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

LOCATION: 1999 HARRISON STREET
SUITE 1650
OAKLAND, CALIFORNIA

DATE: OCTOBER 31, 2019
9 A.M.

REPORTER: BETH C. DRAIN
CA CSR. NO. 7152

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I N D E X (CONT'D.)

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OAKLAND, CALIFORNIA; OCTOBER 31, 2019

9:06 A.M.

CHAIRMAN THOMAS: GOOD MORNING AND HAPPY HALLOWEEN, EVERYBODY. WE ARE GOING TO START NOW. WE ARE STILL WAITING FOR A MEMBER OR TWO TO JOIN, BUT WE ARE GOING TO PROCEED HERE. MARIA, WOULD YOU PLEASE LEAD US WITH THE PLEDGE OF ALLEGIANCE.

(THE PLEDGE OF ALLEGIANCE.)

CHAIRMAN THOMAS: THANK YOU, MARIA. WOULD YOU PLEASE CALL THE ROLL.

MS. BONNEVILLE: GEORGE BLUMENTHAL.

DR. BLUMENTHAL: HERE.

MS. BONNEVILLE: LINDA BOXER. LARS BERGLUND.

DR. BERGLUND: YES.

MS. BONNEVILLE: DEBORAH DEAS.

DR. DEAS: HERE.

MS. BONNEVILLE: ANNE-MARIE DULIEGE. JUDY GASSON.

DR. GASSON: HERE.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: HERE.

MS. BONNEVILLE: STEPHEN JUELSGAARD.

MR. JUELSGAARD: HERE.

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MS. BONNEVILLE: LINDA MALKAS.
DR. MALKAS: HERE.
MS. BONNEVILLE: DAVE MARTIN.
DR. MARTIN: HERE.
MS. BONNEVILLE: SHLOMO MELMED.
DR. MELMED: HERE.
MS. BONNEVILLE: LAUREN MILLER.
MS. MILLER: HERE.
MS. BONNEVILLE: ADRIANA PADILLA. JOE PANETTA. FRANCISCO PRIETO. ROBERT QUINT. AL ROWLETT. SUZANNE SANDMEYER.
DR. SANDMEYER: HERE.
MS. BONNEVILLE: JEFF SHEEHY.
MR. SHEEHY: HERE.
MS. BONNEVILLE: OSWALD STEWARD.
DR. STEWARD: HERE.
MS. BONNEVILLE: JONATHAN THOMAS.
CHAIRMAN THOMAS: HERE.
MS. BONNEVILLE: ART TORRES.
MR. TORRES: HERE.
MS. BONNEVILLE: KRISTINA VUORI.
DR. VUORI: HERE.
MS. BONNEVILLE: DIANE WINOKUR. DOUG ZIEDONIS.
DR. ZIEDONIS: HERE.

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MS. BONNEVILLE: KEITH YAMAMOTO.

DR. YAMAMOTO: HERE.

CHAIRMAN THOMAS: THANK YOU VERY MUCH. BECAUSE WE ARE STILL WAITING FOR A MEMBER OR TWO, WE ARE GOING TO PUT THE ACTION ITEMS TO THE SIDE MOMENTARILY AND PROCEED TO AN ITEM OR TWO ON THE DISCUSSION AGENDA, STARTING WITH NO. 12, USE OF PUBLIC FUNDS IN CONNECTION WITH BALLOT MEASURE, PRESENTATION BY MR. HARRISON.

MR. HARRISON: GOOD MORNING, EVERYONE. FOR THOSE OF YOU I HAVE NOT HAD A CHANCE TO MEET, MY NAME IS JAMES HARRISON. I WAS FORMERLY GENERAL COUNSEL OF THE AGENCY, AND I'M HERE TODAY TO TALK ABOUT THE USE OF PUBLIC FUNDS IN CONNECTION WITH BALLOT MEASURES.

A TIMELY TOPIC. AS MANY OF YOU LIKELY KNOW, A MEASURE HAS BEEN SUBMITTED TO THE ATTORNEY GENERAL'S OFFICE THAT WOULD PROVIDE $5.5 BILLION IN GENERAL OBLIGATION BONDS FOR CIRM'S USE TO FUND STEM CELL RESEARCH. AND THAT PUTS YOU, AS AN AGENCY, IN A LITTLE BIT OF A TRICKY POSITION BECAUSE PUBLIC AGENCIES, UNDER BOTH STATUTORY LAW AND THE CALIFORNIA CONSTITUTION, ARE PROHIBITED FROM USING THEIR RESOURCES TO ATTEMPT TO INFLUENCE THE VOTERS' ACTIONS FOR OR AGAINST A BALLOT MEASURE. THAT

DOESN'T MEAN THAT YOUR LIPS HAVE TO BE COMPLETELY ZIPPED, BUT IT DOES MEAN THAT YOU HAVE TO BE EXTRAORDINARILY CAREFUL TO MAKE SURE THAT YOU APPROPRIATELY NAVIGATE THE SOMETIMES GRAY ZONES DEFINING WHAT'S PERMISSIBLE AND WHAT'S IMPERMISSIBLE FOR PURPOSES OF PUBLIC AGENCY ACTIVITY IN CONNECTION WITH BALLOT MEASURES.

SO I'M GOING TO GO THROUGH A SUMMARY OF THE LAW TODAY AND GIVE YOU SOME EXAMPLES. I'D INVITE YOU TO ASK ME QUESTIONS AT ANY TIME, AND I'D LIKE TO MAKE THIS AS INTERACTIVE AS POSSIBLE.

MY GOAL TODAY IS TO TRY TO MAKE SURE THAT YOU UNDERSTAND BOTH THE BRIGHT LINES AS WELL AS THE GRAY AREAS SO THAT YOU KNOW WHEN IT MIGHT BE APPROPRIATE TO PAUSE BEFORE UNDERTAKING ACTIONS TO SEEK GUIDANCE. AND IN PARTICULAR THE COURTS HAVE DRAWN BOUNDARIES AROUND PUBLIC AGENCIES' USE OF PUBLIC FUNDS. THIS IS, AGAIN, BOTH STATUTORY LAW AS WELL AS CONSTITUTIONAL LAW OF THE CALIFORNIA SUPREME COURT IN A DECISION ABOUT EIGHT YEARS AGO INVOLVING THE CITY OF SALINAS WHERE THEY SET FORTH SOME GUIDELINES. I WON'T SAY THEY'RE EXACTLY CLEAR BECAUSE THEY'RE NOT ALWAYS, BUT THEY AT LEAST IDENTIFY THREE CATEGORIES OF ACTIVITIES: THOSE THAT WERE CLEARLY IMPERMISSIBLE, SO FLAT OUT CAMPAIGN

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ACTIVITIES; THOSE THAT ARE PERMISSIBLE, SUCH AS PROVIDING INFORMATION TO MEMBERS OF THE PUBLIC THAT'S FACTUAL IN NATURE AND OBJECTIVE; AND THEN THERE ARE THOSE CATEGORIES OF ACTIVITIES THAT FALL IN A GRAY ZONE WHERE THE COURTS AND THE ATTORNEY GENERAL WILL CONSIDER THINGS LIKE THE STYLE, TENOR, AND TIMING OF THE COMMUNICATIONS AT ISSUE.

SO THE CLEARLY IMPERMISSIBLE CATEGORIES INVOLVE THINGS THAT YOU WOULD PROBABLY EXPECT. OBVIOUSLY YOU ARE PROHIBITED FROM EXPLICITLY ADVOCATING FOR A VOTE ON A BALLOT MEASURE. THE AGENCY IS PROHIBITED FROM PRODUCING WHAT ARE REFERRED TO AS TYPICAL CAMPAIGN MATERIALS. AND THESE WOULD BE THINGS LIKE BUMPER STICKERS, YARD SIGNS, TV AND RADIO SPOTS. AND THE AGENCY IS ALSO PROHIBITED FROM COORDINATING WITH THE BALLOT MEASURE COMMITTEE TO MAKE EXPENDITURES IN SUPPORT OF OR IN OPPOSITION TO A MEASURE, BUT THAT DOESN'T MEAN THAT THE AGENCY CAN'T DO ANYTHING.

THE COURTS HAVE IDENTIFIED AREAS THAT ARE CLEARLY PERMISSIBLE, AND THESE LARGELY REVOLVE AROUND INFORMATIONAL ACTIVITIES. SO OBVIOUSLY AS AN AGENCY CHARGED WITH DISBURSING THE ORIGINAL $3 BILLION THAT WAS ALLOCATED TO CIRM, CIRM HAS A LOT TO SAY ABOUT STEM CELL RESEARCH. AND THE FACT THAT

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THERE IS A BALLOT MEASURE PENDING DOESN'T MEAN THAT CIRM NEEDS TO STOP PROVIDING INFORMATION ABOUT WHAT THE AGENCY DOES, WHAT IT'S FUNDED, AND WHAT ITS PLANS ARE FOR THE FUTURE.

SO THE AGENCY IS PERMITTED TO PREPARE REPORTS AND ANALYSES INCLUDING OF THE MEASURE ITSELF. IT IS FREE TO PROVIDE THE PUBLIC WITH INFORMATIONAL MATERIAL, INCLUDING FACT SHEETS, ABOUT THE MEASURE. AND YOU, AS A BOARD, ARE PERMITTED IN AN OPEN, NOTICED PUBLIC MEETING TO DEBATE THE MEASURE AND TO TAKE A POSITION ON IT IF YOU WISH TO DO SO IN SUPPORT OR IN OPPOSITION. AS LONG AS THAT'S DONE IN AN OPEN, PUBLIC MEETING AND THE AGENCY DOESN'T SUBSEQUENTLY SPEND FUNDS TO PUBLICIZE THE BOARD'S ACTION, IT'S PERMISSIBLE FOR A PUBLIC AGENCY BOARD TO TAKE A POSITION ON A BALLOT MEASURE.

SO THERE ARE SOME GRAY AREAS THAT I MENTIONED, AND THESE INVOLVE CONSIDERATIONS OF STYLE, TENOR, AND TIMING. SO AS A BACKDROP, THE CITY OF SALINAS WAS CONFRONTED WITH A VOTER-CIRCULATED MEASURE THAT WOULD HAVE REPEALED THE CITY'S USERS TAX, WHICH WOULD HAVE BLOWN A SIGNIFICANT HOLE IN THE CITY'S BUDGET. WHAT THE CITY COUNCIL DID IN RESPONSE TO THAT WAS TO ADOPT A CONTINGENT BUDGET WHICH IDENTIFIED ALL OF THE CUTS

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THE CITY WOULD MAKE TO ITS BUDGET IF THE VOTERS WERE TO APPROVE THE ELIMINATION OF THE UTILITY USERS TAX.

THE CITY COMMUNICATED WITH ITS RESIDENTS TO DESCRIBE THE ACTIONS THAT THE COUNCIL HAD TAKEN. AND THIS INCLUDED A NEWSLETTER THAT THE CITY REGULARLY SENT OUT, SO IT WAS A TYPICAL MEANS THAT THE CITY USED FOR COMMUNICATING WITH ITS RESIDENTS, AND IT ILLUSTRATED THE EFFECT OF THE CUTS BY SHOWING A PICTURE -- IT'S KIND OF HARD TO SEE -- BUT A PICTURE OF A SCHOOL CROSSING GUARD BECAUSE THE CONTINGENT BUDGET WOULD HAVE REDUCED FUNDING FOR SCHOOL SAFETY AND A PICTURE OF A METH LAB BECAUSE THE MEASURE ALSO WOULD HAVE RESULTED IN BUDGET CUTS FOR PUBLIC SAFETY. SO EVEN THOUGH THIS COMMUNICATION PULLED AT THE HEART STRINGS A LITTLE BIT BY SHOWING A SCHOOL CROSSING GUARD AND A METH LAB, THE COURT, NONETHELESS, SAID THAT IT WAS PERMISSIBLE AND WAS PERMISSIBLE FOR A COUPLE OF IMPORTANT REASONS.

ONE, IT WAS THE CITY'S TYPICAL MEANS OF COMMUNICATING WITH ITS CONSTITUENTS. IT CONVEYED THE CITY'S VIEW OF THE IMPORTANCE OF PUBLIC SAFETY AND SCHOOL SAFETY. AND IT WAS RELATIVELY MODERATE IN TONE AND DID NOT EXHORT VOTERS TO VOTE ONE WAY OR ANOTHER ON THE MEASURE. SO THAT'S AN EXAMPLE OF A

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COMMUNICATION THAT, FRANKLY, I WOULD HAVE SAID WAS PRETTY CLOSE TO THE LINE, BUT THE CALIFORNIA SUPREME COURT SAID WAS OKAY.

HERE'S AN EXAMPLE OF A COMMUNICATION THAT THE COURT CITED AS BEING IMPERMISSIBLE. THIS ALSO RELATED TO A TAX, TRANSPORTATION TAX IN THE CITY OF VALLEJO. YOU LOOK AT THIS, AND MY IMPRESSION, AT LEAST, IS IT LOOKS AN AWFUL LOT LIKE THE MAIL I RECEIVE IN MY MAILBOX IN THE TWO WEEKS PRECEDING EVERY ELECTION. IT'S GLOSSY, IT'S OVERSIZED, IT'S NOT PARTICULARLY DESCRIPTIVE OR FACTUAL IN NATURE. AND ON BALANCE THE COURT CONCLUDED THAT IT LOOKED MORE LIKE AND ACTED MORE LIKE A CAMPAIGN MAILER THAN IT DID TRADITIONAL INFORMATIONAL ACTIVITIES IN WHICH A PUBLIC AGENCY CAN ENGAGE.

THIS IS ONE THAT I WANT TO DRAW ALL OF YOUR ATTENTION TO BECAUSE IT ILLUSTRATES HOW SERIOUSLY THESE RESTRICTIONS ARE TAKEN. SO THIS IS AN INCIDENT THAT OCCURRED IN SANTA CLARA COUNTY ABOUT TEN YEARS AGO. THE BOARD OF SUPERVISORS HAD VOTED TO PLACE TWO MEASURES ON THE BALLOT. ONE OF THE UNIONS IN THE COUNTY SUBMITTED A COMPETING MEASURE. AND THE *SAN JOSE MERCURY NEWS* EDITORIALIZED IN FAVOR OF THE TWO COUNTY MEASURES AND AGAINST THE UNION MEASURE. ONE OF THE

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SUPERVISORS ASKED ONE OF HER AIDES TO DRAFT AN E-MAIL TO HER INTERESTED PERSONS LIST ATTACHING THE *SAN JOSE MERCURY NEWS* EDITORIAL. AND THE E-MAIL ITSELF WAS FAIRLY VANILLA IN TONE, BUT IT WAS SENT OUT TO ABOUT 1500 OF HER CONSTITUENTS. THE UNIONS FILED A COMPLAINT WITH THE ATTORNEY GENERAL'S OFFICE WHICH LAUNCHED AN INVESTIGATION OF THE SUPERVISOR AND THE MISUSE OF PUBLIC FUNDS. AND IT ALSO LED TO A CIVIL LAWSUIT THAT WENT ALL THE WAY UP TO THE COURT OF APPEAL. ULTIMATELY THE COUNTY PREVAILED IN THE LAWSUIT, BUT NOT BECAUSE IT FOUND THAT THE ACTIVITY WAS PERMISSIBLE. IN FACT, IT FOUND THAT THE ATTACHMENT, THE *SAN JOSE MERCURY NEWS* EDITORIAL, DID CONTAIN EXPRESS ADVOCACY, AND THAT BY SENDING THAT TO CONSTITUENTS, THE SUPERVISOR'S AIDE HAD VIOLATED THE PROHIBITION ON USE OF PUBLIC FUNDS. BUT THE COURT FOUND THAT IT FELL WITHIN AN EXCEPTION FOR DE MINIMUS USE BECAUSE IT HAD LITERALLY TAKEN HER TEN MINUTES OVER HER LUNCH HOUR TO DRAFT THIS E-MAIL AND ATTACH THE *SAN JOSE MERCURY NEWS* EDITORIAL.

SO TEN MINUTES OF TIME LED TO AN AG CRIMINAL INVESTIGATION AND A LAWSUIT THAT WENT ALL THE WAY UP TO THE COURT OF APPEAL WHICH PROBABLY COST THE COUNTY CLOSE TO $5 MILLION IN TOTAL ALL FOR

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A TEN-MINUTE E-MAIL. SO THIS IS AN EXAMPLE OF HOW SERIOUSLY THESE LAWS ARE TAKEN AND HOW EVEN REALLY SMALL, SMALL USES OF PUBLIC FUNDS CAN CAUSE TREMENDOUS PROBLEMS FOR THOSE WHO USE THEM.

LET ME GIVE YOU A COUPLE OF OTHER EXAMPLES OF AGENCIES THAT HAVE RECENTLY FOUND THEMSELVES IN HOT WATER. SOME OF YOU MAY REMEMBER THAT BART PLACED A BOND MEASURE ON THE BALLOT IN NOVEMBER OF 2016, MEASURE RR, WHICH AUTHORIZED $3.5 BILLION IN FUNDING, WHICH THE VOTERS DID APPROVE. BART PRODUCED TWO VIDEOS IN CONNECTION WITH THE MEASURE. AND THE VIDEOS CONSISTED OF INTERVIEWS WITH ORDINARY BART RIDERS ASKING THEM ABOUT THEIR VIEWS OF THE SYSTEM, WHAT THEY LIKED, WHAT THEY DIDN'T LIKE. SO THE INTERVIEWS COMPRISED BOTH PRAISE FOR BART AND COMPLAINTS FOR BART. AND BART POSTED THESE VIDEOS ON THEIR WEBSITE, UPLOADED THEM TO TWITTER AND FACEBOOK, AND, IMPORTANTLY, THE VIDEOS ENDED WITH THE TAG LINE "TIME TO REBUILD."

A COMPLAINT WAS FILLED WITH THE FAIR POLITICAL PRACTICES COMMISSION, AND ULTIMATELY THE FPPC FINED BART $7500. ONE OF THE RESPONSES TO THAT WAS THAT IF AN AGENCY ONLY HAS TO PAY $7500 TO GET 3.5 BILLION, THAT'S A PRETTY GOOD DEAL. SO THE FPPC THEN PROCEEDED, AFTER IMPOSING THIS FINE, TO REFER

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THE BART DIRECTORS WHO HAD APPROVED THE EXPENDITURES TO THE ATTORNEY GENERAL AND THE DISTRICT ATTORNEY FOR POSSIBLE CRIMINAL ACTION. AGAIN, DEMONSTRATING HOW SERIOUSLY THEY TOOK THIS.

AND, HONESTLY, AS A LAWYER WHO REVIEWS THESE KIND OF COMMUNICATIONS FOR PUBLIC AGENCIES, IF I HAD LOOKED AT THAT BART VIDEO BEFORE IT WAS LOADED, I WOULD HAVE TOLD THEM TO REMOVE THE TAGLINE, BUT I WOULD HAVE SAID THE REMAINDER OF THE VIDEO WAS FINE. THE FPPC DISAGREED. THEY SAID THAT BY BORROWING THE VOICES AND SYMPATHY OF BART RIDERS, THE AGENCY WAS IMPLICITLY ENDORSING AND ADVOCATING FOR MEASURE RR.

SO WE ARE NOW IN A CLIMATE WHERE THE FAIR POLITICAL PRACTICES COMMISSION IS AGGRESSIVELY PURSUING PUBLIC AGENCIES REGARDING THE USE OF PUBLIC FUNDS IN CONNECTION WITH BALLOT MEASURES. THERE ARE TWO LAWSUITS CURRENTLY PENDING THAT INVOLVE AN EDUCATION EFFORT BY THE COUNTY OF LOS ANGELES WITH RESPECT TO A SALES TAX FOR HOMELESS FUNDING. AND MANY OF THE TAXPAYER GROUPS ARE ADVOCATING FOR THE FAIR POLITICAL PRACTICES COMMISSION TO MORE AGGRESSIVELY PURSUE AGAINST PUBLIC AGENCIES IN THIS AREA.

SO A RECENT EXAMPLE INVOLVED PROP 6 WHICH

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WOULD HAVE REPEALED THE GAS TAX. THIS WAS ON THE BALLOT IN NOVEMBER OF 2018. THE YES ON PROP 6 CAMPAIGN FILED A COMPLAINT BECAUSE A CALTRANS CONTRACTOR ON A WORKSITE ON A HIGHWAY DECIDED TO HAND OUT FLIERS TO MOTORISTS THAT WERE STUCK IN TRAFFIC ADVOCATING FOR A NO VOTE ON PROP 6. NOW, FIRST OF ALL, YOU HAVE TO QUESTION THE JUDGMENT INVOLVED BECAUSE IF YOU'RE STUCK IN TRAFFIC, PROBABLY GETTING THE NOTICE ABOUT THE GAS TAX IS NOT THE RIGHT TIME, BUT IT ALSO WAS A PROBLEM BECAUSE IT SUGGESTED THAT SOMEHOW CALTRANS WAS INVOLVED SINCE THIS WAS A CALTRANS CONTRACTOR THAT WAS ENGAGED IN THE ACTIVITY ON CALTRANS COMPENSATED TIME.

THE FPPC IS INVESTIGATING THE MATTER. SO IT IS STILL UNDER REVIEW, BUT IT ILLUSTRATES THE IMPORTANCE OF ENSURING THAT THE AGENCY DOES NOT COORDINATE WITH ANY CAMPAIGN ACTIVITY ENGAGED IN BY ANY OTHER GROUP.

SO THIS IS THE FINAL EXAMPLE I'LL GIVE YOU. THIS WAS MEASURE RM3, A NINE-COUNTY REGIONAL TRANSPORTATION MEASURE THAT APPEARED ON THE NOVEMBER 2018 BALLOT. I KNOW THIS IS A LITTLE BIT HARD TO READ, BUT AC TRANSIT ON ITS BUSES HAS PLACARDS. AND THEY INCLUDED PLACARDS THAT IDENTIFIED RM3, THE DATE OF THE ELECTION, AND USED THE WORD "HELPING" AS IT

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WOULD HELP RELIEVE TRANSPORTATION CONGESTION. AND OTHERWISE THE ONLY INFORMATION WAS A TELEPHONE NUMBER TO CALL FOR MORE INFORMATION.

THE FPPC IS CURRENTLY INVESTIGATING THIS PLACARD AS A MISUSE OF PUBLIC FUNDS EVEN THOUGH IT'S ABOUT THE MOST ANODYNE THING YOU CAN POSSIBLY IMAGINE.

SO, IN SUMMARY, THIS IS A COMPLEX AREA OF LAW. IT'S ONE THAT DRAWS AN INCREDIBLE AMOUNT OF SCRUTINY AND IN THIS PARTICULAR MOMENT IN TIME EVEN MORE SCRUTINY THAN NORMAL. SO I WOULD URGE YOU ALL TO REMAIN VIGILANT ABOUT YOUR USE OF PUBLIC RESOURCES. IT IS IMPORTANT TO REMEMBER THAT INDIVIDUALS IN YOUR OWN TIME YOU ARE FREE TO CAMPAIGN, ENDORSE, OPPOSE, UNDERTAKE ANY ACTIVITIES YOU WANT. YOU DON'T LEAVE YOUR FIRST AMENDMENT RIGHTS AT THE DOOR WHEN YOU BECOME A PUBLIC OFFICIAL, BUT YOU ARE REQUIRED TO BE EXTRAORDINARILY CAREFUL WITH THE USE OF ANY AGENCY RESOURCES IN CONNECTION WITH THE BALLOT MEASURE.

I'D BE HAPPY TO ANSWER ANY QUESTIONS.

