PEDIATRIC PATIENTS IN LIVER FAILURE AND NOT COMMIT THEM TO A LIFETIME OF IMMUNOSUPPRESSION OR A THERAPY THAT JUST DOESN'T STAND UP OVER TIME.

IF THIS IS SUCCESSFUL, THERE ARE 30 MILLION MORE PEOPLE AROUND THE WORLD WHO COULD BENEFIT.

MR. SHEEHY: THANK YOU, DR. GRIKSCHEIT. IS THERE ANY MORE PUBLIC COMMENT?

OPERATOR: ONCE AGAIN, AS A REMINDER, IF YOU WISH TO ASK A QUESTION, PLEASE PRESS STAR THEN ONE.

SPEAKERS, CURRENTLY WE HAVE NO ADDITIONAL QUESTIONS IN QUEUE. PLEASE DO CONTINUE.

MR. SHEEHY: I JUST WANT TO BE -- SO WHAT IS THE IMPACT OF THIS RECOMMENDATION? SO DOES THAT MEAN THAT IF WE VOTE FOR THIS RECOMMENDATION IN -- THIS MOTION IN ITS FORM, THAT THE ONLY CIRM FUNDS THAT WOULD BE AVAILABLE WOULD BE BRIDGE FUNDS?

MR. TOCHER: GOOD QUESTION, JEFF. IT DOESN'T PRECLUDE THE FUTURE ACT OF A BOARD TO ALLOCATE SUCH FUNDS. IT JUST ENSURES THAT THE OPPORTUNITY TO USE BRIDGE FUNDS THAT ARE SPECIFICALLY TARGETED FOR THESE APPLICATIONS CAN BE USED AND THAT THAT MAKES IT SORT OF EASIER FOR FUTURE BOARD DISCUSSIONS TO OCCUR WITHOUT RECUSALS.

MR. SHEEHY: SO UNLESS WE HAVE ANY OTHER DISCUSSION AT THE BOARD LEVEL, I THINK WE'RE READY TO CALL THE ROLL.

MS. BONNEVILLE: ANNE-MARIE DULIEGE.

DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: STEVE JUELSGAARD.

MR. JUELSGAARD: YES.



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MS. BONNEVILLE: DAVE MARTIN. LAUREN MILLER.

MS. MILLER: YES.

MS. BONNEVILLE: DAVE MARTIN, IS THAT YOU?

DR. MARTIN: YES. YES, IT IS.

MS. BONNEVILLE: ADRIANA PADILLA.

DR. PADILLA: YES.

MS. BONNEVILLE: JOE PANETTA. FRANCISCO PRIETO.

DR. PRIETO: AYE.

MS. BONNEVILLE: AL ROWLETT.

MR. ROWLETT: YES.

MS. BONNEVILLE: JEFF SHEEHY.

MR. SHEEHY: YES.

MS. BONNEVILLE: OS STEWARD.

DR. STEWARD: YES.

MS. BONNEVILLE: JONATHAN THOMAS.

CHAIRMAN THOMAS: YES.

MS. BONNEVILLE: ART TORRES.

MR. TORRES: AYE.

MS. BONNEVILLE: MOTION CARRIES.

MR. SHEEHY: GREAT. THANK YOU. I BELIEVE THAT CONCLUDES THE BUSINESS OF THE APPLICATION REVIEW SUBCOMMITTEE.

CHAIRMAN THOMAS: THANK YOU VERY MUCH,



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MR. SHEEHY. THAT CONCLUDES THE BUSINESS FOR TODAY UNLESS THERE IS PUBLIC COMMENT OF A GENERAL NATURE ON ANYTHING ELSE ANYONE WOULD LIKE TO SPEAK ABOUT. DO WE HAVE ANY PUBLIC COMMENT EITHER HERE OR AT THE OTHER SITES?

MR. REED: DO I UNDERSTAND CORRECTLY THAT THIS VOTE DOES NOT PRECLUDE FURTHER FUNDING, IF LOCATED, TO BE USED FOR THESE GRANTS?

MS. BONNEVILLE: CORRECT.

MR. REED: THE MEETING ONE WEEK FROM TODAY, IS THAT IMPORTANT FOR THEM TO DRIVE UP AND ATTEND TO MAKE THE PRESENTATION AGAIN, OR WHAT IS YOUR OPINION ON THAT?

CHAIRMAN THOMAS: NO. WE'VE ALREADY GOT THE AGENDA THAT'S PROPOSED FOR NEXT WEEK, DON. SO WE'VE HEARD HERE, AND THIS IS A FULL MEETING OF THE ICOC AS WELL AS THE APPLICATION REVIEW SUBCOMMITTEE. SO THEY HAVE HEARD THEIR TESTIMONY. SO THEY DON'T NEED TO COME NEXT WEEK FOR THAT.

MR. REED: THANK YOU.

MR. SHEEHY: BUT WOULD IT NOT BE TRUE THAT AT THAT MEETING WITH THE BOARD'S DECISION THERE'S THE POTENTIAL FOR -- IT'S NOT IMPOSSIBLE FOR OTHER CIRM FUNDS TO BE ALLOCATED?

MR. TOCHER: THAT'S CORRECT.



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MR. REED: THANK YOU VERY MUCH FOR THAT CLARIFICATION.

CHAIRMAN THOMAS: OKAY. I THINK THAT CONCLUDES. HEARING NO FURTHER PUBLIC COMMENT, THAT CONCLUDES TODAY'S MEETING. THANK YOU VERY MUCH, EVERYBODY. WE STAND ADJOURNED.

(THE MEETING WAS THEN ADJOURNED AT 12:51 P.M.)



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REPORTER'S CERTIFICATE

I, BETH C. DRAIN, A CERTIFIED SHORTHAND REPORTER IN AND FOR THE STATE OF CALIFORNIA, HEREBY CERTIFY THAT THE FOREGOING TRANSCRIPT OF THE TELEPHONIC PROCEEDINGS BEFORE THE INDEPENDENT CITIZEN'S OVERSIGHT COMMITTEE AND THE APPLICATION REVIEW SUBCOMMITTEE OF THE CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE IN THE MATTER OF ITS REGULAR MEETING HELD ON OCTOBER 11, 2018, WAS HELD AS HEREIN APPEARS AND THAT THIS IS THE ORIGINAL TRANSCRIPT THEREOF AND THAT THE STATEMENTS THAT APPEAR IN THIS TRANSCRIPT WERE REPORTED STENOGRAPHICALLY BY ME AND TRANSCRIBED BY ME. I ALSO CERTIFY THAT THIS TRANSCRIPT IS A TRUE AND ACCURATE RECORD OF THE PROCEEDING.

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