CHAIRMAN THOMAS: WE'VE BEEN ADMONISHED IF EVERYBODY COULD GET CLOSE TO THEIR MIC SO THEY PICK IT UP, THOSE ON THE PHONE, IT'D BE GREAT. THANKS.

DR. BLUMENTHAL: JUST A QUICK QUESTION TO

FOLLOW UP ON YOUR POINT ABOUT FREEDOM SPEECH OF INDIVIDUAL MEMBERS OF THE BOARD. IF WE EXERCISE OUR FREE SPEECH AND OUR RIGHT TO ADVOCATE FOR OR AGAINST THE MEASURE, I ASSUME WE ARE ALLOWED TO IDENTIFY OURSELVES AS MEMBERS OF THE BOARD, WHICH IS AN IDENTIFICATION WITH THE AGENCY EVEN THOUGH WE ARE NOT SPEAKING FOR THE AGENCY.

MR. HARRISON: CORRECT. THANK YOU FOR MAKING THAT DISTINCTION. OFTENTIMES INDIVIDUALS WILL BE ASKED TO SPEAK AT EVENTS OR BE IDENTIFIED AS ENDORSERS. AND IT'S IMPORTANT UNDER THOSE CIRCUMSTANCES THAT IN YOUR COMMUNICATION YOU'RE CLEAR THAT YOU'RE IDENTIFYING YOURSELF AS A MEMBER OF THE CIRM BOARD FOR IDENTIFICATION PURPOSES ONLY AND SPEAKING ON YOUR OWN BEHALF. OR IF IT'S A PRINT COMMUNICATION, THAT THERE'S A LITTLE ASTERISK NEXT TO YOUR TIME AND TITLE THAT MAKES CLEAR IT'S FOR COMMUNICATION PURPOSES ONLY AND DOESN'T IMPLY AN ENDORSEMENT.

DR. MELMED: VERY HELPFUL. THANK YOU. CAN YOU TELL US WHAT IS OUR STATUS AS A BOARD? WHAT IS THE TIMELINE OF THIS BOARD? DO WE VOTE OURSELVES OUT OF EXISTENCE? IS THERE A STATUTE?

MR. HARRISON: NO. THERE'S NO SUNSET. OBVIOUSLY, IF THIS ADDITIONAL FUNDING MEASURE IS NOT

APPROVED BY THE VOTERS AND NO OTHER FUNDS ARE FORTHCOMING, THEN THE BOARD WOULD ESSENTIALLY BE DEFUNCT, BUT THERE'S NO SUNSET IN THE LAW. SO THEORETICALLY IT COULD CONTINUE; BUT IF IT HAS NO BUSINESS, OBVIOUSLY THERE WOULD BE NO NEED TO MEET.

DR. MELMED: AND FOR THE INTERIM PRIOR TO THE BALLOT?

MR. HARRISON: FOR THE INTERIM PRIOR TO THE BALLOT, CIRM CONTINUES TO EXIST. IT HAS, AS IS THE CASE TODAY, REMAINING FUNDS TO DISTRIBUTE, IT'S LIKELY THAT ADDITIONAL FUNDS WILL BE RECAPTURED FROM AWARDS THAT ARE TERMINATED EARLY, IN WHICH CASE ADDITIONAL MEETINGS WILL BE SCHEDULED TO ALLOCATE THOSE FUNDS.

CHAIRMAN THOMAS: I'LL BE SPEAKING MORE ON THAT POINT, SHLOMO, WHEN I GET TO THE CHAIR'S REPORT. THE SHORT ANSWER IS THE BOARD WILL CONTINUE THROUGH THE ELECTION OR AT A MINIMUM THROUGH JUNE TO MAKE SURE THAT THE BALLOT MEASURE HAS BEEN CERTIFIED TO BE ON THE NOVEMBER BALLOT.

MR. HARRISON: THANK YOU.

CHAIRMAN THOMAS: THANK YOU, MR. HARRISON.

WE'RE GOING TAKE ONE MORE ITEM AT THE MOMENT OUT OF ORDER. THAT'S THE CONSENT CALENDAR, ITEMS 8 THROUGH 10. ANY QUESTIONS ABOUT ANY OF

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THOSE ITEMS? AND IF THERE AREN'T, WOULD LIKE TO HAVE SOMEBODY ENTERTAIN A MOTION TO ADOPT.

MR. SHEEHY: YES, I HAVE QUESTIONS. FIRST, THERE'S A CHANGE TO DONOR POLICY. SO I'M NOT SURE WHAT THAT IS AND WHAT THAT MEANS. I THINK THAT'S HOW IT'S DESCRIBED, CONSIDERATION OF AMENDMENTS TO ADMINISTRATIVE FUNDS DONOR AGREEMENT AND DISCLOSURE OF FUNDS RECEIVED. I DON'T KNOW WHAT THAT IS.

CHAIRMAN THOMAS: I WILL SPEAK TO THAT. AS YOU MAY RECALL, A NUMBER OF YEARS BACK, WE RECEIVED TWO PLEDGES TOWARDS DEFRAYING ADMINISTRATIVE COST. ONE WAS A $5 MILLION PLEDGE FROM BILL BOWES, ONE WAS A $2 MILLION PLEDGE FROM PITCH JOHNSON, TOTALING SEVEN. PER THE LATEST DOCUMENT PRIOR TO THIS AMENDMENT, THE TIMETABLE FOR THOSE GIFTS WAS ESTABLISHED TO HAVE THE FIRST HALF OF EACH GIFT IN HAND BY EARLIER THIS YEAR AND THE BALANCE TO BE COLLECTED EARLY NEXT YEAR.

WE HAVE THE FIRST HALF OF EACH OF THE BOWES AND JOHNSON GIFTS IN HAND. I RECEIVED A CALL FROM THE EXECUTIVE DIRECTOR OF MR. JOHNSON'S FOUNDATION RELAYING A REQUEST FROM MR. JOHNSON THAT THE SECOND $1 MILLION PAYMENT THAT WOULD BE DUE EARLY NEXT YEAR WOULD BE RESCHEDULED FOR DECEMBER

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31ST AS OPPOSED TO EARLIER IN THE YEAR, AND THE ADDITIONAL REQUEST THAT IF THE BALLOT MEASURE PASSED ON THE NOVEMBER BALLOT IN ADVANCE OF THAT DECEMBER DATE, THAT HE BE EXCUSED OF THE OBLIGATION TO MAKE THAT SECOND PAYMENT. IF THE MEASURE DIDN'T PASS, HE WOULD MAKE THE PAYMENT PER THAT AMENDED SCHEDULE.

SO THE DOCUMENT YOU HAVE AS CONSENT ITEM NO. 10 IS AN AMENDED AGREEMENT REFLECTING THAT REQUEST.

MR. SHEEHY: THANK YOU. AND THEN WE ARE APPOINTING NEW GRANTS WORKING GROUP MEMBERS, AND I'M TRYING TO UNDERSTAND THE RATIONALE FOR THAT. I'M NOT AWARE THAT WE ARE PLANNING ANY REVIEWS OTHER THAN THOSE AROUND OUR SICKLE CELL INITIATIVE BECAUSE FOR ALL RIGHTS AND PURPOSES WE'VE EXHAUSTED THE FUNDING. SO I'M JUST TRYING TO FIGURE OUT WHY WE ARE CONTINUING TO APPOINT GRANTS WORKING GROUP MEMBERS.

CHAIRMAN THOMAS: I'LL ASK DR. SAMBRANO TO ANSWER THAT QUESTION.

DR. SAMBRANO: A GREAT QUESTION. WHAT WE ARE DOING IN THIS PARTICULAR CASE IS REAPPOINTMENTS OF EXISTING MEMBERS JUST TO CONTINUE THEM ON TO A SECOND TERM. WE WILL BE HAVING, JUST FOR EVERYBODY'S KNOWLEDGE, AD HOC REVIEWS UNDER THE

SICKLE CELL PROGRAM. SO IN TERMS OF FILLING OUT PANELS, WE WANT TO JUST CONTINUE TO HAVE THE FULL COHORT OF MEMBERS TO CHOOSE FROM, BUT THERE ARE NO NEW MEMBERS THAT ARE BEING APPOINTED.

MR. SHEEHY: NONE OF THESE ARE RELATED TO SICKLE CELL RESEARCH --

DR. SAMBRANO: CORRECT.

MR. SHEEHY: -- AS I LOOK AT THEIR BIOS. I GUESS I GET NERVOUS ABOUT US TAKING TOO MANY DECISIONS THAT WILL IMPACT THE POSTELECTION CIRM BECAUSE IT WILL BE A DIFFERENT AGENCY IN SOME WAYS. SO I DON'T REALLY OBJECT NECESSARILY. I THINK THESE ARE ALL FINE INDIVIDUALS. I'VE BEEN IN REVIEWS WITH AT LEAST TWO OF THEM, BUT I JUST THINK WE OUGHT NOT TO PUSH TOO MUCH AHEAD BEFORE WE KNOW WHAT'S GOING TO HAPPEN.

CHAIRMAN THOMAS: ANY OTHER QUESTIONS ON ANY OF THE THREE CONSENT CALENDAR ITEMS? SO, MR. SHEEHY, ARE YOU MOVING THAT ONE OF THE ITEMS BE TAKEN OUT OF THE PROPOSED -- SOMEBODY WILL, I ASSUME, PROPOSE A CONSENT MOTION.

MR. SHEEHY: I'M NOT MAKING ANY MOTION.

CHAIRMAN THOMAS: THANK YOU.

MR. SHEEHY: INFORMATION

CHAIRMAN THOMAS: THANK YOU. SO ANY OTHER

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QUESTIONS ON ANY OF THE THREE CONSENT ITEMS?
HEARING NONE, DO I HEAR A MOTION TO APPROVE THE CONSENT ITEMS?

DR. STEWARD: SO MOVED.

CHAIRMAN THOMAS: MOVED BY DR. STEWARD. IS THERE A SECOND?

DR. MARTIN: SECOND.

CHAIRMAN THOMAS: SECONDED BY DR. MARTIN. WE CAN DO THIS ON A VOICE VOTE EXCEPT FOR THOSE ON THE PHONE. ALL THOSE IN THE ROOM IN FAVOR PLEASE SAY AYE. OPPOSED? ABSTAIN? MARIA, WILL YOU PLEASE CALL THE ROLL.

MS. BONNEVILLE: DEBORAH DEAS.

DR. DEAS: YES.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: ADRIANA PADILLA.

DR. PADILLA: YES.

MS. BONNEVILLE: AL ROWLETT.

MR. ROWLETT: YES.

MS. BONNEVILLE: KRISTINA VUORI.

DR. VUORI: YES.

MS. BONNEVILLE: DOUG ZIEDONIS.

DR. ZIEDONIS: YES.

MS. BONNEVILLE: THANK YOU. MOTION

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PASSES.

CHAIRMAN THOMAS: OKAY. THANK YOU, EVERYBODY.

SO WE ARE NOW GOING TO GO BACK TO ACTION ITEMS. THE FIRST IS NO. 4, CONSIDERATION OF ALLOCATION OF REMAINING 2019 SCIENTIFIC RESEARCH BUDGET. WE'RE GOING TO HEAR A PRESENTATION FROM JEN ON THIS ITEM. SO WELCOME, JEN.

MR. TORRES: DO WE HAVE A QUORUM?

MS. BONNEVILLE: YES.

MS. LEWIS: GOOD MORNING, MEMBERS OF THE BOARD, PUBLIC, AND THE CIRM TEAM. I AM JENNIFER LEWIS, DIRECTOR OF GRANTS AND OPERATIONS. AND AS CHAIRMAN THOMAS MENTIONED, I WILL BE PRESENTING THE RESEARCH BUDGET TO DATE.

SO IN OCTOBER OF 2018, YOU WILL RECALL THAT THE BOARD APPROVED A BUDGET ALLOCATION OF 93 MILLION FOR THE CLINICAL PROGRAM, 30 MILLION FOR THE CURE SICKLE CELL INITIATIVE, $20 MILLION FOR THE TRANSLATION PROGRAM, AND 600,000 FOR THE EDUCATION PROGRAM FOR A TOTAL OF $143,600,000. TO DATE THE BOARD HAS COMMITTED $91,920,180 TO THIS 2019 ALLOCATION. THIS LEAVES A REMAINING BUDGET OF 23.6 MILLION IN THE CLINICAL PROGRAM, 27.7 MILLION IN THE CURE SICKLE CELL INITIATIVE, AND $233,592,203 IN THE

TRANSLATION PROGRAM WITH A TOTAL REMAINING OF $51,679,829.

THIS NEXT SLIDE SHOWS THESE REMAINING 2019 BUCKET ALLOCATIONS. IN ADDITION, YOU WILL NOTICE THAT THERE IS $30,316,026 IN UNALLOCATED RECOVERED FUNDS IN THE 2019 RESEARCH BUDGET. THIS BRINGS A TOTAL BUDGET OF $81,995,846 REMAINING IN THE RESEARCH BUDGET AS A WHOLE. AND THE AVAILABLE BUDGET, EXCLUDING THE SICKLE CELL ALLOCATION, IS $54,238,651.

YOU WILL ALSO NOTICE ON THE RIGHT-HAND SIDE THAT TODAY YOU WILL BE CONSIDERING APPLICATIONS IN THE CLINICAL PROGRAM THAT TOTAL $40,931,706 AS WELL AS APPLICATIONS IN THE TRANSLATION PROGRAM THAT TOTAL $16,192,982 FOR A TOTAL OF $57,124,688.

WITH THAT, I'LL TAKE ANY QUESTIONS IF THERE ARE ANY.

CHAIRMAN THOMAS: THANK YOU VERY MUCH, JEN. A LOT OF WORK HAS GONE ON TO FIGURING ALL OF THAT OUT, SO THANK YOU VERY MUCH FOR ALL YOUR HARD WORK ON THIS.

I WOULD LIKE TO ENTERTAIN A MOTION THAT WE, THE FULL BOARD, AS WE ARE NOW HEADING INTO CONSIDERATION OF THE CLIN AND TRAN RECOMMENDATIONS, THAT THE FULL BOARD AUTHORIZE THE APPLICATION REVIEW

SUBCOMMITTEE TO USE ITS DISCRETION TO USE THE TOTAL AVAILABLE AMOUNT OF FUNDS AVAILABLE, INCLUDING THOSE STILL IN THE BUDGET PLUS THOSE COMING IN THROUGH THE RECOVERED FUNDS, AND HAVE THAT BE THE POOL THAT THE ARS WILL USE IN ITS DELIBERATIONS. ANYBODY LIKE TO MOVE?

MR. SHEEHY: I'LL MAKE THAT MOTION, BUT COULD I MAKE A FRIENDLY AMENDMENT, THAT WE EXPLICITLY NOTE THAT WE ARE NOT INCLUDING THE CURE SICKLE CELL FUNDS WITHIN THE AVAILABLE FUNDS. ALL FUNDS MINUS THE ALREADY DEDICATED SICKLE CELL FUNDS?

CHAIRMAN THOMAS: THAT SHALL BE THE MOTION. IS THERE A SECOND?

DR. BLUMENTHAL: SECOND.

CHAIRMAN THOMAS: SECONDED BY DR. BLUMENTHAL. DISCUSSION BY MEMBERS OF THE BOARD?

DR. MARTIN: I HAVE A QUESTION, AND THAT IS WHETHER WE ARE OBLIGATED TO SPEND THESE FUNDS BY END OF THE YEAR OF THIS YEAR OR WHETHER WE CAN CARRY OVER ANY OF THOSE FUNDS FOR FUNDING SOMETHING AFTER THE FIRST OF THE YEAR? WHAT ARE THE CONSTRAINTS THERE?

CHAIRMAN THOMAS: THE ANSWER TO THAT QUESTION IS IT'S OUR DISCRETION TO DO WITH THE FUNDS AS WE WISH. SO IF THAT IS A TOPIC FOR DISCUSSION AT

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THE END OF THIS, FEEL FREE TO BRING THAT UP.

ANY OTHER COMMENTS OR QUESTIONS BY MEMBERS OF THE BOARD? HEARING NONE, ARE THERE ANY PUBLIC COMMENTS? SEEING AND HEARING NONE, WE WILL PROCEED TO A ROLL CALL VOTE. MARIA, PLEASE TAKE THE ROLL.

MS. BONNEVILLE: GEORGE BLUMENTHAL.

DR. BLUMENTHAL: YES.

MS. BONNEVILLE: LINDA BOXER. LARS BERGLUND.

DR. BERGLUND: YES.

MS. BONNEVILLE: DEBORAH DEAS.

DR. DEAS: YES.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: STEPHEN JUELSGAARD.

MR. JUELSGAARD: YES.

MS. BONNEVILLE: DAVE MARTIN.

DR. MARTIN: YES.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: YES.

MS. BONNEVILLE: ADRIANA PADILLA.

DR. PADILLA: YES.

MS. BONNEVILLE: AL ROWLETT.

MR. ROWLETT: YES.

MS. BONNEVILLE: JEFF SHEEHY.

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MR. SHEEHY: YES.
MS. BONNEVILLE: JONATHAN THOMAS.
CHAIRMAN THOMAS: YES.
MS. BONNEVILLE: ART TORRES.
MR. TORRES: AYE.
MS. BONNEVILLE: DOUG ZIEDONIS.
DR. ZIEDONIS: YES.
MS. BONNEVILLE: KRISTINA VUORI.
DR. VUORI: YES.
MS. BONNEVILLE: THANK YOU. MOTION CARRIES.
CHAIRMAN THOMAS: THANK YOU, MARIA. WE'LL GO ON NOW TO ACTION ITEM NO. 5, CONSIDERATION OF APPLICATIONS SUBMITTED IN RESPONSE TO CLINICAL TRIAL STAGE PROJECTS CLIN1, 2, OR 3. SHAYAM, WILL YOU PLEASE PRESENT ON THIS?
DR. PATEL: GOOD MORNING. MR. SHEEHY, I'M WAITING FOR YOU TO START THIS.
MR. SHEEHY: THANK YOU, DR. PATEL. WE ARE OPENING THE APPLICATION REVIEW SUBCOMMITTEE AT THIS POINT.
DR. PATEL: THANK YOU, MR. SHEEHY. AND THANK YOU TO THE BOARD. IT'S MY PLEASURE TO PRESENT THE CLINICAL APPLICATIONS TO YOU TODAY. AS YOU KNOW, THE CLINICAL PROGRAM IS COMPOSED OF THREE

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DISTINCT FUNDING OPPORTUNITIES. TODAY I'LL BE PRESENTING ONE CLIN 1 APPLICATION FOR IND-ENABLING ACTIVITIES AND FOUR CLIN 2 APPLICATIONS FOR CLINICAL TRIAL ACTIVITIES.

JUST A REMINDER OF THE SCORING MECHANISM THE GRANTS WORKING GROUP USES. SO APPLICATIONS THEY THINK HAVE EXCEPTIONAL MERIT, THEY GIVE IT A SCORE OF 1. FOR THOSE THEY THINK NEED IMPROVEMENT AND DO NOT WARRANT FUNDING AT THAT TIME BUT CAN BE RESUBMITTED, THEY GIVE IT A SCORE OF 2. AND FOR ONES THEY THINK ARE SUFFICIENTLY FLAWED AND DO NOT WARRANT FUNDING AND SHOULD NOT BE REMITTED FOR SIX MONTHS, THEY GIVE IT A SCORE OF 3.

WHEN THE YEAR STARTED, THE CIRM TEAM SET INTERNAL TARGETS FOR THE NUMBER OF CLIN 2 AND CLIN 1 APPLICATIONS THAT WOULD BE EXPECTED GIVEN THE FUNDING ALLOCATION. FOR CLIN2 WE EXPECTED EIGHT APPLICATIONS, AND FOR CLIN1 WE EXPECTED TO FUND TWO APPLICATIONS. TO DATE THE BOARD HAS APPROVED FUNDING SEVEN CLIN 2 APPLICATIONS AND TWO CLIN1 APPLICATIONS. THIS, AGAIN, DOES NOT INCLUDE THE SICKLE CELL ALLOCATION. IF YOU WERE TO APPROVE ALL FIVE APPLICATIONS TODAY, WE WOULD HAVE ELEVEN CLIN2 APPLICATIONS AND THREE CLIN1 APPLICATIONS FOR THE YEAR.

SO I'M GOING TO GO THROUGH ALL FIVE OF THESE APPLICATIONS AND THEN HAND IT OVER TO MR. SHEEHY.

SO THE FIRST APPLICATION, AND, AGAIN, THIS IN THE ORDER THAT THEY WERE REVIEWED AND SCORED BY THE GRANTS WORKING GROUP, THE APPLICATION IS CLIN1-11591, AND THIS IS AN IND-ENABLING PROJECT. THE THERAPY ITSELF IS AUTOLOGOUS FOXP3 GENE-MODIFIED CD4 T-CELLS. AND THE INDICATION IS IMMUNE DYSREGULATION POLYENDOCRINOPATHY ENTEROPATHY X-LINKED SYNDROME OR IPEX SYNDROME. AND THE GOAL IS, AGAIN, THE IND FILING. AND THE FUNDS REQUESTED ARE $5,527,984 WITH ZERO DOLLARS FOR CO-FUNDING. THE MAX ALLOWABLE FOR THIS PARTICULAR CATEGORY IS $6 MILLION.

TO GIVE YOU A LITTLE BIT OF BACKGROUND ON THE DISEASE AND THE THERAPY ITSELF, IPEX IS A RARE AUTOIMMUNE DISORDER. IT IS CAUSED BY A FOXP3 GENE MUTATION WHICH LEADS TO A LACK OF REGULATORY T-CELLS AND IS FATAL IF UNTREATED, AND IT AFFECTS MULTIPLE ORGAN SYSTEMS.

SO THE VALUE PROPOSITION OF THIS PROPOSED THERAPY, FIRST I'M GOING TO GIVE YOU AN IDEA AS TO WHAT THE BACKGROUND IS FOR THESE PATIENTS. THE CURRENT STANDARD OF CARE, AS WITH MANY

IMMUNE DISORDERS, IS CHRONIC IMMUNOSUPPRESSION OR ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANT, THE LATTER BEING A CURE. IMMUNOSUPPRESSION IS NOT CURATIVE, AS YOU MAY IMAGINE. IT HAS SIGNIFICANT SIDE EFFECTS. SIMILARLY, AS WITH HSCT, THERE ARE SIGNIFICANT SIDE EFFECTS THERE AS WELL OR A LACK OF MATCHED DONORS.

THERE ARE CURRENTLY THERAPIES BEING DEVELOPED THAT WOULD BE GENE EDITING APPROACHES TO THE FOXP3 MUTATION, BUT THERE ARE SEVERAL DIFFERENT MUTATIONS THAT AFFECT THE FOXP3 GENE. SO IT'S A CHALLENGE. WITH THIS PARTICULAR ASPECT, THIS THERAPY IS GOING TO DELIVER FOXP3-ENGINEERED T-CELLS, SO THERE WILL BE T-REG CELLS IN THE PATIENT, AND IT COULD BE A BRIDGING THERAPY AND COULD BE DURABLE IN THESE PATIENTS. ALSO, IT'S IMPORTANT TO NOTE THAT, BECAUSE THESE ARE T-REGS, THEY ALSO HAVE APPLICATIONS FOR OTHER AUTOIMMUNE DISEASES WHERE T-REGS CAN PLAY THERAPEUTIC ROLE.

THIS IS THE FIRST VITAL RESEARCH OPPORTUNITY GENE THERAPY PROJECT THAT IS UNDER YOUR CONSIDERATION. SO AS YOU KNOW, EARLIER THIS YEAR THE BOARD APPROVED GENE THERAPY APPLICATIONS CAN BE SUBMITTED TO CIRM UNDER THE VITAL RESEARCH OPPORTUNITY MECHANISM, AND THIS ONE IS ELIGIBLE

UNDER THAT MECHANISM.

WE DO NOT CURRENTLY HAVE ANY PORTFOLIO PROJECTS IN THE CLINICAL PROGRAM FOR IPEX. AND WHILE THE APPLICANT HAS RECEIVED PREVIOUS FUNDING FROM CIRM FOR THE SAME INDICATION, IT IS NOT FOR THIS PARTICULAR PROJECT. AND SO WE ARE NOT INFORMING YOU OF THAT IN HERE, BUT I CAN HAPPILY SPEAK TO THAT IF YOU NEED ME TO.

WHEN THE GWG REVIEWED THIS APPLICATION, THEY FIRST SCORED IT FOR THE VITAL RESEARCH OPPORTUNITY ELIGIBILITY. AND WHEN THEY DID THAT, ALL 22 VOTING MEMBERS, AND THIS INCLUDES BOTH SCIENTIFIC AND PATIENT ADVOCATE MEMBERS, GAVE IT A YES VOTE, MAKING IT ELIGIBLE FOR CIRM FUNDING. AND THEN THEY SCORED THE APPLICATION FOR FUNDING RECOMMENDATION. DURING THAT, 13 SCORED IT A TIER I AND TWO SCORED IT A TIER II, MAKING THIS A TIER I RECOMMENDATION FROM THE GRANTS WORKING GROUP. THE CIRM TEAM CONCURS WITH THE GRANTS WORKING GROUP RECOMMENDATION FOR THE AWARD AMOUNT OF $5,527,984.

THE SECOND APPLICATION, THE REST OF THEM ARE ALL GOING TO BE CLIN2. THIS IS CLIN2-11650, AND THE THERAPY IS AUTOLOGOUS LIMBAL STEM CELLS FOR CORNEAL LIMBAL STEM CELL DEFICIENCY. AND THE GOAL OF THIS PARTICULAR PROJECT IS TO COMPLETE THE PHASE

1 TRIAL.

THE FUNDS REQUESTED ARE $10,301,486, AND THERE IS A CO-FUNDING APPLIED TO THIS PROJECT OF $650,000, AND THE MAXIMUM FUNDS ALLOWABLE FOR THIS CATEGORY IS $12 MILLION.

SO LIMBAL STEM CELL DEFICIENCY, AND PLEASE PARDON THE TYPO IN THE ACRONYM, IS A RARE CORNEAL DISEASE WHERE THERE IS A LOSS OF CORNEAL STEM PROGENITOR CELLS AND THEIR FUNCTION IS IMPAIRED. THIS LEADS TO DECREASED VISION, DISCOMFORT, AND PAIN FOR THE PATIENTS.

CURRENTLY THERE ARE NO APPROVED AUTOLOGOUS TREATMENTS IN THE U.S. THE PROPOSAL IS AN AUTOLOGOUS XENO-FREE THERAPY. SO HERE THIS IS A CULTURAL PROCESS. THEY TAKE AUTOLOGOUS STEM CELLS, THEY CULTURE THEM IN VITRO, AND THEY THEN INJECT THEM INTO THE APPROPRIATE EYE WHICH WOULD BE AN IMPROVEMENT OVER THE APPROVED THERAPY IN THE EU. SO THERE IS IN EUROPE APPROVED THERAPY, BUT THAT USES XENOGENEIC REAGENTS, AND THIS PARTICULAR APPROACH DOES NOT HAVE THAT LIMITATION. AND THE CURRENT STANDARD OF CARE IN THE U.S. IS ALLOGENEIC TRANSPLANTATION, WHICH, AS YOU KNOW, WOULD REQUIRE IMMUNOSUPPRESSION AS OTHER DRAWBACKS. THIS IS ELIGIBLE FOR CIRM FUNDING BECAUSE IT INVOLVES LIMBAL

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STEM CELLS.

SO CIRM IS CURRENTLY SUPPORTING THE APPLICANT'S IND-STAGE ACTIVITIES FOR THE SAME PROJECT. I'M GOING TO PRESENT THAT IN THE NEXT SLIDE, BUT WE DON'T CURRENTLY HAVE ANY OTHER LIMBAL STEM CELL DEFICIENCY PROJECTS IN THE CLINICAL PORTFOLIO.

THIS PARTICULAR PROJECT HAS BEEN SUPPORTED BY CIRM FROM THE MANUFACTURING OPTIMIZATION UP TO IND FILING. SO THE LATEST AWARD WAS A CLIN1 AWARD, WHICH IS STILL ONGOING. IN THAT AWARD THEY'VE ALREADY SUBMITTED AND FILED THE IND, WHICH IS WHY IT'S ELIGIBLE FOR A CLIN2, BUT THEY ARE CURRENTLY COMPLETING THE TRIAL START-UP ACTIVITIES. ALL FOUR MILESTONES, THREE OF THEM WERE ACHIEVED, A COUPLE OF THEM WITH DELAYS, MINOR DELAYS, AND THE LAST ONE IS ONGOING RIGHT NOW.

WHEN THE GRANTS WORKING GROUP REVIEWED THIS APPLICATION, 12 OF THE 15 VOTING MEMBERS GAVE IT A SCORE OF 1 AND THREE GAVE IT A SCORE OF 2, MAKING THIS A TIER I RECOMMENDATION FROM THE GRANTS WORKING GROUP. THE CIRM TEAM RECOMMENDATION IS TO CONCUR WITH THE GRANTS WORKING GROUP AND FUND THIS APPLICATION FOR THE AWARD AMOUNT OF $10,301,486.

ON TO THE THIRD APPLICATION. THIS IS ALSO

A GENE THERAPY VITAL RESEARCH OPPORTUNITY APPLICATION. THIS IS CLIN2-11661, AND THE THERAPY IS AAV2-GDNF THERAPY, AND THE INDICATION IS PARKINSON'S DISEASE. THE GOAL FOR THIS PARTICULAR APPLICATION IS TO COMPLETE THE PHASE 1B TRIAL. THE FUNDS THEY'RE REQUESTING IS $7,998.962, AND THEY ARE GOING TO BE PUTTING IN CO-FUNDING OF $3.5 MILLION. AND THE MAXIMUM FUNDS ALLOWABLE FOR THIS CATEGORY IS $8 MILLION.

AS YOU ALL KNOW, PARKINSON'S DISEASE IS A PROGRESSIVE NEUROLOGICAL DISORDER AFFECTING ALMOST ONE MILLION AMERICANS, AND ROUGHLY 60,000 AMERICANS ARE NEWLY DIAGNOSED EACH YEAR.

SO PD IS CAUSED BY DOPAMINERGIC NEURONAL CELL DEATH IN THE REGIONS OF THE BRAIN, ESPECIALLY THE SUBSTANTIA NIGRA, AND PATIENTS EXPERIENCE BOTH MOTOR SYMPTOMS, SUCH AS TREMORS AND IMPAIRED BALANCE, AND NONMOTOR SYMPTOMS AFFECTING COGNITION AND BEHAVIOR. THERE IS, OF COURSE, NO CURE CURRENTLY FOR PD. LEVODOPA MEDICATION DOES CONTROL MOTOR SYMPTOMS, BUT DOES LOSE EFFECTIVENESS. AS THE DISEASE PROGRESSES, ADDITIONAL SYMPTOMS ARE PRESENTED BY THE PATIENT. DEEP BRAIN STIMULATION DOES CONTROL MOTOR SYMPTOMS IN PATIENTS THAT ARE NONRESPONSIVE TO MEDICATION. AND THE PROPOSED

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SINGLE GDNF GENE THERAPY WOULD ACT BY PROTECTING NEURONS AND REGENERATING THE DOPAMINERGIC TERMINALS. IT HAS THE POTENTIAL TO PROVIDE SUSTAINED SYMPTOMATIC RELIEF AS WELL AS DELAY OR REVERSE DISEASE PROGRESSION, WHICH THE OTHER CURRENT THERAPIES DO NOT HAVE.

THIS IS NOT A STEM CELL PROJECT, AS YOU KNOW. THIS IS A GENE THERAPY APPROACH, AND IT IS SUBMITTED UNDER THE VITAL RESEARCH OPPORTUNITY MECHANISM. SO IN OUR PORTFOLIO WE DO HAVE ONE CLINICAL STAGE PROJECT TARGETING PARKINSON'S DISEASE. THIS IS A CLIN1 AWARD FOR IND-ENABLING ACTIVITIES, AND THE CANDIDATE HERE IS ALLOGENEIC NEURAL PROGENITOR CELLS THAT ARE ENGINEERED TO SECRETE GDNF. SO FOR BOTH THAT ONE AND THE CURRENT APPLICATION, THE MECHANISM WOULD BE GDNF-BASED PROTECTION OF NEURONAL CELLS, BUT THE DELIVERY MECHANISM, OF COURSE, IS VERY DIFFERENT.

THE APPLICANT DOES CURRENTLY HAVE FUNDING FROM CIRM FOR THE SAME INDICATION, BUT NOT FOR THIS PROJECT.

WHEN THIS APPLICATION WAS REVIEWED BY THE GWG, THEY FIRST DID THE VITAL RESEARCH OPPORTUNITY VOTE. TWENTY-ONE MEMBERS WERE VOTING FOR THIS AND UNANIMOUSLY GAVE IT A YES VOTE. OF THE 15

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SCIENTIFIC MEMBERS WHO VOTED FOR A FUNDING RECOMMENDATION, 13 GAVE IT A SCORE OF 1 AND TWO GAVE IT A SCORE OF 2, MAKING THIS A TIER I RECOMMENDATION FROM THE GRANTS WORKING GROUP. CIRM CONCURS WITH THAT RECOMMENDATION. HOWEVER, WE DO WANT TO NOTE THE BUDGET COMMENTS.

SO THE APPLICANT HAS REQUESTED $7,998,962. DURING THE REVIEW OF THIS APPLICATION, ALMOST HALF OF THE GRANTS WORKING GROUP MEMBERS ADVISED CIRM THAT CIRM SHOULD NOT FUND PROPOSED MANUFACTURING ACTIVITIES THAT WOULD SUPPORT THE EVENTUAL PHASE 2/3 CLINICAL TRIAL. SO THIS PROJECT IS PROPOSING TO CONDUCT MANUFACTURING ACTIVITIES AT THE SAME TIME THAT THE PHASE 1B TRIAL WAS ONGOING; THUS, WITHOUT HAVING ANY READOUTS FROM THAT PHASE 1B TRIAL, FUNDING THE MANUFACTURING ACTIVITIES AT THE SAME TIME TO ACCELERATE THE EVENTUAL START OF THE PHASE 2/3 TRIAL.

SO IF THE AWARD AMOUNT WERE TO REFLECT THE GWG ADVICE TO REMOVE THE MANUFACTURING ACTIVITIES, THE AWARD AMOUNT WILL BE $5,510,462. AND THE CIRM TEAM CONCURS WITH THE GWG ADVICE TO FUND THE AWARD AMOUNT OF $5,510,462, AND THE FINAL DECISION, OF COURSE, RESTS WITH THE BOARD.

THE NEXT TWO APPLICATIONS ARE BOTH FOR

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RETINITIS PIGMENTOSA, AND I WILL DESCRIBE THE BACKGROUND JUST FOR THE FIRST ONE AND THEN GIVE YOU THE VALUE PROPOSITION FOR THE SECOND ONE WHEN WE GET TO THAT STAGE.

SO THE FIRST ONE IS CLIN2-11620. THIS IS AN ALLOGENEIC NEURAL PROGENITOR CELL THERAPY FOR RETINITIS PIGMENTOSA. AND THE GOAL IS TO COMPLETE THE PHASE 1/2A TRIAL. AND THEY'RE REQUESTING $10,494,682. THEY ARE NOT REQUIRED TO PROVIDE CO-FUNDING, AND THE MAXIMUM FUNDS ALLOWABLE FOR THIS CATEGORY IS $12 MILLION.

AS MANY OF YOU KNOW, RETINITIS PIGMENTOSA IS A GROUP OF GENETIC DISORDERS THAT CAUSES PHOTORECEPTOR CELL DEATH LEADING TO PROGRESSIVE VISION LOSS AND RESULTING IN TUNNEL VISION. IT CAN ALSO IN SOME PATIENTS AFFECT THE CENTRAL VISION. SYMPTOMS BECOME APPARENT IN CHILDHOOD, AND PATIENTS BECOME LEGALLY BLIND IN MIDDLE AGE. RP IS A RARE DISEASE THAT AFFECTS UP TO 109,000 AMERICANS. THERE IS CURRENTLY NO CURE FOR MOST VARIANTS OF RETINITIS PIGMENTOSA. LUXTURNA'S GENE THERAPY WAS RECENTLY APPROVED AS A TREATMENT OPTION FOR A SMALL SUBSET OF PATIENTS THAT HAVE MUTATIONS IN COPIES OF THE RPE65 GENE. THIS IS ONE OF MANY GENES AFFECTED BY THIS DISEASE.

THE PROPOSED CELL THERAPY HAS A POTENTIAL TO IMPROVE OR STABILIZE THIS VISION BY PROTECTING PHOTORECEPTORS IN A BROAD POPULATION OF RP PATIENTS. THIS IS NOT LIMITED BY ANY PARTICULAR GENETIC MUTATION. IT CAN HAVE BROAD APPLICATIONS. AND THIS IS ELIGIBLE FOR CIRM FUNDING BECAUSE IT INCLUDES NEURAL PROGENITOR CELLS.

WE DO HAVE ONE OTHER RELATED AWARD CURRENTLY IN THE CIRM PORTFOLIO FOR RETINITIS PIGMENTOSA. THIS IS AN ONGOING PHASE 2 TRIAL WHICH IS STARTING ALLOGENEIC RETINAL PROGENITOR CELLS FOR RP. AND THE MECHANISM OF ACTION IS SIMILAR BETWEEN THE PROPOSED APPLICATION AND THE CURRENT TRIAL, WHICH IS NEUROTROPHIC SUPPORT OF NEURAL RECEPTORS.

THIS PARTICULAR PROJECT HAS RECEIVED PREVIOUS CIRM FUNDING. IT WAS A CLIN1 AWARD. THEY SUCCESSFULLY ACHIEVED THE MILESTONES FOR THAT AWARD AND HAVE FILED THE IND. ALL THREE MILESTONES WERE ACHIEVED WITH SLIGHT DELAYS.

WHEN THE GRANTS WORKING GROUP REVIEWED THIS APPLICATION, THEY UNANIMOUSLY GAVE IT A SCORE OF TIER I, AND THE CIRM TEAM RECOMMENDATION IS TO CONCUR WITH THE GWG AND FUND THIS APPLICATION FOR THE AWARD AMOUNT OF $10,494,682.

WE'RE ON TO THE LAST APPLICATION. THIS IS

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CLIN2-11472. AND, AGAIN, THIS IS ALSO FOR RETINITIS PIGMENTOSA. THIS IS ALLOGENEIC RETINAL PROGENITOR CELLS. THE PREVIOUS ONE WAS NEURAL PROGENITOR CELLS. AND THE GOAL IS TO COMPLETE COMMERCIAL MANUFACTURING, TECHNOLOGY TRANSFER, AND A PHASE 2 TRIAL. AND THE PHASE 2 TRIAL IS DESIGNED TO RE-TREAT THE EYES THAT HAVE BEEN PREVIOUSLY TREATED IN THE PREVIOUS TRIALS FOR THIS PARTICULAR THERAPY.

THE FUNDS REQUESTED ARE $6,608,592. THEY HAVE A CO-FUNDING AMOUNT OF ROUGHLY $4.4 MILLION. THE MAXIMUM OF FUNDS ALLOWABLE FOR THIS CATEGORY, SINCE THIS IS A PHASE 2 TRIAL, IS $15 MILLION.

AS I MENTIONED, I'M GOING TO SKIP THROUGH THE CLINICAL BACKGROUND AND GIVE YOU THE VALUE PROPOSITION. THIS PARTICULAR CELL THERAPY HAS THE POTENTIAL TO STABILIZE OR IMPROVE VISION BY PROTECTING PHOTORECEPTORS IN A BROAD POPULATION OF RP PATIENTS. IT IS NOT LIMITED TO SPECIFIC SUBSETS. THE THERAPY IS DELIVERED BY INTRAVITREAL INJECTION WHICH IS LESS INVASIVE THAN SUBRETINAL DELIVERY WHICH SHOULD BE WHAT LUXTURNA NEEDS.

SO IT IS A STEM CELL PROJECT BECAUSE THE PROPOSED THERAPY INCLUDES RETINAL PROGENITOR CELLS.

SO AS I MENTIONED, WE DO HAVE AN ONGOING PHASE 2 TRIAL, WHICH IS WHAT WE ARE SUPPORTING FOR

THIS PARTICULAR APPLICANT. I'M GOING TO GO THROUGH THE VARIOUS AWARDS THAT CIRM HAS GIVEN TO THIS PARTICULAR APPLICANT. CIRM HAS BEEN SUPPORTING THIS PROJECT FROM THE VERY BEGINNING FROM CANDIDATE DISCOVERY THROUGH THE PHASE 2 TRIAL. WE ARE CURRENTLY SUPPORTING THE ONGOING PHASE 2 TRIAL, WHICH IS ON TRACK AND, AS YOU CAN SEE HERE, WE ARE PRESENTING THE MILESTONES. SO IT HAS COMPLETED ENROLLMENT EARLY. IT IS ON TRACK TO REPORT THE PRIMARY ENDPOINT ANALYSIS, AND IT'S ALSO ON TRACK TO SUBMIT THE FINAL STUDY REPORT.

AND THE GRANTS WORKING GROUP, WHEN THEY REVIEWED THIS APPLICATION, 12 OF THE 15 MEMBERS GAVE IT A SCORE OF 1, ONE MEMBER GAVE IT A SCORE OF 2, AND TWO MEMBERS GAVE IT A SCORE OF 3, MAKING THIS IS A TIER I RECOMMENDATION FROM THE GRANTS WORKING GROUP.

MR. TORRES: GO BACK ONE SLIDE VERY QUICKLY. THANK YOU.

DR. PATEL: THE CIRM TEAM CONCURS WITH THE GWG RECOMMENDATION TO FUND THIS APPLICATION FOR THE AWARD AMOUNT OF $6,608,592.

WITH THAT, I'M GOING TO HAND IT BACK TO YOU, MR. SHEEHY.

MR. SHEEHY: THANK YOU, DR. PATEL. SO AT

THIS POINT WE CAN TAKE A MOTION TO FUND, AND WE HAVE AN OPTION HERE. WE CAN EITHER TAKE A MOTION TO FUND ALL OF THESE.

MR. JUELSGAARD: CAN WE ASK QUESTIONS?

MR. SHEEHY: OF DR. PATEL? IF YOU'D LIKE TO.

MR. JUELSGAARD: DR. PATEL, COULD YOU GO BACK TO SLIDE 23 PLEASE.

DR. PATEL: CERTAINLY. I HAVE TO FIGURE OUT WHICH ONE IS SLIDE 23 FIRST.

MR. JUELSGAARD: SO WHAT ARE BEING PROPOSED HERE ARE TWO PROJECTS, AT LEAST AS THIS SLIDE APPEARS, THAT ARE IDENTICAL OR VERY SIMILAR IN NATURE. WHAT WOULD YOU DESCRIBE AS THE DIFFERENCES IN THE APPROACHES OF THESE TWO TRIALS? HOW ARE THEY DIFFERENTIATED OTHER THAN WHO'S CONDUCTING THEM?

DR. PATEL: CERTAINLY. SO THE FIRST IS A CELL POPULATION ITSELF. SO ONE OF THEM IS USING NEURAL PROGENITOR CELLS AND THE OTHER ONE IS USING RETINAL PROGENITOR CELLS, AND THE OTHER MAJOR DIFFERENCE IS THE DELIVERY. FOR THE ONGOING PHASE 2 TRIAL, THE CELLS WILL BE DELIVERED INTRAVITREALLY, WHICH IS LESS INVASIVE. AND FOR THE PROPOSED TRIAL HERE IN 11620, THE CELLS WILL BE SUBRETINAL BECAUSE THEY PROPOSE THAT THE CELLS NEED TO HAVE PROXIMITY

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TO THE PHOTORECEPTORS FOR OPTIMAL FUNCTION.

MR. JUELSGAARD: THANK YOU VERY MUCH.

MR. SHEEHY: THAT KIND OF BEGS THE QUESTION.

DR. MARTIN: QUICK QUESTION. ARE THEY BOTH USING PRECLINICAL ANIMAL MODELS THAT ARE COMPARABLE, BOTH OF THESE INVESTIGATORS? IF THE PRECLINICAL ACTIVITY AND MODELING, ARE THEY DIFFERENT, VERY DIFFERENT, OR SIMILAR OR IDENTICAL?

DR. PATEL: SO I'M GOING TO CONFER WITH DR. ABLA CREASEY, WHO'S BEEN MANAGING BOTH OF THE AWARDS. I KNOW THAT FOR THE 11620, THEY USE DIFFERENT RODENT MODELS, BUT FOR THE OTHER ONE THAT'S BEFORE MY TIME. SO I'M HOPING THAT ABLA CAN FILL IN.

DR. CREASEY: OKAY. I'M SORRY. I AM LOSING MY VOICE.

BOTH GRANTS, THE STUDY BY SHAOMEI WANG, WHICH IS THIS STUDY THAT'S ON THE SLIDE, UTILIZED SIMILAR ANIMAL MODELS AS THE STUDY THAT IS DONE BY DR. KLASSEN'S TEAM. AND THE DIFFERENCE, AS POINTED OUT BY SHAYAM, IS THAT THE SUBRETINAL INJECTIONS WERE UTILIZED IN THE PRECLINICAL MODELS FOR THIS GRANT, THE ONE ON THE SLIDE, VERSUS INTRAVITREAL INJECTIONS IN THE ANIMALS WITH KLASSEN'S TEAM.

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THE ANIMAL MODELS, THERE'S ONLY FINITE NUMBER OF ANIMAL MODELS, AND THEY'RE BOTH UTILIZED FOR FURTHERING THE PHENOMENA OR THE HYPOTHESIS THAT THEY ARE ADVOCATING FOR FOR THE SAME INDICATION WITH TWO DIFFERENT CELLS TYPES, TWO DIFFERENT MODES OF DELIVERY.

DR. MARTIN: THE RP WAS THE SAME IN THE ANIMALS? THE RP WAS THE GENETIC MODEL IN THE RODENTS?

DR. CREASEY: THEY USE RCS RATS. AND, YES, SIMILAR ANIMALS, SIMILAR RP MODEL.

BY THE WAY, I JUST WANT TO ACCENTUATE THE JCYTE GRANT HAS ALREADY MOVED ALL THE WAY THROUGH TO PHASE 2B WHILE THE SHAOMEI WANG AND DR. SVENDSEN'S GRANT IS STARTING A PHASE 1 TRIAL WITH THE SUBRETINAL INJECTIONS. THEY'RE VERY DIFFERENT BY ASSESSING, FIRST OF ALL, DIFFERENT CELL TYPES, DIFFERENT MODES OF DELIVERY, PLUS VERY DIFFERENT IN TERMS OF STAGE OF DEVELOPMENT. WE HAVE CLINICAL DATA WITH ONE AND MAINLY PRECLINICAL DATA WITH THE OTHER.

DR. MARTIN: THANKS.

MR. SHEEHY: WE HAVE A CHOICE HERE, AND I LEAVE IT UP TO THE MEMBERS OF THE COMMITTEE. WE COULD TAKE THEM ALL AS A GROUP, ALL FIVE. AND WE

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HAVE ALREADY 23 MILLION ALLOCATED SPECIFICALLY FOR THE CLINICAL ROUND. AND WE GOT ABOUT 30 BACK. AND SO THE DELTA BETWEEN THAT IS AROUND 14 MILLION, SO IT'S LESS THAN HALF OF OUR RETURNED FUNDS WOULD GO TO THE CLINICAL, OR WE TAKE THEM INDIVIDUALLY AND VOTE ONE BY ONE. THAT'S ASSUMING THAT WE INCLUDE THE COST -- THE REDUCTION IN THE APPLICATION WHERE THE CIRM TEAM CONCURRED WITH THE GRANTS WORKING GROUP IN REMOVING THE MANUFACTURING ACTIVITIES. SO IT'S REALLY -- I'M AGNOSTIC EITHER WAY PEOPLE WANT TO GO. WE CAN DO IT AS A GROUP OR ONE BY ONE.

MR. TORRES: I BELIEVE IN GOD, AND I MOVE THEM ALL.

MR. JUELSGAARD: I'M NOT SECONDING. THERE'S A MOTION ON THE TABLE.

MR. SHEEHY: THERE'S A MOTION WITHOUT A SECOND UNLESS SOMEONE --

CHAIRMAN THOMAS: SECOND.

MR. SHEEHY: SECOND FROM CHAIRMAN THOMAS. WE DO HAVE A MOTION. JUST TO RESTATE THE MOTION, IT IS TO FUND ALL FIVE CLINICAL APPLICATIONS ACCEPTING THE CIRM TEAM RECOMMENDATION TO REDUCE THE APPLICATION BY REMOVING THE MANUFACTURING ELEMENT IN THAT ONE APPLICATION.

MR. JUELSGAARD: MY QUESTION WAS ON THE

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SLIDE THAT WAS PRESENTED ABOUT THE BUDGET. THAT'S AVAILABLE. THE 40,931,706 UNDER APPLICATIONS FOR CONSIDERATION TODAY FOR CLINICAL, THAT $40,931,000 ODD NUMBER OF DOLLARS EXCLUDES THE ROUGHLY TWO AND A HALF MILLION FOR MANUFACTURING?

MR. SHEEHY: NO, IT INCLUDES IT. SO INCLUDES IT. I ADDED IT UP ON MY SHEET.

MR. JUELSGAARD: SO THE 40,930 IS THE BIG NUMBER?

MR. SHEEHY: YEAH. SO THE ACTUAL NUMBER FOR ALL THESE APPLICATIONS IS 37.9 ROUGHLY. AND SO IF YOU LOOK, WE HAVE 23 ROUGHLY STILL IN THE CLIN BUDGET WHICH IS ALREADY DEDICATED. WE REALLY ARE OBLIGATED TO SPEND THAT ON CLIN, AND HAVE ABOUT 30 COMING BACK. SO THAT LEAVES US ABOUT 14, WHICH STILL LEAVES A SLIGHT MAJORITY OF THE FUNDS REMAINING TO USE IN THE TRANSLATION ROUND.

SO WE HAVE A MOTION. IS THERE ANY ADDITIONAL BOARD DISCUSSION ON THIS MOTION? THEN COULD I GET ANY PUBLIC COMMENT ON THIS MOTION?

MR. REED: THESE ARE SUPERB GRANTS, AND I SUPPORT THEM ALL. MY QUESTION IS WITH THE EXTRA $2 MILLION THAT WAS BROUGHT, THERE IS ANOTHER GRANT PROPOSAL FOR EPILEPSY. AND I WONDER WOULD THAT MAKE THAT POSSIBLE? WOULD THAT EXTRA MONEY MAKE THAT

POSSIBLE? THAT'S MY QUESTION.

MR. SHEEHY: THAT'S IN THE TRANSLATION ROUND. I WOULDN'T SAY WHETHER IT MAKES IT POSSIBLE OR IMPOSSIBLE. WE STILL WILL BE SHORT OF -- IF WE INCLUDE THAT APPLICATION, WE STILL WILL BE SHORT ON TRANSLATION FUNDING.

MR. REED: THANK YOU.

MR. SHEEHY: ANY ADDITIONAL PUBLIC COMMENT? THEN COULD WE CALL THE ROLL PLEASE.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: STEVE JUELSGAARD.

MR. JUELSGAARD: YES.

MS. BONNEVILLE: DAVE MARTIN.

DR. MARTIN: YES.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: YES.

MS. BONNEVILLE: ADRIANA PADILLA.

DR. PADILLA: YES.

MS. BONNEVILLE: AL ROWLETT.

MR. ROWLETT: YES.

MS. BONNEVILLE: JEFF SHEEHY.

MR. SHEEHY: YES.

MS. BONNEVILLE: OS STEWARD.

DR. STEWARD: YES, EXCEPT FOR THOSE WITH

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WHICH I HAVE CONFLICTS.

MS. BONNEVILLE: JONATHAN THOMAS.

CHAIRMAN THOMAS: YES.

MS. BONNEVILLE: ART TORRES.

MR. TORRES: AYE.

MS. BONNEVILLE: THE MOTION CARRIES.

MR. SHEEHY: THANK YOU. NOW I BELIEVE WE WILL TAKE UP THE TRANSLATION APPLICATIONS. AND THEN IF WE CAN GET A CALCULATION OF WHAT REMAINING FUNDS WE HAVE LEFT.

DR. SAMBRANO: MR. SHEEHY, I PUT UP THE SPREADSHEET. SO WHAT REMAINS IS HIGHLIGHTED IN ORANGE. SO THIS IS AFTER APPROVAL AND ADJUSTMENT OF THE ONE APPLICATION FOR THOSE MANUFACTURING ACTIVITIES. SO IT LEAVES YOU WITH JUST OVER $15 MILLION REMAINING FOR THE TRAN.

MR. SHEEHY: DO YOU HAVE A CALCULATION -- I NOTICE THAT YOU HAVE GWG RECOMMENDED. DO YOU HAVE A CALCULATION LOOKING AT 15.8 MILLION MEASURED AGAINST THE GWG RECOMMENDED APPLICATIONS?

DR. SAMBRANO: FOR TRAN?

MR. SHEEHY: YEAH.

DR. SAMBRANO: YES. I'LL SHOW YOU THAT IN THE SLIDE.

THANK YOU VERY MUCH. GOOD MORNING,

EVERYONE. I'M GOING TO JUST PRESENT TO YOU THE GWG RECOMMENDATIONS RELATED TO THE TRAN PROGRAM. AND JUST AS A BRIEF OVERVIEW, SO JUST AS A REMINDER, THE TRAN PROGRAM FITS RIGHT IN THE MIDDLE OF OUR FUNDING OPPORTUNITIES. IT BASICALLY TAKES AND ADVANCES PROGRAMS THAT HAVE CONDUCTED DISCOVERY STAGE WORK AND TAKES THEM AND FEEDS THEM INTO OUR CLINICAL PROGRAM. SO, FITTINGLY, THE WORK SUPPORTS PROMISING STEM CELL-BASED PROJECTS THAT WILL ACCELERATE COMPLETION OF THESE TRANSLATIONAL STAGE ACTIVITIES BOTH FOR THE CLINIC AND ALSO FOR BROAD END USE. ALSO, JUST A NOTE, NORMALLY THIS PROGRAM ALSO FUNDS OTHER TYPES OF THERAPEUTIC -- OTHER TYPES OF PRODUCTS SUCH AS DIAGNOSTICS, DEVICES, AND TOOLS. IN THIS PARTICULAR CASE, WE LIMITED THIS YEAR ONLY TO THERAPEUTICS. SO YOU WILL ONLY SEE APPLICATIONS FOR THAT END.

AND THESE PROJECTS THAT ARE PROPOSED CERTAINLY NEED TO BE AT A STAGE OF READINESS THAT ALLOWS THEM TO ENGAGE IN THESE TRANSLATIONAL ACTIVITIES. AND SO THAT'S PART OF HOW THEY ARE EVALUATED. THEY HAVE TO HAVE A SINGLE THERAPEUTIC CANDIDATE THAT HAS SUFFICIENT EVIDENCE TO SHOW THAT THERE IS DISEASE MODIFYING ACTIVITY TO ENGAGE IN ACTIVITIES. AND AT THE END OF THE 30-MONTH PERIOD

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OR SO, THEY'RE ALLOWED 30 MONTHS TO DO THIS, AND UP TO $4 MILLION TO COMPLETE A PRE-IND MEETING. SO THOSE ARE THE GOALS OF THE TRAN PROJECT.

THE SCORING FOR THESE PROJECTS IS ALSO DIFFERENT FROM CLIN. SO AS OPPOSED TO THE 1-2-3 SYSTEM, THE SCORING SYSTEM HERE IS FROM ONE TO A HUNDRED. SO APPLICATIONS THAT FALL IN THE RANGE OF 85 TO A HUNDRED MEANS THAT THEY ARE RECOMMENDED FOR FUNDING IF FUNDS ARE AVAILABLE. AND IF THEY SCORE BELOW THAT, THEN THEY'RE NOT RECOMMENDED FOR FUNDING. AND THIS SCORE IS BASED ON THE MEDIAN SCORE GIVEN BY ALL INDIVIDUAL GRANTS WORKING GROUP MEMBERS IN ORDER TO DETERMINE THAT SCORE.

SO JUST HERE'S THE SUMMARY TABLE OF THE APPLICATIONS THAT YOU'RE THEN CONSIDERING TODAY. SO THERE ARE THREE THAT ARE RECOMMENDED FOR FUNDING, AND SO THE TOTAL APPLICANT REQUEST OF THOSE THREE IS ABOUT 10.9 MILLION. AND THEN THERE IS ONE THAT WAS CARRIED OVER FROM OUR LAST MEETING THAT IS NOT RECOMMENDED FOR FUNDING, AND THAT ONE IS REQUESTING ABOUT 5.2 MILLION.

SO I CAN GIVE YOU A BRIEF OVERVIEW OF EACH OF THESE APPLICATIONS JUST TO REMIND YOU OF THESE OR AT LEAST LET YOU KNOW WHAT THEY'RE ABOUT.

THE FIRST APPLICATION IS TRAN1-11536. AND

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SO THIS ONE IS ENTITLED "EX VIVO GENE EDITING OF HUMAN HEMATOPOIETIC STEM CELLS FOR THE TREATMENT OF X-LINKED HYPER-IGM SYNDROME." SO X-LINKED HYPER-IGM SYNDROME IS A RARE IMMUNE DEFICIENCY. THERE'S AN ABSENCE OF IMMUNOGLOBULINS, SUCH AS IGG, IGA, IGE. THE PATIENTS SUFFER FROM OPPORTUNISTIC INFECTIONS, PARASITIC INFECTIONS BOTH PULMONARY AND GI, AND THEY HAVE AN INCREASED RISK OF MALIGNANCIES.

THE APPROACH THAT THE APPLICANTS ARE TAKING IS AN EX VIVO GENE CORRECTION OF AUTOLOGOUS HEMATOPOIETIC STEM CELLS WHERE THEY ARE USING CRISPR CAS9 TO CORRECT CD40 LIGAND, WHICH IS THE GENE THAT IS DEFECTIVE IN THIS PARTICULAR CASE.

THIS APPLICATION RECEIVED A SCORE OF 92, SO THIS WAS THE TOP SCORING APPLICATION. WE HAD 15 MEMBERS OF THE WORKING GROUP WHO ALL SCORED IT IN THIS FUNDING RANGE. AND IN TERMS OF JUST GENERAL PORTFOLIO, WE DON'T HAVE ANY OTHER PROJECTS THAT ARE FOCUSED ON THIS PARTICULAR INDICATION, BUT OVERALL WE HAVE 23 THAT USE SOME KIND OF GENE-MODIFIED CELL THERAPY TO ADDRESS A BLOOD OR IMMUNE DISORDER.

THE NEXT APPLICATION IS 11555. SO THIS IS ENTITLED "BCMA/CS1 BISPECIFIC CAR-T CELL THERAPY TO PREVENT ANTIGEN ESCAPE IN MULTIPLE MYELOMA" SO THIS IS A CAR-T CELL THERAPY, WHICH MANY OF YOU HAVE

ALREADY HEARD US TALK ABOUT HERE BEFORE. IT IS AN AUTOLOGOUS THERAPY, AS MOST CAR-T THERAPIES ARE, THAT USES A BISPECIFIC FORMULA BOTH TARGETING ANTIGEN BCMA AND CS1 THAT EXIST ON MULTIPLE MYELOMA CELLS. AND IDEA BEHIND THIS IS TO OVERCOME A PHENOMENON WHERE SOME PATIENTS ARE BCMA NEGATIVE OR BECOME BCMA NEGATIVE WHICH MAY CAUSE RELAPSE. SO THE GOAL IS THROUGH THIS BISPECIFICITY YOU CAN OVERCOME THAT.

THE SCORE THIS APPLICATION RECEIVED WAS AN 85. THERE WERE TEN MEMBERS THAT SCORED IT WITHIN THE FUNDING RANGE AND FIVE THAT SCORED IT BELOW. THERE ARE TWO OTHER PROJECTS THAT WE HAVE IN OUR PORTFOLIO FOR MULTIPLE MYELOMA. ONE IS A CLIN1 AND ONE IS A TRAN AND FIVE ADDITIONAL CAR-T PROJECTS.

THE NEXT APPLICATION IS 11544. THIS ONE IS ENTITLED "NEURAL STEM CELL MEDIATED ONCOLYTIC IMMUNOTHERAPY FOR OVARIAN CANCER." THIS IS A CELL THERAPY WHERE THEY ARE TAKING ALLOGENEIC NEURAL STEM CELLS, WHICH ARE TUMOROTROPIC, MEANING THEY TARGET TUMOR CELLS, AND THEY'LL USE THOSE TO TARGET THE OVARIAN CANCER AND DELIVER A PAYLOAD OF ONCOLYTIC VIRUS. SO THIS USES A CONDITIONALLY REPLICANT COMPETENT VIRUS, WHICH MEANS IT WILL SELECTIVELY INFECT AND REPLICATE WITHIN TUMOR CELLS AND NOT

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NORMAL CELLS. SO IT IS SOMEWHAT SPECIFIC --

THIS APPLICATION RECEIVED A SCORE OF 85. THERE WERE NINE MEMBERS WHO SCORED IT IN THE FUNDING RANGE AND SIX MEMBERS WHO DID NOT. WE HAVE THREE OTHER PROJECTS THAT ADDRESS OVARIAN CANCER, BUT THEY'RE ALL AT THE DISCOVERY STAGE. SO THEY'RE EARLIER THAN THIS PROPOSAL. AND THIS PROPOSAL'S APPROACH IS ALSO QUITE UNIQUE WITHIN OUR PORTFOLIO.

AND AS MENTIONED, WE HAVE ONE APPLICATION THAT WAS NOT RECOMMENDED, BUT WE CARRIED THAT FORWARD PER THE REQUEST OF THE BOARD AT OUR LAST MEETING. SO THIS IS APPLICATION 11611. AND IT'S ENTITLED "DEVELOPMENT OF HUMAN STEM CELL-DERIVED INHIBITORY NEURON THERAPEUTIC FOR THE TREATMENT OF CHRONIC FOCAL EPILEPSY." SO THE INDICATION IS DRUG RESISTANT CHRONIC TEMPORAL LOBE EPILEPSY. AND THEIR APPROACH IS AN ALLOGENEIC USE OF HUMAN EMBRYONIC STEM CELL-DERIVED INHIBITORY NEURAL CELLS THAT WOULD BE TRANSPLANTED INTO THE SEIZURE FOCAL AREA IN THE BRAIN IN ORDER TO REDUCE OR ELIMINATE THE SEIZURES. THERE IS A SIGNIFICANT FRACTION OF PATIENTS WHO DON'T ADEQUATELY RESPOND TO ANTI-EPILEPTIC MEDICATION. AND SO THIS IS OFFERED AS AN ALTERNATIVE TO WHAT MAY OTHERWISE BE A SURGICAL RESECTION.

AND THIS APPLICATION RECEIVED A SCORE OF 78, SO IN THE DO NOT FUND RANGE. THERE WERE ZERO MEMBERS WHO SCORED THE APPLICATION IN THE FUNDING RANGE AND 15 THAT SCORED IT IN THE DO NOT FUND RANGE. WE DON'T HAVE ANY OTHER EPILEPSY PROJECTS WITHIN OUR PORTFOLIO. MR. SHEEHY.

MR. SHEEHY: THANK YOU, DR. SAMBRANO.

AGAIN, WE HAVE THE CHOICE WHETHER TO TAKE SOME OF THESE IN GROUPS. I CLEARLY FELT FROM THE LAST TRANSLATION ROUND THAT THE COMMITTEE WAS COMMITTED TO FUNDING OR HAD A STRONG DESIRE TO CONSIDER FUNDING THE THREE APPLICATIONS THAT WERE RECOMMENDED BY THE GRANTS WORKING GROUP. WE CAN TAKE THOSE AS A GROUP IF MEMBERS WOULD WANT OR WE CAN TAKE THEM INDIVIDUALLY. I WOULD TAKE A MOTION EITHER WAY.

MR. JUELSGAARD: I MOVE THAT WE FUND THE THREE PROJECTS THAT WERE AGREED TO BY THE GRANTS WORKING GROUP.

MR. SHEEHY: DO I HAVE A SECOND?

CHAIRMAN THOMAS: SECOND.

MR. SHEEHY: SECOND FROM CHAIRMAN THOMAS. BOARD DISCUSSION? DO WE HAVE ANY PUBLIC COMMENT ON THIS ITEM?

MR. REED: 78 IS NOT THAT FAR FROM 85 WHEN

WE ARE TALKING ABOUT SOMETHING THAT WE DON'T HELP NOW. EPILEPSY IS A VICIOUS CONDITION. I'VE DONE SOME READING ABOUT IT, AND IT'S A GREAT SUFFERING THING. IF THERE IS SOME MONEY AT ALL AND IF THIS IS A CLOSE THING -- I REALIZE THERE'S NOBODY THERE THAT SAID, YES, WE SHOULD FUND IT -- BUT 78, 85, WHAT IF THIS HAS POSSIBILITIES? I'D LIKE TO HAVE THAT ONE DISCUSSED.

MR. SHEEHY: THANK YOU, MR. REED. ANY MORE PUBLIC COMMENT?

DR. MARTIN: I HAVE --

DR. NICHOLAS: HI. MY NAME IS COREY NICHOLAS. I'M THE PI ON THIS EPILEPSY PROPOSAL, 611 TRAN, TO DEVELOP AN INHIBITORY NEURON THERAPY DERIVED FROM HUMAN EMBRYONIC STEM CELLS FOR THE TREATMENT OF FOCAL EPILEPSIES. I WANTED TO JUST HIGHLIGHT A COUPLE OF THINGS THAT MAKE OUR PROPOSAL UNIQUE.

THE FIRST IS THAT EPILEPSY, AS GIL MENTIONED, HAS BEEN UNDERSERVED HERE. JUST A QUICK COUNT, I THINK THERE ARE OVER 50 ACTIVE AWARDS FOR CANCERS AND BLOOD DISORDERS, ZERO FOR EPILEPSY. WE'VE BEEN THE ONLY GROUP DEVELOPING THIS THERAPY. AND EPILEPSY, AS YOU MAY KNOW, IS THE FOURTH MOST COMMON NEUROLOGICAL DISEASE THAT AFFECTS OVER HALF A

MILLION CALIFORNIANS. OVER A THIRD OF THESE PATIENTS ARE MULTIPLE DRUG RESISTANT. THEY HAVE ZERO EFFECTIVE OPTIONS. AND THESE ARE FOLKS WHERE IT CAN BE FATAL. AND IF IT'S NOT, THESE PATIENTS CAN'T DRIVE, THEY CAN'T WORK, THEY CAN'T LIVE INDEPENDENTLY. SO IT'S A HUGE UNMET NEED.

AND THE SECOND QUALITY I WANTED TO HIGHLIGHT IS THAT I THINK WE ARE ONE, IF NOT THE ONLY, GRANT LEFT THAT ARE USING HUMAN EMBRYONIC STEM CELLS TO DERIVE THE THERAPY, WHICH IS CONSISTENT WITH THE ORIGINAL CIRM MANDATE.

AND WE TAKE THESE EMBRYONIC STEM CELLS, WE DERIVE THE INHIBITORY NEURONS NOW IN MASS QUANTITIES, AND WE HAVE THIS VERY WELL POSITIONED TO TAKE IT TO A CLINICAL TRIAL IN TWO YEARS. WE'VE BEEN SUPPORTED BY CIRM SINCE THE EARLY DAYS, BACK IN THE COMPREHENSIVE GRANT. WE STARTED THIS PROGRAM FROM SCRATCH AT UCSF, AND WE'VE ADVANCED ALL THE WAY NOW TO THE DOORSTEP HERE OF A CLINICAL TRIAL. AND WE JUST HAD A POSITIVE INTERACT MEETING WITH THE SUCCESSFUL COMPLETION OF OUR QUEST AWARD, WHICH WE EXECUTED AHEAD OF SCHEDULE; AND I THINK WITH YOUR SUPPORT, WE ARE VERY WELL POSITIONED TO TAKE THIS TO PATIENTS.

JUST A QUICK COMMENT ON THE MAJOR CRITIQUE

FROM THE GRANTS GROUP. THE MAJOR CRITIQUE WAS THAT WE DID NOT FULLY DISCLOSE OUR MANUFACTURING PROCESS. WE WERE ALLOWED TO PROVIDE A SUPPLEMENTAL PACKAGE, WHICH, SHORT OF DISCLOSING THE EXACT IDENTITIES OF THE REAGENTS, WE DESCRIBED THE CATEGORIES OF THE REAGENTS THAT WE WERE OPTIMIZING, AND WE FELT THAT WAS SUFFICIENT TO INFORM THE GRANTS WORKING GROUP. I'M HAPPY TO ANSWER ANY QUESTIONS ON TECHNICAL MERIT OR OTHERWISE, AND I THANK YOU FOR YOUR CONSIDERATION.

MR. SHEEHY: THANK YOU. ANY OTHER PUBLIC COMMENT?

DR. KRIEGSTEIN: THANK YOU. MY NAME IS DR. ARNOLD KRIEGSTEIN. I'M AT UCSF WHERE I DIRECT THE STEM CELL PROGRAM, BUT I'M ALSO ONE OF THE FOUR COFOUNDERS OF A COMPANY THAT HAS PROPOSED THE EPILEPSY TREATMENT THAT I WANT TO DISCUSS.

I JUST WANT TO REVIEW VERY BRIEFLY THE OVERALL TRAJECTORY OF THIS PROPOSAL BECAUSE IT BEGAN, AS COREY MENTIONED, WHEN COREY WAS A POST-DOC IN MY LAB AT UCSF. THROUGH CIRM SUPPORT, WE DEVELOPED A PROTOCOL FOR MAKING THESE INHIBITORY INTERNEURONS FROM EMBRYONIC STEM CELLS. THAT WAS DEMONSTRATED TO BE EFFECTIVE IN THE ANIMAL MODELS OF DISEASE, AND THAT LED TO THE NEXT STEP, WHICH WAS

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SCALING UP THE PRODUCTION AND MOVING TO GMP FACILITIES, WHICH IS SOMETHING THAT WAS OUTSIDE OF OUR ACADEMIC PURVIEW.

SO THAT'S WHY THE COMPANY WAS STARTED. IT WAS STARTED TO MOVE THIS TOWARD A CLINICAL TRIAL. THAT EFFORT WAS PARTLY FUNDED ALSO THROUGH CIRM, AND IT MOVED SUCCESSFULLY TO CREATE AN IMPROVED VERSION OF THE CELLS, AND THAT LED TO THE PROBLEM WITH THE REVIEW; NAMELY, THAT THE COMPANY WAS NOT DISCLOSING THE ENTIRE PROCEDURE FOR MAKING THE CELLS. OBVIOUSLY THIS IS NOT AN ACADEMIC PROCEDURE AT THAT POINT. IT WAS MORE OF A COMMERCIAL ENTERPRISE, AND SO IT SEEMED REASONABLE THAT THIS WOULD BE KEPT AS A TRADE SECRET. AND SO I THINK IT WAS A BIT UNFAIR FOR THAT TO BE THE CRITICISM.

SO I WANT TO MENTION TO THE COMMITTEE THAT THAT ONE CRITICISM ASIDE, THE STRATEGIES MOVING FORWARD AND WE'RE MOVING FORWARD ON A CLINICAL TRIAL, AND, AS COREY MENTIONED, A VERY IMPORTANT, WE THINK, UNMET CLINICAL NEED AND FITS, WE THINK, SQUARELY WITHIN THE PURVIEW OF CIRM. THANK YOU.

MR. SHEEHY: THANK YOU. IS THERE ANY ADDITIONAL PUBLIC COMMENT? COULD YOU CALL THE ROLL, PLEASE.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.
MS. BONNEVILLE: STEVE JUELSGAARD.
MR. JUELSGAARD: YES.
MS. BONNEVILLE: DAVE MARTIN.
DR. MARTIN: NO.
MS. BONNEVILLE: LAUREN MILLER.
MS. MILLER: YES.
MS. BONNEVILLE: ADRIANA PADILLA.
DR. PADILLA: YES.
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: THE MOTION CARRIES.
MR. SHEEHY: THANK YOU.
SO WE STILL HAVE THAT REMAINING APPLICATION TO MAKE A DECISION ABOUT. I HAVE A QUESTION FOR THE CIRM TEAM. SO HOW MUCH MONEY IS NOW LEFT OVER?

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DR. SAMBRANO: ACCORDING TO THE SPREADSHEET, 4.8 MILLION.

MR. SHEEHY: HOW MUCH IS THE APPLICATION THAT'S STILL OUTSTANDING? HOW MUCH IS THEIR REQUEST?

DR. SAMBRANO: IT IS FOR 5.2.

MR. SHEEHY: SO WE HAVE A CHOICE. WELL, MAYBE WE DON'T HAVE A CHOICE. I DON'T KNOW. BUT, GEEZ, IF I WERE THE APPLICANT DURING PUBLIC COMMENT, I WOULD HAVE SAID I WOULD DO THIS FOR 4.8, BUT THAT WAS JUST ME. OF ALL THE ARGUMENTS YOU MADE, YOU MISSED THE RIGHT ONE. ANYWAY, WE CAN EITHER VOTE NOT TO FUND IT. I THINK THAT'S THE ONLY THING THAT WE HAVE AVAILABLE TO US, BUT WE DO HAVE TO TAKE SOME ACTION ON THIS APPLICATION UNLESS A BOARD MEMBER HAS A DIFFERENT MOTION THAT THEY WOULD LIKE TO MAKE.

MR. TORRES: MR. CHAIRMAN, WHY CAN'T WE MAKE A MOTION THAT EXCEEDS THAT AMOUNT?

MR. SHEEHY: PARDON ME?

MR. TORRES: WHY CAN'T WE MAKE A MOTION TO PROVIDE AT LEAST --

MR. SHEEHY: SENATOR TORRES, IF YOU WOULDN'T MIND USING THE MIC.

MR. TORRES: I JUST WANTED TO KNOW WHY CAN'T WE MAKE A MOTION THAT GETS CLOSE TO WHAT WE

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HAVE LEFT TO THIS APPLICANT?

MR. SHEEHY: I'M NOT -- IF YOU REMEMBER CORRECTLY, I'M TRYING TO BE BALANCED HERE AS I'M CHAIRING THIS, BUT I WAS ONE OF THE ONES THAT WAS FAIRLY MOVED BY THE ARGUMENTS IN THE ORIGINAL.

MR. TORRES: I REMEMBER. SO ARE YOU SUGGESTING THAT 4.8 IS AN APPROPRIATE AMOUNT?

MR. SHEEHY: I DON'T HAVE ANY INDICATION THAT THEY CAN DO THEIR WORK FOR THAT AMOUNT.

MR. TORRES: UNLESS THEY WERE TO GET FUNDING ELSEWHERE.

MR. SHEEHY: OR THEY COULD GET FUNDING ELSEWHERE, EXACTLY. IF THEY WERE TO LOCATE THE DELTA, I THINK WE COULD HAVE THAT CONVERSATION; BUT I CANNOT -- I ACTUALLY COULD NOT SUPPORT FUNDING AN APPLICATION THAT WAS WRITTEN FOR A CERTAIN AMOUNT WITHOUT SUFFICIENT FUNDS TO COMPLETE THE WORK UNLESS THEY INDICATED THEIR ABILITY TO FIND THAT FUNDING. THEN WE WOULD HAVE A CONVERSATION.

DR. NICHOLAS: THE ANSWER IS, YES, WE CAN ABSOLUTELY USE THE 4.8 AND STILL EXECUTE ON THE PROPOSAL.

MR. TORRES: I'LL PUT IT OUT THERE. SO MOVED.

MR. JUELSGAARD: YOU OPENED THAT DOOR.

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MR. TORRES: THE DOOR HAS BEEN UNLOCKED AND I MOVE IT.

MR. SHEEHY: YOUR MOTION IS TO FUND THIS TO THE AMOUNT OF REMAINING FUNDS IN THE UNALLOCATED RESEARCH FUNDS THAT WE HAVE AT THIS MOMENT, WHICH IS ROUGHLY 4.8 TO 4.9 MILLION.

MR. TORRES: WITH THE UNDERSTANDING OF THE COMMITMENT MADE BY THE APPLICANT THAT THEY WOULD FIND THE REMAINING FUNDS OR PERFORM ADEQUATELY WITH THIS AMOUNT.

MR. SHEEHY: I THINK YOU REALLY HAVE TO PUT -- THAT'S VERY CONFUSING. I'M HEARING --

MR. TORRES: WELL, I THINK WE HAVE TO INCORPORATE THEIR COMMENTS AS A REFLECTION OF HOW I'M GOING TO VOTE. SO I'M NOT GOING TO PUT IT IN THE MOTION. I'LL JUST CONTINUE TO MOVE THE 4.8 AND THEN CONTINUE TO HAVE DISCUSSIONS WITH THEM.

MR. SHEEHY: SO THE MOTION IS TO FUND THIS AT THE SLIGHTLY OVER 4.8 THAT WE HAVE REMAINING. DO WE HAVE A SPECIFIC NUMBER WE WANT TO USE?

MR. TORRES: YES, MR. CHAIRMAN.

MR. SHEEHY: OKAY. DR. STEWARD. BY THE WAY, I SECOND YOUR MOTION.

MR. TORRES: THANK YOU.

DR. STEWARD: QUESTION. I BELIEVE WE HAVE

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A REVIEW NEXT WEEK FOR A CLIN.

MR. SHEEHY: YES.

DR. STEWARD: AND SHOULD WE VOTE IN FAVOR OF FUNDING THIS, EXACTLY WHAT IMPACT DOES THAT HAVE ON THE UPCOMING REVIEW, OR IS THAT A FAIR QUESTION TO ASK?

DR. SAMBRANO: IT DOESN'T HAVE AN IMPACT BECAUSE WE EXCLUDED THE SICKLE CELL POT, WHICH THAT APPLICATION HAPPENS TO BE.

DR. STEWARD: FINE. AGAIN, JUST CAN YOU REMIND US WHAT THE VOTE OF THE GRANTS WORKING GROUP WAS ON WHETHER OR NOT TO FUND THIS?

DR. SAMBRANO: FOR THIS PARTICULAR APPLICATION, ALL MEMBERS SCORED BELOW 85. SO THEIR VOTE, IF YOU WILL, WAS TO NOT FUND IT. SO A LOT OF IT PERTAINING, AS MENTIONED, TO MANUFACTURING ACTIVITIES THAT COULD NOT REALLY BE PROPERLY ASSESSED, WHICH ARE A GOOD PORTION OF THE ACTIVITIES THAT ARE PROPOSED, BUT ALSO OTHER CONCERNS.

DR. MARTIN: MAY I JUST ASK A QUESTION. MAYBE IT'S INAPPROPRIATE. HAS ANY INTELLECTUAL -- ANY PATENT APPLICATION BEEN FILED ON THE MANUFACTURING PROCESS?

MR. SHEEHY: I THINK IT'S OKAY IF YOU WANT TO COME UP. MAYBE WE'RE AT THE POINT WE'RE HAVING A

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LITTLE BIT OF DIALOGUE, DR. NICHOLAS, IF THAT'S OKAY. I JUST WANT TO STRESS MY PRIMARY MOTIVATION IS THAT IT IS AN EMBRYONIC STEM CELL APPLICATION IN LATE STAGE. AND THAT REALLY IS WHAT WE WERE FOUNDED TO DO.

DR. NICHOLAS: YES, WE HAVE THREE ISSUED PATENTS. THESE HAVE BEEN EXCLUSIVELY LICENSED FROM UCSF TO THE COMPANY.

DR. MARTIN: ARE THEY A MANUFACTURING PROCESS?

DR. NICHOLAS: ONE OF THEM IS ON THE MANUFACTURING PROCESS, YES.

DR. MARTIN: THAT'S PUBLIC INFORMATION.

DR. NICHOLAS: ONLY HALF OF THE PATHWAYS ARE DISCLOSED IN A VERY BROAD, NONSPECIFIC MANNER, BUT NOT THE IDENTITIES OF THE REAGENTS THAT ARE THE KEY TRADE SECRETS IN OTHER PARTS OF THE INTELLECTUAL PROPERTY.

DR. MARTIN: SO YOU DO NOT INTEND TO EXPOSE THOSE TRADE SECRETS BY PATENTING?

DR. NICHOLAS: CORRECT.

DR. MARTIN: SO THAT'S THE ISSUE AT THE WORKING GROUP.

DR. NICHOLAS: I JUST ALSO WANTED TO ADD THAT THE PRECLINICAL STUDIES THAT WE COMPLETED IN

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THE QUEST AWARD WERE EXTREMELY COMPELLING DATA WHERE THESE TRANSPLANTS ELIMINATED SEIZURES COMPLETELY IN MOST OF THE ANIMALS THAT WE STUDIED. AND THAT'S THE REAL GOAL FOR THE PATIENTS. IT'S NOT JUST AN INCREMENTAL REDUCTION OF SEIZURES, BUT IT'S SEIZURE FREEDOM. THAT'S THE TYPE OF PROMISE THAT WE'RE HOPING TO REALIZE HERE WITH THE REGENERATIVE SINGLE ADMINISTRATION OF THE NEURONAL CELL THERAPY THAT'S ES DERIVED.

DR. STEWARD: SO I ASKED THE QUESTION BECAUSE IT, AGAIN, REALLY IS IMPORTANT FOR ME TO PAY CAREFUL ATTENTION TO THE RECOMMENDATIONS OF THE GRANTS WORKING GROUP. AND ALL 15 VOTED AGAINST FUNDING THIS.

I JUST WANT TO REMIND EVERYONE THAT THE GRANTS WORKING GROUP HAS SEEN OTHER CONFIDENTIAL AND PROPRIETARY INFORMATION. IT'S PART OF THEIR CHARTER. THEY, I THINK I CAN SAY, FELT VERY STRONGLY THAT THERE WAS NO REASON TO WITHHOLD THAT INFORMATION FROM THIS APPLICATION, THAT THIS MADE IT DIFFICULT TO REVIEW IT DESPITE THE FACT THAT THE INDICATION IS A VERY IMPORTANT ONE.

I WILL SAY THAT I HAVE A FAMILY MEMBER WHO SUFFERS FROM EPILEPSY. I UNDERSTAND PERSONALLY. HOWEVER, I DO RESPECT THE VIEWS OF THE GRANTS

WORKING GROUP IN THIS CASE, HIGHLY RESPECT THOSE VIEWS, AND I THINK IN THIS CASE ALL THAT WOULD HAVE BEEN NECESSARY IS PROVIDING THIS INFORMATION AND THIS GRANT WOULD HAVE BEEN RECOMMENDED FOR FUNDING. THAT TELLS YOU HOW I'M GOING TO VOTE THANK YOU.

MR. SHEEHY: THANK YOU, DR. STEWARD. CHAIRMAN THOMAS.

CHAIRMAN THOMAS: SO PORTFOLIO BALANCING PURPOSES, I THINK, IN GENERAL, THIS IS A GOOD IDEA SINCE WE DON'T HAVE THIS AS A TARGET. BUT MY QUESTION FOR YOU IS THERE ARE OBVIOUSLY MANY DIFFERENT FORMS OF EPILEPSIES. HOW DO YOU THINK SUCCESS IN THIS PARTICULAR APPROACH WOULD INFORM POSSIBLE TREATMENTS FOR OTHER EPILEPSIES?

DR. NICHOLAS: IT WOULD BE HIGHLY INFORMATIVE. SO TEMPORAL LOBE EPILEPSY IS ABOUT HALF OF ALL EPILEPSIES. BUT IN ADDITION TO TEMPORAL LOBE EPILEPSIES, THERE ARE OTHER TYPES OF FOCAL EPILEPSIES OUTSIDE OF THE TEMPORAL LOBE THAT WE THINK WE CAN EXTEND THIS SAME PRODUCT TOWARD WITHOUT HAVING TO DO ADDITIONAL MANUFACTURING. AND FOR THAT MATTER, THE SAME INHIBITORY NEURON PRODUCT WE ARE ADVANCING FOR OTHER INDICATIONS, SUCH AS CHRONIC DRUG RESISTANT NEUROPATHIC PAIN AND PARKINSON'S DISEASE. SO WE REALLY THINK THAT THERE'S A LOT OF

VALUE IN SUPPORTING THIS, NOT JUST FOR THE ONE APPLICATION, BUT FOR EVEN OTHER INDICATIONS AS WELL. I THINK IT'S QUITE UNIQUE THAT IT'S A TRIPLE THREAT IN THAT REGARD.

JUST, AGAIN, TO RESPOND TO DR. STEWARD, SOME OF THE COMMENTS FROM THE GRANTS WORKING GROUP, THEY WANTED TO KNOW THE EXACT REAGENTS AND DETAILS. AND OUR BOARD JUST FELT THAT IF WE DID THAT, THAT WOULD REALLY DESTROY THE FABRIC OF WHAT WE'RE TRYING TO ACCOMPLISH HERE, WHICH IS TO INCENTIVIZE INVESTORS TO CO-FUND THIS ALONG WITH CIRM TO TAKE THIS ALL THE WAY TO PATIENTS. THE HUNDREDS OF MILLIONS THAT YOU NEED TO TAKE THIS ALL THE WAY TO MARKET TO GET THIS DISTRIBUTED AROUND THE WORLD CAN'T BE SUPPORTED BY THIS GROUP ALONE, AND IT NEEDS TO HAVE PATENT PROTECTION. AND IT NEEDS TO HAVE TRADE SECRET PROTECTION. WE AT THIS EARLY STAGE COULD NOT DIVULGE THAT. IT WOULD DESTROY OUR ABILITY TO RAISE ADDITIONAL DOLLARS.

AND I FELT THAT IT WAS UNFAIR THAT THAT WAS A REQUIREMENT TO DISCLOSE SOME OF THOSE SECRETS THAT WOULD REALLY BE REQUIRED TO ADVANCE US ALL THE WAY. AND SHORT OF REVEALING THE IDENTITIES, WE TALKED ABOUT THE CLASSES OF REAGENTS THAT WE'RE OPTIMIZING, SUCH AS SUPPLEMENTS TO THE CULTURE

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MEDIA, SUBSTRATES AND VESSELS AND SCALE, AND WE TALKED ABOUT THE STRATEGY AND THE ACTIVITIES THAT WERE PROPOSED. AND WE FELT THAT THAT SHOULD BE ENOUGH WITHOUT HAVING TO DISCLOSE THE EXACT CATALOG NUMBERS OF THE REAGENTS.

MR. SHEEHY: I HAVE ONE SPECIFIC QUESTION. SO YOU FEEL CERTAIN THAT YOU WILL BE ABLE TO SPEAK TO YOUR INVESTORS AND ACQUIRE THE REMAINING FUNDS IN ORDER TO COMPLETE THIS APPLICATION AS WRITTEN?

DR. NICHOLAS: ABSOLUTELY.

MR. SHEEHY: THANK YOU. ANY OTHER BOARD COMMENTS OR QUESTIONS?

DR. MARTIN: I'LL JUST PICK AT ANOTHER TECHNICAL QUESTION. AND THAT IS YOU'RE USING AN ALLOGENEIC HUMAN EMBRYONIC STEM CELL. WHAT EVIDENCE DO YOU HAVE THAT THAT CELL WILL PERSIST IN A HUMAN?

DR. NICHOLAS: THE SAME THAT EVERY OTHER GROUP THAT'S FUNDED BY CIRM THAT'S DEVELOPING ALLOGENEIC THERAPY HAS AND THERE'S NOT MUCH OTHER THAN WE PLAN TO USE TRANS IMMUNOSUPPRESSION, LOW DOSE, TO ENABLE ENGRAFTMENT, THE SAME WAY THAT ORGAN RECIPIENTS HAVE THEIR GRAFTS SURVIVE. AND THIS IS NO DIFFERENT. THIS IS ACTUALLY A LOWER DOSE IMMUNOSUPPRESSION BECAUSE THE GRAFTS ARE A TARGETED CELL DELIVERY RATHER THAN AN ENTIRE ORGAN.

THERE'S EVIDENCE, OF COURSE, THAT WE POINT TO AS A FIELD TO THE PARKINSON'S WORK THAT WAS DONE IN THE '80S AND '90S, AND SOME OF THOSE ALLOGENEIC GRAFTS HAVE SURVIVED WITH THAT STRATEGY FOR DECADES. THAT'S THE BEST EVIDENCE THAT WE HAVE. OF COURSE, FOR EPILEPSY, WE'D HAVE TO DO THE EXPERIMENT. WE HAVE A REALLY STRONG BELIEF THAT THOSE CELLS WILL PERSIST WITH THE TRADITIONAL, STANDARD IMMUNOSUPPRESSION THAT WE PLAN AS WELL AS OUR COLLEAGUES PLAN TO ADMINISTER.

MR. SHEEHY: ADDITIONAL BOARD COMMENTS, QUESTIONS?

MR. ROWLETT: I ALSO PARTICIPATED AS A PATIENT ADVOCATE ON THIS REVIEW, NOT SPECIFICALLY ASSIGNED TO THE REVIEW. I WANT TO ACKNOWLEDGE THAT MY PERSPECTIVE MIRRORS THE PERSPECTIVE OF DR. STEWARD. MY APPRECIATION OF GRANT WORKING GROUP MEMBERS IS THAT ALL INFORMATION, INCLUDING PROPRIETARY INFORMATION, IS GUARDED. AND CERTAINLY I WAS PART OF THE OR PARTICIPATED IN THE CONVERSATION ASSOCIATED WITH THE PROPRIETARY INFORMATION THAT WAS THEN REFERRED TO REGARDING THIS PARTICULAR PROPOSAL.

CONSEQUENTLY, I WANT TO DISCLOSE THAT MY LEANING IS MIRRORING MR. STEWARD'S IN THAT GIVEN THE

VOTE BY THE GWG WAS UNANIMOUS IN NOT FUNDING THIS PROPOSAL.

MR. SHEEHY: THANK YOU, MR. ROWLETT.

IS THERE ANOTHER COMMENT OR QUESTION FROM THE BOARD? IS THERE ANY PUBLIC COMMENT ADDITIONALLY? THEN CAN WE CALL THE ROLL, PLEASE.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: STEVE JUELSGAARD.

MR. JUELSGAARD: YES.

MS. BONNEVILLE: DAVE MARTIN.

DR. MARTIN: NO.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: YES.

MS. BONNEVILLE: ADRIANA PADILLA.

DR. PADILLA: YES.

MS. BONNEVILLE: AL ROWLETT.

MR. ROWLETT: NO.

MS. BONNEVILLE: JEFF SHEEHY.

MR. SHEEHY: YES.

MS. BONNEVILLE: OS STEWARD.

DR. STEWARD: NO.

MS. BONNEVILLE: JONATHAN THOMAS.

CHAIRMAN THOMAS: YES.

MS. BONNEVILLE: ART TORRES.

MR. TORRES: AYE.

MS. BONNEVILLE: THE MOTION CARRIES.

MR. SHEEHY: THANK YOU, MS. BONNEVILLE. THANK YOU TO THE MEMBERS OF THE APPLICATION REVIEW SUBCOMMITTEE.

BEFORE I HAND THIS BACK TO THE CHAIR, I KNOW WE HAVE SEVERAL PATIENTS AND PATIENT ADVOCATES WHO HAVE COME TODAY. I THINK IT'S FORTUNATE THAT PROJECTS GOT FUNDED. BUT IF ANYBODY WANTED TO MAKE A COMMENT BEFORE WE CLOSE THIS OUT, THE FLOOR IS OPEN. OTHERWISE WE'LL TURN IT BACK OVER TO THE REGULAR BOARD BUSINESS.

MS. BACCHETTA: THANK YOU VERY MUCH. I SPEAK FOR IPEX PROJECT, AND I'M VERY GRATEFUL FOR THE (UNINTELLIGIBLE) OF YOURS AND FOR ALL OF YOU OF THE BOARD. I JUST WANT TO SAY THAT IPEX PATIENT, BECAUSE OF THE GENE MUTATION, GETS VERY SICK SOON AFTER BIRTH AND OFTEN DIE VERY EARLY IN LIFE WITH FEW EXCEPTIONS. AND TAYLOR IS ONE OF THESE EXCEPTIONS. SO I WOULD REALLY LIKE TO GIVE HIM THE OPPORTUNITY TO SHARE HIS EXPERIENCE. AND THANK YOU SO MUCH FOR YOUR TRUST.

TAYLOR: GOOD MORNING. MY NAME IS TAYLOR, AND I'D LIKE TO THANK ROSA, WHO'S ONE OF THE MANY DOCTORS IN MY LIFE. AND ROSA PRESENTED ME WITH THIS

OPPORTUNITY TO COME AND SPEAK TO YOU TODAY ABOUT MY CHALLENGES LIVING WITH IPEX.

SO TO GIVE YOU SOME BACKGROUND INTO MY HEALTH CHALLENGES I FACED MY ENTIRE LIFE, MY FIRST DIAGNOSIS CAME AT ONE AND A HALF WITH TYPE 1 DIABETES. SOON AFTER BEING DIAGNOSED WITH TYPE 1 DIABETES, I HAD TO HAVE A FEEDING TUBE INSERTED INTO MY ABDOMEN. SO I WAS RESTRICTED FROM EATING ALMOST ALL FOODS DUE TO UNKNOWN FOOD ALLERGIES. I WAS NOT ALLOWED TO INGEST ANY FOOD UNTIL THE AGE OF SIX, WHEN I WAS FINALLY INTRODUCED TO FOOD. MOST FOOD WAS TASTELESS AND FELT VERY MUCH LIKE SANDPAPER AS I HAVE TO TRAIN MYSELF TO EAT.

AROUND THE AGE OF 10 I'D BE FACED WITH THE BEGINNING OF A NEVERENDING BATTLE WITH MY DERMATITIS. I REMEMBER SPECIFIC DETAILS WHERE I WENT TO THE DERMATOLOGIST TO TRY TO FIGURE OUT WHAT WAS HAPPENING AS MY SKIN WAS RED, BLOTCHY, OOZING EVERYWHERE. I REMEMBER SHIVERING SO BAD THAT I HAD TO ASK THE DOCTOR TO TURN THE AIR DOWN IN THE OFFICE.

AT AGE 18 I HAD BEEN FORMALLY DIAGNOSED WITH IPEX. I HAD LOST ALL OF MY HAIR AND MY SKIN STARTED A BATTLE THAT WAS MORE INTENSE THAN ANY PREVIOUS EPISODE. I REMEMBER TAKING SHOWERS AND ALL

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OF MY HAIR WOULD FALL OUT, AND I WOULD BE DEVASTATED NOT KNOWING WHAT WAS HAPPENING.

AT AGE 20 I WOULD GO THROUGH THE MOST HORRIFIC BATTLE WITH MY SKIN TO DATE. I WAS BEDRIDDEN ON PAIN MEDS AND WAS NOT SLEEPING. I HAD GONE TO ALL OF MY DOCTORS ATTEMPTING TO FIGURE OUT WHAT HAD TRIGGERED THIS EVENT, AND NO DOCTOR COULD FIGURE OUT WHAT WAS HAPPENING, LEAVING ME EXTREMELY FRUSTRATED, DEPRESSED, AND PRETTY MUCH DRAINED OF ANY ENERGY I HAD.

I WENT TO THE BURN CENTER AS A LAST RESORT, AND WAS THEN TREATED AS A BURN PATIENT. TO CARE FOR MY WOUNDS, I WOULD BATHE, TAKE A SPONGE AND ACTUALLY PHYSICALLY SCRAPE MY OPEN WOUNDS TO KEEP THEM INFECTION FREE.

WHEN I WOULD EXIT THE BATH, I FELT LIKE A DRIED UP SPONGE. MY SKIN WAS SO TIGHT, ANY MOVEMENT WOULD CAUSE MY SKIN TO CRACK OPEN AND START BLEEDING. TO ADD TO THIS, I WOULD USE MEDICATED WRAPS TO HELP WITH THE HEALING PROCESS. IN AN ONGOING ATTEMPT TO TREAT MY SYMPTOMS, I TOOK A SERIES OF MEDICATIONS THAT CAME WITH MANY SIDE EFFECTS. I'VE HAD AT LEAST 15 SURGERIES TO REMOVE SQUAMOUS CELLS CAUSED BY ONE OF MY MEDICATIONS THAT I HAD BEEN TAKING.

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THEN I WOULD ENDURE ONE OF THE MOST DIFFICULT SIDE EFFECTS TO DATE FROM ONE OF MY MEDICATIONS. IN 2018 MY COLON PERFORATED; AND AS A RESULT, I NOW HAVE A COLOSTOMY BAG.

THE IPEX SYMPTOMS HAVE NOT AFFECTED ME JUST PHYSICALLY, BUT MENTALLY AS WELL. I LOST ALL MY HAIR AND MY GROWTH HAD BEEN PREMATURELY STUNTED, AND I HAVE NOT REACHED THE POINT IN PUBERTY OF MY MALE COUNTERPARTS.

I GO DAY BY DAY AND BE ENVIOUS THAT MY PEERS WERE TALL, HAD HAIR, HAD RELATIONSHIPS. AND THE CONFIDENCE THAT I WAS LACKING, AND ADMITTEDLY STILL LACK TO THIS DAY, AT TIMES I FELT HOPELESS BECAUSE THERE HAVE BEEN SO FEW TREATMENT OPTIONS. AND WITH THE TREATMENT CURRENTLY AVAILABLE, I ONLY HAVE HORRIFIC SIDE EFFECTS TO SHOW FOR IT, NOT TO MENTION I'VE TRIED HUNDREDS OF MEDICATIONS AND CREAMS, HAD MY BLOOD DRAWN COUNTLESS TIMES IN HOPES OF FINDING A MEDICATION THAT WOULD EVENTUALLY WORK; HOWEVER, THERE'S BEEN NOTHING.

AS A RESULT, I'VE BEEN BATTLING DEPRESSION SINCE 20, AND THERE WERE DAYS WENT BY WHERE I THOUGHT I JUST DON'T WANT TO BE HERE IF THIS IS WHAT MY LIFE IS GOING TO BE LIKE.

THIS NEXT PART I WAS GOING TO SAY I GUESS

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I DON'T REALLY NEED TO SAY, BUT THE FUNDING THAT WAS NEEDED FOR THE THERAPY WOULD BE LIFE CHANGING IN THE WAY OF NEW TREATMENT OPTIONS AND POTENTIALLY LEAD TO CURE FOR THIS HORRIFIC DISEASE. I GUESS I CAN NOW SAY THAT HOPEFULLY WE'LL BE ABLE TO FIND A CURE MOVING FORWARD. THANK YOU SO MUCH.

(APPLAUSE.)

MR. SHEEHY: THANK YOU, TAYLOR. YOUR STORY IS JUST UNBELIEVABLY POWERFUL. THANK YOU FOR YOUR COURAGE. IT'S INSPIRING I'M SURE TO ALL OF US. AND THANK YOU. I'M GLAD, I'M REALLY GLAD WE COULD HELP, TO BE HONEST.

THAT'S ONE OF THE THINGS I'M GOING TO MISS BECAUSE OBVIOUSLY I'VE BEEN ON THE BOARD SINCE THE BEGINNING AND I WON'T BE AROUND FOR THE NEXT ROUND. I THINK NONE OF US ORIGINAL ONES, I THINK WE'RE ALL TERMED OUT. BUT THE STORIES FROM THE PATIENTS HAVE BEEN SUCH AN ENORMOUS GIFT. HEARING FROM PEOPLE SUCH AS TAYLOR SHARING THEIR LIVES AND THEIR STRUGGLES, AND IT MAKES ALL OF THIS SO WORTHWHILE. SO THANK YOU. THANK YOU.

NOW IT'S BACK TO YOU, CHAIRMAN THOMAS.

MR. REED: I HAD A PATIENT --

MR. SHEEHY: SORRY, DON. MY APOLOGIES. AND IF THERE IS ANYONE ELSE -- BY THE WAY, I WASN'T

TRYING -- WE DO HAVE ANOTHER PATIENT. I APOLOGIZE.

MR. REED: AIDS, 78 MILLION; ALS, 79 MILLION; ALZHEIMER'S DISEASE, 56 MILLION; ARTERIAL LIMB DISEASE, 22 MILLION; ARTHRITIS, 24 MILLION; AUTISM, 41 MILLION; BLINDNESS, 144 MILLION; CANCER BRAIN TUMOR, 102 MILLION; LEUKEMIA, 208 MILLION; CANCER SKIN, 14 MILLION; CANCER TUMOR, 248 MILLION; DEAFNESS, 8 MILLION; DIABETES, 134 MILLION; HEART DISEASE, 202 MILLION; HUNTINGDON'S, 34 MILLION; KIDNEY DISEASE, 82 MILLION; LUNG DISEASE, 39 MILLION; MULTIPLE SCLEROSIS, 9 MILLION; MUSCULAR DYSTROPHY, 34 MILLION; OSTEOPOROSIS, 90 MILLION; PARALYSIS, 61 MILLION; PARKINSON'S, 55 MILLION; IMMUNODEFICIENCY, 142 MILLION; SICKLE CELL, 41 MILLION; STROKE, 62 MILLION; URINARY INCONTINENCE, 11 MILLION. PLEASE KNOW, CIRM, THAT YOU HAVE FRIENDS OUT THERE, AND WE ARE GOING TO BE FIGHTING FOR YOU. I HATE THE THOUGHT OF THERE BEING A WORLD WITHOUT CIRM. YOU'VE DONE SO MUCH. THANK YOU.

MR. SHEEHY: THANK YOU, MR. REED.

DR. DENG: I'M SOPHIE DENG, THE PI OF THE LIMBAL STEM CELL DEFICIENCY PROJECT. THANK YOU SO MUCH FOR YOUR SUPPORT OVER THE LAST EIGHT YEARS. ONE OF MY PATIENT, MS. CLAIRE HESS, WOULD LIKE TO SHARE WITH YOU HER STRUGGLES WITH DISEASE.

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MS. HESS: THANK YOU VERY MUCH. THANK YOU FOR ALLOCATING THIS MONEY FOR THE RESEARCH.

I HAVE HAD THIS DISEASE SINCE MY SECOND SON WAS SIX MONTHS OLD. I CAN SEE YOU, BUT I CAN'T SEE ANYTHING ON YOUR FACES. IT'S LIKE LOOKING THROUGH WAX PAPER, AND I HAVE BEEN THIS WAY SINCE MY CHILD WAS SIX MONTHS OLD. I CAN'T PICK THEM UP. I CAN'T DRIVE. THEY ALLUDED TO PAIN, BUT WHEN THEY SAY PAIN, IT IS PAIN THAT WILL HAVE ME UNDERNEATH THE COVERS HIDING FROM THE SUN AND HOPING MY KIDS BEHAVE BECAUSE I CAN'T DEAL WITH IT.

SO I CANNOT TELL YOU HOW MUCH WE APPRECIATE THIS. IT'S BEEN A LONG TIME COMING. THERE'S NOT BEEN ANSWERS TO WHY THIS HAS HAPPENED OR HOW TO STOP IT. IT'S IN BOTH OF MY EYES AT THIS POINT, AND HOPEFULLY ANOTHER DECADE FROM NOW WE HAVE ANSWERS TO PREVENT THIS FROM HAPPENING TO ANOTHER YOUNG MOM. THANK YOU.

MR. SHEEHY: THANK YOU VERY MUCH.

(APPLAUSE.)

MR. SHEEHY: IS THERE ANYONE ELSE? HAPPY TO HEAR FROM EVERYONE WHO'S HERE.

MS. BARRERO: MY NAME IS ROSIE BARRERO. I CAME HERE TODAY WITH MY SON, WHO HAS AUTISM, AND HE'S REALLY ANXIOUS TO GET HOME. WE HAD AN

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INTERESTING RIDE UP. TWO HOURS IN WE WERE ENJOYING OUR RIDE, LISTENING TO COUNTRY MUSIC, HE WAS DANCING IN THE BACK SEAT. BY HOUR THREE HE REALIZED WE ARE NOT GOING HOME. AND WE SURPRISED HIM AND TOLD HIM WE WERE COMING TO THIS MEETING. AND I JUST WANTED TO SAY THANK YOU SO MUCH FOR FUNDING JCYTE'S CONTINUATION IN PHASE 1.

I RECEIVED A MILLION STEM CELLS, AND I NOTICED A DIFFERENCE. AND IT WAS ONLY TO SHOW THAT THE CELLS WERE SAFE. AND THAT'S THE BEAUTY OF JCYTE IS THAT THEIR COMMITMENT TO QUALITY AND SAFETY IS THERE. I WOULDN'T BE HERE IF I DIDN'T BELIEVE IN THEM. AND THIS MEANS THAT I WILL BE REINJECTED AT HIGHER DOSE, AND THAT MEANS THAT BY THIS TIME POSSIBLY NEXT YEAR I CAN SEE EVEN MORE THAN I CAN RIGHT NOW. AND THIS IS ABSOLUTELY A MIRACLE, AND I'M SO GRATEFUL TO CIRM. THANK YOU.

(APPLAUSE.)

YOUNG MR. BARRERO: THANK YOU. THANK YOU FOR HELPING ME MOM GETTING HER SIGHT BACK.

MR. BARRERO: THANK YOU VERY MUCH, EVERYONE. I'M EXCITED ABOUT THE EPILEPSY MONIES THAT ARE GOING BECAUSE OUR SON, HE ALSO HAS SEIZURE DISORDER. AND IT'S THE LAST MEDICATION THAT HE'S ON, AND WE'RE HOPING TO FIND A CURE FOR HIS

EPILEPSY. SO I'M ANXIOUS TO SEE THE RESULTS OF YOUR CLINICAL TRIAL IN THE YEARS TO COME.

(APPLAUSE.)

MR. SHEEHY: THANK YOU SO MUCH. IS THERE -- WE'RE HAPPY TO HEAR FROM EVERYONE.

MR. BRESGE: I DID PREPARE SOMETHING JUST SO THAT I KNEW I WOULD BE COHERENT AND ARTICULATE. SO I AM THE CEO OF JCYTE. THANK YOU SO MUCH, ROSIE, FOR BEING ONE OF OUR VERY BRAVE PATIENTS. I'M ALSO THE PARENT OF A CHILD WHO WAS DIAGNOSED WITH RP ABOUT NINE AND A HALF YEARS AGO; AND WHEN SHE WAS DIAGNOSED, WE WERE GIVEN NO HOPE. WE WERE GIVEN A HANDBOOK FROM THE CANADIAN NATIONAL INSTITUTE FOR THE BLIND SO THAT SHE COULD LEARN HOW IT COPE WITH HER EVENTUAL BLINDNESS.

I VERY QUICKLY EMBARKED ON A WORLDWIDE SEARCH TO LEARN ABOUT THE WORK THAT WAS BEING DONE IN RP, AND I QUICKLY UNDERSTOOD THAT CELL THERAPY WAS THE GREATEST LIKELIHOOD OF SUCCESS. WITH THAT IN MIND, I FOUND DR. KLASSEN, WHO'S SITTING RIGHT HERE, AND HIS WIFE PARTNER CHEN YANG, A BRILLIANT TEAM WHO HAD DEVELOPED THIS VERY SPECIAL HUMAN RETINAL PROGENITOR CELL THAT RELEASES THESE SPECIAL TROPHIC FACTORS THAT, ONCE INJECTED INTO THE VITREOUS OF THE EYE, NOURISHES THE EXISTING

PHOTORECEPTORS TO KEEP THEM ALIVE AND EVEN POSSIBLY REVERSE THE BLINDNESS BY PROVIDING THESE NUTRIENTS TO THE WEAK OR DORMANT PHOTORECEPTORS.

JUST IMAGINE THAT, A WAY TO NOT ONLY STOP IT, BUT POTENTIALLY REVERSE THE PROGRESSION OF THE BLINDNESS. WE BEGAN WORKING TOGETHER VERY CLOSELY. WE HAD A COMMON GOAL, TO GET THE TREATMENT TO THE PATIENTS. IMPORTANT THING WAS TO GET THE WORK OF THE LAB AND INTO THE CLINIC, AND THAT'S WHERE CIRM COMES IN.

CIRM'S MISSION TO ACCELERATE THE STEM CELL TREATMENTS TO PATIENTS WITH UNMET NEEDS IS PRECISELY CONGRUENT WITH WHAT JCYTE'S MISSION IS. CIRM AWARDED US WITH A DISEASE TEAM GRANT IN 2012 AND THEN A FOLLOWING CLIN2 GRANT IN 2016. WITH THAT MONEY WE HAVE CONDUCTED REALLY THREE CLINICAL TRIALS, ONE PHASE 1/2A STUDY. ALTHOUGH THERE WAS A SAFETY STUDY, WE GOT ENOUGH OF A SIGNAL THAT NOT ONLY PROVIDED US A PATHWAY TO CONTINUE OUR DEVELOPMENT FORWARD, BUT ALSO TO AN RMAT DESIGNATION. WE RECENTLY COMPLETED A PHASE 2B STUDY, AND WE ARE VERY ENCOURAGED WITH THE RESULTS. AT MINIMUM, THEY PROVIDE US WITH AN EXCELLENT UNDERSTANDING OF HOW TO DESIGN A SUCCESSFUL PHASE 3 STUDY.

CIRM HAS TRULY BEEN A PARTNER FOR US, NOT ONLY IN THE FUNDING, BUT IN THE GUIDANCE. SO WE WORK VERY CLOSELY WITH THE CIRM TEAM, AND THEY PUSH US TO MAKE SOME REALLY IMPORTANT DECISIONS; FOR EXAMPLE, TO INCREASE THE DOSE TO GO MUCH HIGHER IN OUR DOSING, ALSO TO DEVELOP A UNIQUE WAY TO TEST OUR SUBJECTS. SO IT'S REALLY WITH THAT KIND OF PARTNERSHIP ALSO WITH CMC TO PUSH US TO PAY ATTENTION TO CMC SO THAT OUR CLINICAL PROGRAM AND OUR MANUFACTURING PROGRAMS WOULD RUN IN PARALLEL.

SO IT'S WITH ALL OF THAT PARTNERSHIP, THAT SUPPORT THAT I'M SO GRATEFUL TO ALL OF YOU. I HAVE MANY FRIENDS SITTING AROUND THIS TABLE WHO SUPPORTED ME AND JCYTE IN MANY WAYS. THANK YOU SO MUCH TO ALL OF YOU, TO ALL OF THE PEOPLE AT CIRM, TO THE TAXPAYERS OF CALIFORNIA. AND I KNOW THAT -- I HAVE TWO SPECIAL PEOPLE WITH ME, DR. KLASSEN AND DR. DUGEL, WHO'S VERY CLOSE ADVISOR TO OUR COMPANY, AND I THINK HE WANTS TO SAY SOMETHING ON BEHALF OF CLINICIANS AND PATIENTS.

DR. DUGEL: I'D JUST LIKE TO THANK ALL OF YOU. I'M HERE FOR THE FIRST TIME AND ABSOLUTELY HUMBLED BY WHAT I SEE. AND, TAYLOR, YOUR COURAGE PARTICULARLY. AS A CLINICIAN AND AS A SURGEON, I JUST WANT TO LET YOU KNOW WHAT IT MEANS TO BE BLIND.

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I SEE BLINDNESS EVERY DAY. AND WHEN PEOPLE HAVE ABSOLUTELY NO SIGHT, A MOTHER IS NOT ABLE TO BRAID A DAUGHTER'S HAIR, A FATHER IS NOT ABLE TO PICK OUT A CHILD FROM A CLASS, AND A CHILD IS NOT ABLE TO LEAVE A DARK ROOM TO PLAY OUTSIDE FOR FEAR OF STUMBLING OVER A ROCK. WHAT YOU'VE GIVEN BY FUNDING THESE PROJECTS IS NOT JUST VISION AND SIGHT, BUT REALLY DIGNITY AND WHAT MAKES US ALL HUMAN. AND THANK YOU FOR THAT.

(APPLAUSE.)

DR. KLASSEN: HELLO. I'M HENRY KLASSEN. I WANT TO ECHO THE COMMENTS OF THE PEOPLE FROM JCYTE AS WELL AS OUR PATIENTS AND EXPRESS OUR DEEP GRATITUDE FOR COMING IN AND HELPING OUT AT THIS PIVOTAL MOMENT, BUT ALSO FOR THE CONTINUED SUPPORT FROM THE BEGINNING. THERE'S SO MANY FAMILIAR FACES HERE, AND WE WILL KEEP GOING. AND I KNOW EVERYBODY WANTS TO SEE THIS ACROSS THE FINISH LINE AS MUCH AS WE DO. AND WITHIN THE LIMITS OF A CONFLICT OF INTEREST, I WANT TO EXPRESS OUR WILLINGNESS AND ENTHUSIASM FOR SUPPORTING THE NEXT ITERATION OF CIRM. THANK YOU VERY MUCH.

MR. SHEEHY: THANK YOU. ANY OTHER COMMENTS? THAT WAS ALL SO POWERFUL AND MOVING AND THANK YOU. THANK YOU. I THINK, CHAIRMAN THOMAS.

CHAIRMAN THOMAS: THANK YOU, MR. SHEEHY, AND TO ALL PI'S, PATIENTS, THEIR FAMILIES WHO ARE HERE TODAY WHO RECEIVED THESE AWARDS, CONGRATULATIONS. AS ALWAYS, WE VERY ENTHUSIASTICALLY ROOT FOR YOU AND LOOK FORWARD TO REPORTS AS YOUR RESEARCH PROGRESSES. SO THANK YOU FOR EVERYBODY WHO CAME. THANK YOU FOR ALL WHO SPOKE. YOU'RE WHAT WE'RE ALL ABOUT. SO THANK YOU VERY MUCH.

WE WILL TAKE A FIVE-MINUTE BREAK AT THIS POINT TO ALLOW BETH TO REST HER FINGERS. THANK YOU VERY MUCH.

(A RECESS WAS TAKEN.)

CHAIRMAN THOMAS: OKAY. WE NOW HAVE A PRESENTATION FROM ONE OF OUR BOARD COLLEAGUES, LAUREN MILLER, WHICH EVERYBODY, WITHOUT EXCEPTION, IS GOING TO BE INTERESTED IN. LAUREN IS OUR PATIENT ADVOCATE FOR ALZHEIMER'S AND DOES TREMENDOUS WORK IN THAT AREA AND HAS GRACIOUSLY AGREED TO TALK TO US ABOUT THE STATE OF RESEARCH CONCERNING BRAIN HEALTH, WHICH FOR THOSE OF US WHO CONTINUE TO AGE, WHICH IS MOST BY LAST COUNT, WE SHOULD FIND THIS VERY INTERESTING. SO, LAUREN, IF YOU COULD TAKE IT FROM HERE. THANK YOU VERY MUCH.

MS. MILLER: I CAN. THANK YOU. HI,

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EVERYONE. THIS MAY BE THE FIRST TIME SOME OF YOU ARE HEARING MY VOICE SINCE I'M USUALLY SO INTIMIDATED BY YOUR BRAINS AT THESE MEETINGS, BUT I'M SO EXCITED TO BE TALKING TO YOU TODAY ABOUT SOMETHING THAT I KNOW A LOT ABOUT, UNFORTUNATELY, BUT ALSO FORTUNATELY, WHICH IS OUR BRAINS AND HOW TO KEEP THEM HEALTHY.

SO, FIRST, A LITTLE BIT ABOUT WHAT BROUGHT ME HERE TO BEING YOUR ALZHEIMER'S PATIENT ADVOCATE. UNFORTUNATELY ALZHEIMER'S HAS BEEN PART OF MY LIFE AS LONG AS I CAN REMEMBER. THIS, BY THE WAY, IS MY FIRST POWERPOINT PRESENTATION. I'M PLAYING YOUR GAME, SO BEAR WITH ME ON THIS.

SO, UNFORTUNATELY, MY MOM'S FATHER, MY GRANDFATHER, YOU SEE HIM HERE, HE HAD ALZHEIMER'S WHEN I WAS VERY YOUNG. HE PASSED AWAY WHEN I WAS 12. AND THEN MY GRANDMOTHER, HERE, A FEW YEARS AFTER HE PASSED AWAY, SHE WAS DIAGNOSED WITH ALZHEIMER'S, THEN IT WAS PARKINSON'S. THIS WAS IN THE '90S. DIAGNOSES WERE WORSE THAN THEY ARE TODAY, AND THEY'RE NOT EVEN GREAT TODAY. SO BACK THEN IT WAS A FLIP-FLOP BACK AND FORTH, BUT DEMENTIA IT WAS, AND THAT'S WHAT GOT HER, AND SHE PASSED AWAY WHEN I WAS 18.

AND THEN, UNFORTUNATELY, WHEN I WAS 22, MY

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MOM, WHO WAS 52 AT THE TIME AND HAD BEEN A TEACHER FOR 35 YEARS, STARTED REPEATING HERSELF. THIS UNFORTUNATELY WAS FAMILIAR BEHAVIOR FOR MY FAMILY. SO WHEN WE GOT THE DIAGNOSIS OF ALZHEIMER'S DISEASE WHEN SHE WAS 55 YEARS OLD, NONE OF US WERE THAT SURPRISED. WE WERE JUST VERY SCARED, VERY, VERY, VERY SCARED.

MY MOM, HERE SHE IS, ADELE, WAS EMBARRASSED BY THE DISEASE. SHE DIDN'T WANT US TO TELL ANYONE. AS I SAID, SHE WAS A TEACHER WHO USED HER VERY SMART BRAIN TO TEACH CHILDREN FOR 35 YEARS. AND SO SHE WANTED US TO KEEP QUIET; BUT, UNFORTUNATELY, SHE FORGOT HOW TO USE HER VOICE. SO I DECIDED TO USE MINE AND TRY TO FIND SOME HOPE IN WHAT HAD FELT LIKE A REALLY HOPELESS SITUATION.

SO WE STARTED IN 2012 BY THROWING A VARIETY SHOW. I WORK AS A SCREENWRITER AND DIRECTOR IN LOS ANGELES. SO I KNOW FUNNY PEOPLE AND GOT THEM TOGETHER TO DO A GREAT SHOW. AND THE FIRST TIME IN 2012 WE RAISED $300,000, WHICH WAS AWESOME AND FELT REALLY GREAT, LIKE WE COULD MAKE AN IMPACT. BUT MORE IMPORTANTLY, WHAT HAD HAPPENED WAS WE WERE CONTACTED BY YOUNG PEOPLE WHO HAD BEEN AFFECTED BY ALZHEIMER'S WHO HAD OFTEN BEEN OVERLOOKED BECAUSE IT'S CONSIDERED A DISEASE THAT AFFECTS OLD PEOPLE,

BUT I WAS 25 BEING AFFECTED BY IT AS A CAREGIVER. I NEEDED TO HAVE A VOICE IN IT.

SO WE FOUNDED HILARITY FOR CHARITY, WHICH IN THE EIGHT YEARS SINCE THEN HAS RAISED OVER $12 MILLION THROUGH VARIETY SHOWS AND OTHER RESEARCH FUND-RAISERS AND DINNERS WE STARTED DOING TEACHING BRAIN HEALTH TO PEOPLE. AND WE FORMED A FULL ORGANIZATION, WHICH HAS HELPED PEOPLE STRUGGLING WITH THE DISEASE TODAY AND TOMORROW. SO WE HELP PEOPLE TODAY BY CREATING ONLINE SUPPORT GROUPS FOR PEOPLE THAT ARE AGE SPECIFIC AND THEY ARE ONLINE. SO IF YOU'RE BUSY AND LEADING A BUSY LIFE TAKING CARE OF YOUR FAMILY, YOUR PARENTS, YOUR CHILDREN, YOUR JOB, YOU CAN GO ON ONLINE AND CONNECT WITH OTHER CAREGIVERS, WHICH IS SO IMPORTANT.

WE'VE ALSO CREATED A PARTNERSHIP WITH A COMPANY CALLED HOME INSTEAD SENIOR CARE. CARING FOR SOMEONE WITH ALZHEIMER'S, IF YOU'VE EVER DONE IT, IS EXTREME. IT IS EXPENSIVE. ALZHEIMER'S IS THE COSTLIEST DISEASE IN THIS ENTIRE COUNTRY. CARING FOR SOMEONE TO KEEP AT HOME IS ESSENTIALLY UNAFFORDABLE UNLESS YOU ARE WILDLY WEALTHY AND EXTREMELY LUCKY. SO WE'VE CREATED THIS PROGRAM TO HELP PEOPLE KEEP THEIR LOVED ONES AT HOME IF THEY CAN'T AFFORD IT AND THEY SO CHOOSE.

IN THE FOUR YEARS SINCE WE'VE ESTABLISHED THIS PROGRAM, WE HAVE GIVEN AWAY OVER 270,000 HOURS OF FREE AT-HOME CARE TO PEOPLE, WHICH IS PRETTY AMAZING.

BUT WHY I'M HERE TODAY, WHICH IS BRAIN HEALTH. UNFORTUNATELY, AS EVERYONE KNOWS, THERE'S UNFORTUNATELY NO TREATMENT OR INTERVENTION WHICH CURRENTLY SLOWS OR CAN CURE ALZHEIMER'S. THERE IS ALSO NO ONE-SIZE-FITS-ALL APPROACH. YOU CAN DO EVERYTHING RIGHT AND YOU COULD STILL GET ALZHEIMER'S DISEASE. I CAN'T IMAGINE I NEED TO SPEND MUCH TIME TELLING ANY OF YOU THAT, AGAIN, THERE'S NOTHING THAT CAN SLOW OR CURE THIS DISEASE. THERE ARE CURRENTLY FOUR FDA-APPROVED DRUGS THAT MAYBE HELP SOME SYMPTOMS IN CERTAIN CASES; BUT OTHER THAN PERHAPS THIS, IF ANYONE READ, THAT BIOGEN BREATHED LIFE INTO IT, A STUDY THAT THEY HAD DONE FOR A DRUG THAT CAN AFFECT POTENTIALLY BETA AMYLOID THAT IS GOING TO GO TO THE FDA. IT WAS ORIGINALLY ABANDONED, BUT THEY HAVE BREATHED NEW LIFE INTO IT. WE'LL SEE WHAT HAPPENS. I DON'T KNOW.

RIGHT NOW, VERY, VERY, VERY SMART DOCTORS HAVE TOLD ME OVER AND OVER AGAIN THE CONCRETE EVIDENCE THAT WE HAVE SHOWS THAT THE BEST THINGS WE CAN DO FOR OUR BRAINS, WHICH IS TO TAKE CARE OF THEM

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TODAY AND DO A NUMBER OF LIFESTYLE CHANGES, LIVING A BRAIN HEALTHY LIFESTYLE, AND THAT IS THE THING THAT PERHAPS WE COULD DELAY OR EVEN PREVENT DEMENTIA. IF WE CAN DELAY IT, PERHAPS SCIENCE WILL CATCH UP WITH A CURE, OR WE CAN PREVENT IT ALTOGETHER.

SO HERE WE ARE. OKAY. SO WE KNOW ALZHEIMER'S, IT SEEMS, STARTS IN THE BRAIN 20 TO 30 YEARS BEFORE THE FIRST SYMPTOMS APPEAR. AGE IS THE BIGGEST RISK FACTOR AT THIS POINT. OUR POPULATION IS AGING, WHICH IS WHY THE NUMBER OF CASES OF ALZHEIMER'S ARE INCREASING.

THE NIH REPORTS THAT ONE IN SEVEN PEOPLE OVER THE AGE OF 71 WILL HAVE DEMENTIA OF SOME KIND. EVERY FIVE YEARS AFTER THE AGE OF 65, THE RISK OF ALZHEIMER'S ACTUALLY DOUBLES. AND BY THE TIME AN INDIVIDUAL REACHES 85, HE OR SHE HAS A 50-PERCENT CHANCE OF HAVING ALZHEIMER'S. BLEAK, I KNOW, BUT THERE'S HOPE.

IT SEEMS LIKE ONE IN THREE CASES OF ALZHEIMER'S MAY BE PREVENTABLE IF WE MAKE THE CHOICES TO LIVE A BRAIN HEALTHY LIFESTYLE TODAY. SO WHEN IT COMES TO OUR BRAINS, WE HAVE BOTH MODIFIABLE AND NONMODIFIABLE RISK FACTORS. WHO CAN TELL ME WHAT ARE TWO KEY NONMODIFIABLE RISK FACTORS WHEN IT COMES TO BRAIN HEALTH? (INAUDIBLE RESPONSE.)

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THAT'S MODIFIABLE. WHAT IS A NONMODIFIABLE? GENETICS AND AGE. THERE WE GO.

SO I'M SURE A LOT OF YOU HAVE -- I WON'T SPEND A LOT OF TIME ON THIS -- SPECIFIC THOUGHTS ABOUT GENETIC TESTING, DOING A DEEP DIVE INTO YOUR GENETICS. I PERSONALLY HAVE DONE A DEEP DIVE INTO MY OWN GENETICS. SO I CAN TAKE MY BRAIN HEALTH CHOICES VERY SPECIFIC AND PERSONALIZED TO MY OWN HEALTH. HOWEVER, I'M GOING TO TELL YOU ABOUT SOME THINGS TODAY THAT EVERYONE CAN DO DEPENDING ON YOUR OWN GENETICS.

I WILL GIVE A QUICK REVIEW, AND I'M SURE I DON'T NEED TO SAY THIS, BUT THE APOE GENE IS THE GENE THAT IS COMMONLY DISCUSSED WHEN IT COMES TO ALZHEIMER'S. THERE'S APOE2, APOE3, APOE4. HAVING ONE OR MORE COPIES OF APOE2 ACTUALLY CAN TRANSLATE TO A REDUCED RISK OF ALZHEIMER'S. SO IF YOU HAVE AN APOE2, CONGRATULATIONS. GOOD FOR YOU. I'M JEALOUS.

HAVING ONE COPY OF APOE4 SOMEWHAT INCREASES YOUR RISK OF LATE ONSET ALZHEIMER'S. TWO COPIES MAY INCREASE IT MORE. HOWEVER, IF YOU HAVE ONE OR TWO COPIES, THAT DOES NOT MEAN YOU WILL DEFINITELY GET ALZHEIMER'S DISEASE. SO JUST BE AWARE OF THAT BECAUSE SOME OF THOSE GENES CAN BE SCARY, AS WE KNOW.

SO MODIFIABLE RISKS. THERE'S DIET, THERE'S HIGH BLOOD PRESSURE, THERE'S LACK OF EXERCISE, SLEEP, MENTAL STIMULATION, EMOTIONAL WELLBEING. LET'S DEEP DIVE INTO EACH OF THESE TOPICS.

SO, FIRST, SLEEP. THIS IS ONE OF THE EASIEST THINGS THAT WE CAN ALL DO TO INCREASE THE HEALTH OF OUR BRAINS. IT'S FREE. SO YOU MIGHT AS WELL TRY IT. SO WE NEED GOOD SLEEP HYGIENE. SO WHAT EXACTLY DOES THAT MEAN? IT'S A NUMBER OF THINGS. YOU WANT TO SLEEP AT LEAST SEVEN AND A HALF HOURS A DAY. WHAT THAT MEANS IS BEING IN BED FOR EIGHT AND A HALF TO NINE HOURS A DAY. THAT IS VERY DIFFICULT FOR PEOPLE. HOWEVER, IT WILL BECOME MORE DIFFICULT WHEN YOU HAVE DEMENTIA, SO YOU MIGHT AS WELL DO IT NOW. MAKE THE TIME.

YOU WANT TO AVOID CAFFEINATED BEVERAGES AFTER 1 P.M. BECAUSE THOSE THINGS CAN AFFECT YOUR SLEEP QUALITY LATER ON IN THE EVENING. YOU WANT TO HAVE A CONSISTENT BEDTIME. YOU WANT TO AVOID ELECTRONICS, LOOKING AT YOUR PHONES, COMPUTERS, TELEVISIONS ONE AND A HALF TO TWO HOURS BEFORE BEDTIME. AND IF YOU GOT TO DO IT, I DO IT, YOU GET GLASSES. AFTER WE DO THIS PRESENTATION, MARIA WILL SEND OUT A LIST OF ITEMS THAT CAN BE HELPFUL IN

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KEEPING YOUR BRAIN HEALTHY.

SO ONE OF THEM ARE GLASSES THAT YOU CAN PUT ON THAT YOU WEAR WHEN YOU WANT TO LOOK AT YOUR PHONE BEFORE YOU GET INTO BED. I DO IT. IT'S NOT IDEAL, BUT THERE'S WAYS TO DO IT.

TEMPERATURE. TEMPERATURE WHEN YOU SLEEP IS KEY. I'M A WOMAN; I SLEEP HOT. SO I STARTED TRACKING MY SLEEP ABOUT ALMOST A YEAR AGO, I WOULD SAY. I GOT THIS THING. I'M NOT GIVING YOU A FINGER. IT'S CALLED THE AURA RING. THERE ARE A NUMBER OF SLEEP TRACKERS OUT THERE. AURA, WHICH, AGAIN, I'LL SEND YOU A LINK TO IT, HAPPENS TO BE ONE OF THE BEST SLEEP TRACKERS. IT ALSO TRACKS ACTIVITY AND WHATNOT. IT'S NOT AS GOOD AS SOME OF THE OTHER ONES, BUT IT GIVES A VERY IN-DEPTH REPORT OF YOUR SLEEP QUALITY, WHICH IS SO IMPORTANT.

YOU WANT TO GET BETWEEN ONE AND TWO HOURS OF DEEP SLEEP EVERY NIGHT AND ONE AND TWO HOURS OF REM SLEEP EVERY NIGHT. I WAS GETTING AROUND 20 MINUTES OF DEEP SLEEP EVERY NIGHT. BAD NEWS, SO BAD. BUT I WAS SWEATING SO MUCH. I WOULD TURN MY THERMOSTAT TO 68, AND THEN I WOULD CURL UP IN MY BLANKET AND I WOULD SWEAT BECAUSE I WAS COLD AND HOT AND COLD AND HOT. SO I GOT WHAT'S CALLED A CHILLY PAD. AGAIN, WE'LL SEND A LINK. IT'S UNSIGHTLY, BUT

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IT KEEPS YOUR BED COOL. SO WHEN YOU'RE UNDER YOUR BLANKET AND YOU CURL UP, IT KEEPS YOUR BODY COOL. I HAVE ADDED AN ADDITIONAL 20 TO 25 MINUTES OF DEEP SLEEP EVERY SINGLE NIGHT ON AVERAGE SINCE I BOUGHT THIS THING. SO TEMPERATURE IS KEY TO SLEEP QUALITY.

NUTRITION, IT'S NOT THE MOST FUN CATEGORY BECAUSE IT'S HALLOWEEN. WE WANT TO EAT COOKIES AND SUGAR, BUT I DON'T NEED TO TELL YOU SUGAR, BAD NEWS, REALLY, REALLY BAD NEWS. JUST AVOID IT. HOWEVER, LOOK, I WORK WITH REALLY SMART BRAIN DOCTORS. ALL OF THEM HAVE SUGAR ON OCCASION. WE'RE HUMANS. IT'S IMPORTANT TO HAVE BALANCE IN YOUR LIFE AND HAVE SPECIAL OCCASIONS. BUT FOR THE MOST PART, NO SUGAR, PLEASE.

SO THERE A NUMBER A DIFFERENT TYPES OF DIETS. I WON'T GO INTO THE SPECIFICS OF THEM. BUT BASICALLY THE SORT OF IDEA OF A MEDITERRANEAN-STYLE DIET, FOODS THAT ARE HIGH IN OMEGA 3S, FISH, BLUEBERRIES HAVE GREAT ANTIOXIDANTS FOR YOUR BRAIN, DARK LEAFY GREENS, OLIVE OIL. THEY SAY THAT TWO TABLESPOONS OF OLIVE OIL EVERY DAY OF GOOD QUALITY OLIVE OIL. YOUR OLIVE OIL QUALITY IS REALLY IMPORTANT. YOU WANT TO MAKE SURE THAT YOU ARE GETTING REAL OLIVE OIL BECAUSE FAKE OLIVE OIL ISN'T GOING TO GIVE YOU THOSE BENEFITS FOR YOUR BRAIN.

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AGAIN, THERE ARE A NUMBER OF DIETS. DASH, MIND, FINGER DIET, YOU CAN LOOK ALL OF THESE UP, BUT THE MEDITERRANEAN-STYLE DIET SEEMS TO BE THE MOST HEALTHY FOR OUR BRAINS. OFTEN WHAT IS GOOD FOR YOUR HEART IS GOOD FOR YOUR BRAIN.

NEXT CATEGORY, WHICH I THINK IS FUN AND I DIDN'T USED TO, WHICH IS EXERCISE. LOOK, I WAS AN ATHLETE GROWING UP. I WAS A GYMNAST, I WAS A COMPETITIVE CHEERLEADER. YOU CAN MAKE FUN OF THAT. I DON'T CARE. BUT I WAS AN ACTIVE PERSON, AND THEN I BECAME A GROWNUP AND WAS, LIKE, I'M TIRED. EXERCISE IS NOT FUN. AND IT TOOK ME A REAL TALKING TO FROM A NEUROLOGIST WHO CARES FOR MY BRAIN TO GET UP AND MOVE MY BODY. AND I DIDN'T BELIEVE HIM THAT IT COULD BE ADDICTING, BUT IT CAN BE. SCIENCE TELLS US THAT HIGH INTENSITY INTERVAL TRAINING IS THE BEST EXERCISE YOU CAN DO FOR YOUR BRAIN.

I DO SOMETHING CALLED ORANGE THEORY, SPINNING. THERE ARE APPS ON YOUR PHONE, WHICH YOU CAN CREATE YOUR OWN HIGH INTENSITY INTERVAL TRAINING, BUT THAT TYPE OF OXYGEN THAT GETS TO YOUR BRAIN WHEN YOU'RE DOING A HIT WORKOUT IS EXTREMELY BENEFICIAL FOR THE HEALTH OF YOUR BRAIN. YOU WANT TO DO IT AT LEAST THREE TIMES A WEEK WITH A MIX OF AEROBIC AND WEIGHT TRAINING. BUILDING MUSCLE IS

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EXTREMELY IMPORTANT TO THE HEALTH OF YOUR BRAIN. HAVING A HIGH RATIO OF MUSCLE IN YOUR BODY OBVIOUSLY COMPARED TO FAT, VERY IMPORTANT.

NEXT CATEGORY, MENTAL STIMULATION. SUPER FUN. THIS ONE IS FUN. YOU CAN DO MOST OF THESE SITTING DOWN, WHICH IS GREAT. HOW MANY PEOPLE DO CROSSWORD PUZZLES TO KEEP YOUR BRAIN ACTIVE? WELL, I HAVE SOME BAD NEWS. CROSSWORD PUZZLES ARE ACTUALLY NOT THE BEST THING YOU CAN DO TO KEEP YOUR BRAIN ACTIVE. THEY'RE NOT BAD. DON'T GET ME WRONG. IT'S BETTER THAN, LIKE, WATCHING A REALITY TELEVISION SHOW. HOWEVER, WHAT A CROSSWORD PUZZLE DOES IS IT ACCESSES WHAT'S ALREADY IN YOUR BRAIN. WHAT HELPS YOUR BRAIN IS LEARNING NEW INFORMATION. SO WHEN I COME TO THIS MEETING AND YOU GUYS ARE BLOWING MY MIND, I'M LEARNING A LOT. IT'S REALLY GOOD FOR MY BRAIN.

SO THINGS LIKE LEARNING A MUSICAL INSTRUMENT, LEARNING A NEW LANGUAGE, GOING OUT, BEING SOCIAL, HAVING A VERY ACTIVE SOCIAL LIFE, READING NEW INFORMATION. TEACHING YOURSELF IS KEY TOWARDS STIMULATING YOUR BRAIN AND KEEPING IT HEALTHY. IF YOU JUST ARE ACCESSING WHAT IS IN THERE OVER AND OVER AGAIN, YOUR BRAIN DOESN'T FEEL EXCITED ABOUT IT AND IT'S NOT GOING TO KEEP GROWING AND

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LEARNING AND STAYING HEALTHY.

SEEING YOUR DOCTOR REGULARLY. GENERAL HEALTH IS IMPORTANT. SO WE'VE LEARNED THAT HIGH BLOOD PRESSURE IN YOUR MIDLIFE ISN'T GOOD. LOW BLOOD PRESSURE LATER IN LIFE, NOT SO GOOD. HIGH CHOLESTEROL, NEVER GOOD. INSULIN RESISTANCE, THIS SEEMS TO PLAY A KEY ROLE IN BRAIN HEALTH. YOU REALLY NEED TO KEEP AN EYE ON INFLAMMATION AND HOW YOUR BODY IS PROCESSING INSULIN. THAT IS EXTREMELY IMPORTANT AS YOU AGE AND AS YOU TAKE CARE OF YOUR BRAIN. SO REGULAR CHECKUPS WITH YOUR DOCTOR.

BY THE WAY, I WILL SAY DOCTORS, AS FAR AS ALZHEIMER'S GO, THERE IS NO STANDARD YET AS FAR AS GIVING AN ALZHEIMER'S DIAGNOSIS. AND, THEREFORE, ONCE SOMEONE RECEIVES A DIAGNOSIS, A PROTOCOL OF WHAT THEY FOLLOW; HOWEVER, THERE IS AN ORGANIZATION CALLED US AGAINST ALZHEIMER'S THAT HAS CREATED SOMETHING CALLED THE CHANGE ACT, WHICH IS HEADING TO CONGRESS OR THE SENATE, I CAN'T REMEMBER, RIGHT NOW AS WE SPEAK THAT WILL CREATE AN NIH STANDARD PROTOCOL FOR DOCTORS TO GIVE A DIAGNOSIS AND THEN CREATE A PROTOCOL FOR SOMEONE WHO RECEIVES AN ALZHEIMER'S DIAGNOSIS. THIS IS A HUGE THING BECAUSE SO MANY PEOPLE ARE EITHER MISDIAGNOSED OR RECEIVE A DIAGNOSIS AND HAVE NO IDEA WHERE TO TURN, WHICH

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LEADS PEOPLE TO NOT GET DIAGNOSED AND, THEREFORE, THEY DON'T DO ANY OF THESE THINGS THAT COULD PERHAPS SLOW THE PROGRESSION OF THEIR DISEASE. SO SIDEBAR ON THAT.

WHILE WE'RE ON OUR DOCTORS, SUPPLEMENTS, THEY'RE PERSONAL. THERE ARE SOME THINGS THAT POTENTIALLY WORK WELL FOR EVERYONE. AS I SAID, I'VE DONE A DEEP DIVE, SO I KNOW MY OWN GENETICS, SO I TAKE A LOT OF SPECIFIC SUPPLEMENTS THAT ARE VERY SPECIFIC TO MY OWN DNA. BUT THERE ARE A LOT OF THINGS THAT ARE GOOD FOR EVERYONE. OBVIOUSLY, AS WE SAID, OMEGA3S, DHA, CURCUMIN. IT'S AN INTERESTING THING BECAUSE MY FAMILY HAS DONE A DEEP DIVE INTO BRAIN HEALTH, AS I SAID.

SO MY BROTHER AND I ARE BOTH THE CHILD OF MY MOM, WHO HAS TWO COPIES OF APOE4. SO SHE'S A 4/4. MY BROTHER AND I ARE A 3/4, WHICH GIVES US ONE PROTECTIVE COPY AND ONE THAT COULD POTENTIALLY INCREASE RISK LATER IN LIFE. I HAVE OTHER GENES THAT MY BROTHER DOES NOT HAVE. AS AN EXAMPLE, I TAKE CURCUMIN; HE DOES NOT. EVEN THOUGH WE ARE SIMILAR GENETICALLY, WE ARE NOT EXACT COPIES. I'M NOT SAYING CURCUMIN COULD HURT HIM, BUT IT IS ESPECIALLY BENEFICIAL FOR ME. SO THAT'S WHY SOMETIMES DOING A DEEP DIVE INTO YOUR GENETICS, IF

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YOU'RE OPEN TO IT, CAN BE HELPFUL.

I TAKE SOMETHING CALLED COCOAVIA. IT'S A SUPPLEMENT YOU CAN ADD TO YOUR COFFEE, YOU CAN TAKE SUPPLEMENTS, THERE'S POWDERS, YOU CAN ADD IT TO A SMOOTHIE. REAL TRUE COCOA POWDER IS REALLY HELPFUL FOR YOUR BRAIN, DARK CHOCOLATE, RICH, DARK CHOCOLATE, REALLY GOOD IN ANTIOXIDANTS. THAT'S REALLY HELPFUL FOR YOUR BRAIN. CHOCOLATE, IT'S NOT MILK CHOCOLATE, BUT IT'S PRETTY GOOD.

WE'RE WINDING DOWN HERE. CHILL OUT. LIKE, IT IS SO IMPORTANT TO RELAX. DEPRESSION, STRESS ARE SO BAD FOR THE HEALTH OF YOUR BRAIN. SCIENCE TELLS US THAT A DAILY MEDITATION PRACTICE IS HUGELY BENEFICIAL FOR YOUR BRAIN. THIS RING HAS MEDITATIONS BUILT INTO IT. SO I CAN GO ON THE APP AND SAY I WANT TO TAKE A MINDFUL MOMENT, IT WILL GUIDE ME FOR FIVE MINUTES, TEN MINUTES, WHATEVER I HAVE, TO RELAX. AND THAT IS, I CANNOT STRESS ENOUGH, SO IMPORTANT TO RECHARGE, RESET, TAKE A BREAK FOR YOUR BRAIN BECAUSE STRESS, DEPRESSION, ANXIETY WILL WORK YOUR BRAIN IN A WAY THAT IS SO UNHEALTHY.

AND, FINALLY, A THING THAT I DON'T REALLY NEED TO STRESS TO THIS GROUP WHICH IS KEEP LEARNING. GOOD NEWS IS THAT A HIGH IQ SEEMS TO LEAD TO LESS

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SIDE EFFECTS IF YOU HAVE BETA AMYLOID IN YOUR BRAIN. SO EVERYONE IN THIS ROOM IS VERY FORTUNATE, I IMAGINE, OR NOT. I DON'T KNOW. BUT EITHER WAY KEEP LEARNING.

SO HILARITY FOR CHARITY, WHICH IS MY ORGANIZATION, HAS PARTNERED AND INVESTED IN RESEARCH WITH DR. RICHARD ISAACSON, WHO IS AN ALZHEIMER'S PREVENTION DOCTOR, WHICH IS SOMETHING, IF YOU HEARD THAT TERM A FEW YEARS AGO, YOU WOULD SAY THAT WAS SCIENCE FICTION, BUT HE IS TREMENDOUS AND HIS WORK IS ACTUALLY JUST ABOUT TO BE PUBLISHED IN ONE OF THE FANCY JOURNALS. AND IT WAS *THE WALL STREET JOURNAL* ACTUALLY YESTERDAY THAT DID AN ARTICLE THAT WE WILL SEND TO ALL OF YOU THAT SORT OF DIVES INTO SOME OF THIS A LITTLE BIT MORE. BUT WE CREATED SOMETHING CALLED ALZU, WHICH IS A LEARNING SITE FOR ANYONE WHO WANTS TO LEARN MORE ABOUT THEIR BRAIN. YOU CAN TAKE A MUCH DEEPER DIVE INTO WHAT I'VE SAID TODAY BY VISITING ALZU OR, OF COURSE, HILARITY FOR CHARITY.ORG.

LIKE I SAID, IT IS A LIFESTYLE TO TAKE CARE OF YOUR BRAIN. THERE'S SO MANY THINGS YOU CAN DO. THERE'S NO ONE-SIZE-FITS-ALL APPROACH, BUT LIVING A HEART HEALTHY LIFESTYLE CAN HELP YOUR BRAIN. AND THESE ARE THINGS WE WANT TO DO AS WE

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AGE. WE'RE ALL AGING. I THINK WE ALL HAVE A BRAIN HERE, SO WE MIGHT AS WELL CONTINUE THINKING ABOUT THEM. DOES ANYONE HAVE ANY QUESTIONS?

(APPLAUSE.)

DR. MALKAS: WHO DID YOUR GENETIC TESTING?

MS. MILLER: I HAVE A FEW INTERESTING DOCTORS. SO I SEE DR. CORNELL IN NEW YORK. SO WE DID SOME GENETIC TESTING THERE. HE ACTUALLY WAS ABLE TO GO INTO MY 23 AND ME AND OPEN UP SOMEHOW AND GOT LIKE A HUNDRED PAGES OF DATA FROM THAT. AND HE WAS ABLE TO DO THAT. AND THEN I SEE ANOTHER INTERESTING DOCTOR. I'M GOING TO SEND YOU A PODCAST ACTUALLY. HIS NAME IS PETER ATTIA. IF ANYONE IS FAMILIAR, HE IS A LONGEVITY DOCTOR, IF YOU WILL. HE HAS A FASCINATING PODCAST AND BOTH ARE DOCTORS WHO WORK WELL. I SEE BOTH OF THEM. DID A FASCINATING PODCAST ON BRAIN HEALTH. WE'LL SEND YOU A LINK TO THAT. BUT THOSE ARE THE DOCTORS WHO HAVE DONE THAT. I LIVE A PROTOCOL REALLY BASED ON MY OWN GENETICS. THANK YOU.

CHAIRMAN THOMAS: THANK YOU VERY MUCH, LAUREN. THAT WAS OUTSTANDING, AS EXPECTED.

OKAY. WE'RE GOING TO GO NOW TO DISCUSSION ITEM 13, THE ECONOMIC IMPACT REPORT, HAVE DANA GOLDMAN FROM USC TO PRESENT.

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MR. GOLDMAN: THANK YOU VERY MUCH. ONE THING I CAN PROMISE IS THAT THIS IS GOING TO BE MORE DRY THAN THE LAST PRESENTATION. YOU'VE GOT THE L.A.-BASED SCREENWRITER AND NOW YOU'VE GOT THE ECONOMIST. I THINK WHAT I WANT TO TALK ABOUT IS RATHER IMPORTANT. SO HOW DO I ADVANCE THE SLIDES?

WHAT I WANT TO SAY IS I WANT TO TALK ABOUT INVESTING IN HEALTH. AND THE SITUATION THAT'S UNFOLDING HERE IS ONE WHERE WE HAVE VERY LONG-TAILED POTENTIAL BENEFITS TO INVESTMENTS THAT WE ARE MAKING, AND WE ARE MAKING DECISIONS TODAY THAT ARE GOING TO AFFECT THE LIVES OF CALIFORNIANS GOING FORWARD.

AND WE DID SOME MODELING FOR CIRM TO REALLY UNDERSTAND WHAT THE IMPACT IS, BUT I WANT TO ARGUE THAT REALLY THIS COMES DOWN TO A NEW APPROACH IS NEEDED TO FIGHT DISEASE AND DISABILITY.

I'LL GIVE YOU AN EXAMPLE HERE OF SOME OF THE DEMOGRAPHICS. THIS IS WHAT FEMALE LIFE EXPECTANCY AT BIRTH LOOKED LIKE IN THE UNITED STATES STARTING IN THE MID-1920S AND MOVING OUT. AND WHAT YOU CAN SEE IS UNTIL ABOUT 1982, WE WERE MAKING RAPID PROGRESS FIGHTING ILLNESS. AND PART OF THE REASON FOR THAT, BY THE WAY, HAS A LOT TO DO WITH PUBLIC HEALTH, CLEAN WATER, CLEAN AIR, SMOKING,

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INVESTMENTS IN TREATING INFECTIOUS DISEASE. BUT WHAT HAPPENS IS IN SOME WAYS WE'VE BECOME VICTIMS OF OUR OWN SUCCESS.

AND SO NOW WE FACE A DILEMMA, AND THESE ARE DATA FOR CALIFORNIANS. AND WHAT IT SHOWS IS THE RATES -- THE LIKELIHOOD OF DEVELOPING DISEASE AFTER AGE 50. AND SO IT IS TRUE THAT GENETICS IS NOT DESTINY; BUT IF YOU LOOK AT THE CONDITIONS UP HERE -- I CAN'T READ THE NUMBERS FROM HERE -- BUT THERE'S A 45-PERCENT CHANCE THAT YOU WILL DEVELOP DIABETES, THERE'S ABOUT A ONE-THIRD CHANCE OF STROKE, THERE ARE A BUNCH OF CANCERS LISTED. SO IT IS NOT THE CASE THAT WE ARE TALKING ABOUT SPECIFIC CALIFORNIANS. WE ARE TALKING ABOUT ALL CALIFORNIANS. AND IF IT DOESN'T AFFECT YOU, THEN IT WILL AFFECT SOME LOVED ONES.

THESE ARE SOME PROJECTIONS, BY THE WAY, THAT WE DID FOR THE ALZHEIMER'S ASSOCIATION THAT SHOW -- AND IT RELATES TO THE PREVIOUS PRESENTATION. YOU CAN SEE, AND I WON'T BELABOR THE DETAILS BECAUSE EVERYONE KNOWS THAT THIS IS OUR NEXT PUBLIC EPIDEMIC IN SOME WAYS. BUT WHAT'S INTERESTING IS THE LINE -- WE'RE MISSING A SLIDE HERE. I'LL COME BACK TO IT. THE POINT IS THAT WE HAVE THIS GREAT BOTH DEMOGRAPHIC AND HEALTH NEED THAT'S DRIVEN IN A WAY

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THAT WE'VE BECOME VICTIMS OF OUR OWN SUCCESS.

NOW, AS AN ECONOMIST, YOU MIGHT SAY, WELL, THAT'S GREAT, BUT THE PRIVATE SECTOR IS OUT THERE AND THEY'RE MAKING INVESTMENTS IN THIS. WHY DO WE NEED PUBLIC INVESTMENT IN THIS? I WANT TO ARTICULATE A FEW REASONS.

THE FIRST IS THE SCIENCE IS IMPROVING, AND THAT'S EVERYTHING THAT YOU DO. AGAIN, I'M AN ECONOMIST, AND I KNOW MY BOUNDS AND WHAT I'M SUPPOSED TO TALK ABOUT. THE WAY AS AN ECONOMIST THAT WE THINK THAT THERE MIGHT ACTUALLY BE SOME POTENTIAL IS WHEN WE START TO SEE THE PRIVATE SECTOR INTERVENING TO MAKE THESE INVESTMENTS AS WELL. THEN YOU REALIZE THAT THERE IS ENORMOUS POTENTIAL.

ONE OF THE MISTAKES, BY THE WAY, WHEN PEOPLE THINK ABOUT THESE TYPES OF INVESTMENTS IS THEY TEND TO SAY, "WELL, WHY SHOULD THE PUBLIC SECTOR DO IT? MAYBE THE PRIVATE SECTOR COULD BE DOING THIS." THOSE OF YOU -- A GOOD ANALOGY TO THIS, IN MY VIEW, IS TO THINK ABOUT EDUCATION.

SO, FOR EXAMPLE, THERE'S A NUMBER OF KIDS WE NEED TO EDUCATE. IF THE PUBLIC SECTOR IS PROVIDING ALL THAT PUBLIC EDUCATION, THERE'S ONLY SO MUCH INVESTMENT THAT CAN BE MADE AND IT CROWDS OUT THE PRIVATE SECTOR. AND THE CONVERSE OF THAT IS WHY

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SHOULD THE PUBLIC SECTOR BE MAKING THESE INVESTMENTS? THE PRIVATE SECTOR IS ALREADY DOING IT.

WELL, THE PROBLEM WITH THAT ANALOGY IS IT'S FALSE BECAUSE IN THE CASE OF EDUCATION, THERE'S ONLY SET CHILDREN THAT WE CAN EDUCATE. IN THE CASE OF HEALTH, THE UNMET NEED IS SO GREAT AND THE POTENTIAL IS SO GREAT, THAT IT ACTUALLY IS NOT THE CASE THAT PUBLIC INVESTMENT CROWDS OUT PRIVATE INVESTMENT. IN FACT, THE EVIDENCE SHOWS, AND WE'VE SEEN THIS FROM THE AGGLOMERATION OF WHAT'S GOING ON, OR YOU COULD JUST LOOK ACROSS THE BAY AND SEE WHAT'S GOING ON AT UCSF, AND YOU WILL SEE THAT THE INVESTMENTS IN THE PUBLIC SECTOR ACTUALLY ACCELERATE WHAT'S GOING ON IN THE PRIVATE SECTOR. SO YOU CAN THINK OF THIS AS SEED MONEY.

THIS IS WHY, IF YOU GO TO WASHINGTON LIKE I DO, WHICH IS ALWAYS HAZARDOUS TO YOUR HEALTH -- BY THE WAY, AND I SERVED ON THE CBO'S PANEL OF HEALTH ADVISORS FOR MANY YEARS. AND IT WAS SAD BECAUSE IMPROVEMENTS IN HEALTH ALWAYS MADE THE DEFICIT LOOK WORSE, AND SO THEY WERE UPSET THAT PEOPLE WERE GETTING BETTER HEALTH. ANYWAY, IF YOU GO TO WASHINGTON, YOU'LL SEE THERE'S TREMENDOUS SUPPORT FOR NIH ON BOTH SIDES OF THE AISLE. AND THE REASON

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IS BECAUSE THEY'RE MAKING INVESTMENTS THAT COUNTRIES VALUE.

SO JUST COMING BACK TO THE EARLIER PRESENTATION, FOR EXAMPLE, WHAT YOU SEE IN THE RED HERE, THE TOP LINE, IS THE STATUS QUO PROJECTION OF WHAT ALZHEIMER'S LOOKS LIKE. THE PREVIOUS SPEAKER MENTIONED THE BIOGEN TRIALS. IF YOU SIMULATE OUT WHAT A TREATMENT DELAY IN ONSET OF ALZHEIMER'S BY THREE YEARS WOULD DO TO THE ALZHEIMER'S POPULATION, YOU'RE TALKING ABOUT REDUCTIONS OF ABOUT 2.5 MILLION PER YEAR IN THE NUMBER OF PEOPLE AFFLICTED BY LATE STAGE DISEASE. THAT IS A RATHER REMARKABLE POINT.

AND INVESTMENTS LIKE THESE, AND WE'LL GET TO IT IN THE CONTEXT OF CIRM, WOULD MORE THAN JUSTIFY THE ENTIRE BUDGET OF CIRM. IN FACT, IT WOULD EVEN JUSTIFY THE ENTIRE BUDGET OF NIH. SO YOU ARE MAKING SOME BIG BETS, AND JUST A FEW NEED TO BE SUCCESSFUL TO DO THIS.

SO THE THIRD PIECE, BEFORE I SHOW YOU OUR RESULTS, IS I JUST WANT TO SAY AGAIN THAT THE PLAYING FIELD IS TILTED WHEN IT COMES TO THESE. I SAID THE PRIVATE SECTOR HAS AN IMPORTANT ROLE TO PLAY, OBVIOUSLY, IN INNOVATION, BUT THE PLAYING FIELD IS TILTED IN THE SENSE THAT -- ACTUALLY I HEARD THIS. ONE ANALYST I REMEMBER WHEN GILEAD

ANNOUNCED THEIR CURE FOR HEP-C, ONE ANALYST, PEOPLE THOUGHT THEIR STOCK WOULD ROCKET, BUT ONE ANALYST ON THE EARNINGS CALL SAID, "YOU'RE CURING ALL THE PEOPLE WHO COULD TAKE YOUR CONDITIONS. SO HOW DO WE KNOW THESE REVENUES ARE GOING TO CONTINUE?" SO THEY WERE BEING PENALIZED FOR DEVELOPING A CURE.

THE POINT IS, IN FACT, THE PLAYING FIELD IS TILTED. SO IF YOU THINK ABOUT, FOR EXAMPLE, WE ARE THE BENEFICIARIES OF THE FACT THAT WE'VE ESSENTIALLY ERADICATED POLIO AND SMALLPOX AND OTHER DISEASES, AND WE USED TO ERADICATE MEASLES IN THE UNITED STATES. YOU KNOW, THE POINT IS THAT FUTURE GENERATIONS DON'T PAY ANYTHING FOR THAT INNOVATION. SO THIS IS NOT JUST ABOUT US TODAY VERSUS US 15 YEARS AGO. IT'S ABOUT US TODAY VERSUS OUR FUTURE GENERATIONS. AND ANYONE WHO HAS A CHILD WHO'S SUFFERING FROM CHRONIC ILLNESS WILL TELL YOU THAT THEY WANT TO MAKE SURE THAT THE INVESTMENT CONTINUES SO THAT THEY DON'T HAVE TO BEAR THAT BURDEN.

ALL OF THIS IS BY WAY OF INTRODUCING WHAT WE ACTUALLY DID. SO FEEL FREE TO GIVE ME THE HOOK IF I'M GOING TOO LONG.

SO THERE ARE TWO ASPECTS OF THE IMPACT OF CIRM, AND ONE OF THEM IS A DIRECT STIMULUS TO THE ECONOMY. AND THIS IS AN IMPORTANT COMPONENT OF IT.

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THIS IS AN INDUSTRY THAT IS -- THE LIFE SCIENCES ARE AN INDUSTRY THAT IS PART OF THE SUCCESS OF THE CALIFORNIA ECONOMY. WE HAVE A VERY VIBRANT, HETEROGENEOUS ECONOMY, AEROSPACE AND DEFENSE, I'M IN L.A., ENTERTAINMENT AND ELSEWHERE, BUT I THINK PEOPLE UNDERAPPRECIATE THE IMPORTANCE OF LIFE SCIENCES IN CALIFORNIA.

AND WHAT WE DID IS WE WENT, AND YOU CAN READ THE REPORT. IT'S HARD FOR ME TO SEE FROM HERE, AND IF I TURN LIKE THIS, YOU WON'T HEAR ME. I'M JUST GOING TO GIVE YOU THE BOTTOM LINE, AND I'M HAPPY TO ANSWER QUESTIONS.

ESSENTIALLY THE SPENDING, THE GRANTMAKING AND OTHER ACTIVITIES, CONDUCTED BY CIRM, ADDED 56,000 JOBS TO THE CALIFORNIA ECONOMY BY OUR ESTIMATES. IN ADDITION, SOME OF THOSE JOBS, ALSO BECAUSE CALIFORNIANS BUY THINGS FROM ELSEWHERE, IT GENERATED ADDITIONAL JOBS OUTSIDE THE U.S., SO THE TOTAL IS ABOUT 82,000 JOBS GENERATED.

AND WE CAN PUT DOLLAR VALUE ON THAT BECAUSE THERE'S THIS THING IN ECONOMICS, THERE'S A MULTIPLIER EFFECT. IF I GO AND GIVE YOU AN EXTRA DOLLAR IN WAGES, YOU ARE GOING TO GO SPEND PROBABLY 80 CENTS ON THAT DOLLAR, AND YOU ARE GOING TO BUY THINGS THAT ARE GOING TO ALLOW OTHER PEOPLE TO BUY

THINGS. AND THAT'S WHAT'S KNOWN AS A MULTIPLIER.

SO WHEN YOU START ADDING ALL THIS UP, WHAT YOU GET IS THAT THERE IS AN ECONOMIC ADVANTAGE IN CALIFORNIA OF ABOUT 10 BILLION. AND, AGAIN, WE'RE BUYING THINGS OUTSIDE, SO IT'S ABOUT 15 BILLION NATIONWIDE.

AND EVERY TIME YOU BUY SOMETHING, THERE'S TAX DOLLARS ASSOCIATED. WHEN YOU'RE EARNING, YOU'RE GOING TO GENERATE. AND SO A LOT OF THIS IS COMING BACK IN SOME SENSE IN TERMS OF REVENUE, AND YOU CAN SEE THE NUMBERS HERE. WE'RE TALKING ABOUT 641 MILLION IN STATE AND LOCAL TAX REVENUES IN CALIFORNIA. AND ALSO THE FEDERAL GOVERNMENT IS BENEFITING FROM OUR VIRTUOUSNESS, WHICH IS A UNIVERSAL SENTIMENT, NOT JUST TRUE ELSEWHERE.

NOW, YOU MIGHT SAY WHAT'S THE QUALITY OF THOSE JOBS? IF I BUILT A CASINO, THAT WOULD ALSO GENERATE JOBS. MAYBE WE WILL DO THAT. BUT THE DIFFERENCE IS THAT THESE ARE VERY HIGH QUALITY JOBS. HOW DO YOU MEASURE THAT? WELL, THEY'RE WELL ABOVE THE MEDIAN SALARY. I DON'T THINK I HAVE TO CONVINCE ANYONE HERE OF THAT.

IN TERMS OF DIRECT ECONOMIC BENEFITS, THAT ALL IS QUITE CLEAR. I THINK, AGAIN, I WANT TO COME BACK TO THE REAL ISSUE IS THE LONG-TERM PROGRESS.

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IF WE MAKE ANY OF THESE BETS PAY OFF IN TERMS OF TREATMENT, WHAT DOES IT MEAN FOR CALIFORNIA? SO WE ENTERED INTO -- WE DID SOME MODELING ACTIVITY, AND REALLY TALKING ABOUT WHAT THE POTENTIAL BENEFITS WOULD BE. I JUST WANT TO ARTICULATE THAT THE BURDEN OF DISEASE IN CALIFORNIA IS ACTUALLY QUITE HIGH. WE THINK OF CALIFORNIA AS A HEALTHY STATE, AND IN SOME WAYS WE ARE. BUT, AS I SAID, A LOT OF PEOPLE ARE LIVING WITH CONDITIONS, AND THESE CONDITIONS CAN BE COSTLY, NOT JUST IN MEDICAL COSTS, BUT IN TERMS OF THE DECREMENT AND QUALITY AND QUANTITY OF LIFE.

AND WE HAVE A MODEL, AND I WON'T GO THROUGH THE DETAILS UNLESS YOU ASK, THAT KIND OF LOOKS AT THIS. AND, OF COURSE, MORE PREVALENT DISEASE OR MORE ACUTE DISEASES WILL HAVE HIGHER COST. BUT ONE WAY TO READ THIS CHART IS TO SAY THAT DIABETES COSTS CALIFORNIA $746 BILLION. NOW, REMEMBER, THAT'S NOT COST OF PAYING FOR THE CARE. THAT'S IN THE HUMAN COST. THAT'S WHAT ECONOMISTS DO, AND THAT'S WHY WE GET A BAD RAP BECAUSE WE PUT A VALUE ON HEALTH. ANYWAY.

AND YOU CAN LOOK AT THIS ON A PER CAPITA BASIS, AND YOU CAN SEE, FOR EXAMPLE, ADDRESSING LUNG CANCER WOULD BE ENORMOUSLY VALUABLE BECAUSE IT'S A VERY HIGHLY FATAL ILLNESS RIGHT NOW IN A LOT OF

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CASES AND IT AFFECTS PEOPLE AT YOUNGER AGES. BUT ANY OF THESE -- THE WAY TO READ THIS GRAPH IS TO SAY THAT IF YOU KNEW AT AGE 50 YOU WERE GOING TO GET DIABETES, AND I'M GOING TO TELL YOU THAT 45 PERCENT OF CALIFORNIANS WILL DO THAT, HOW MUCH WOULD YOU BE WILLING TO PAY FOR A CURE FOR THAT? THE ANSWER WOULD BE $92,000. NOW, YOU MULTIPLY THAT BY THE NUMBER OF CALIFORNIANS AND YOU GET TO AN ENORMOUS NUMBER.

SO THE CUMULATIVE -- AND THOSE ARE SHOWN HERE. SO, FOR EXAMPLE, WHAT WE FIND IS THAT IF WE COULD REDUCE THE INCIDENCE -- THIS COMES BACK TO THE PREVIOUS SPEAKER WHO'S TALKING ABOUT REDUCING THE INCIDENCE OF ALZHEIMER'S. SUPPOSE WE ALL ENGAGED IN GOOD BRAIN HEALTH. WELL, YOU COULD DO THE SAME FOR DIABETES AND STROKE AND DIFFERENT CANCERS. AND WHAT YOU SEE IS EVEN A 10-PERCENT REDUCTION IN DIABETES WOULD BE WORTH $60 BILLION.

NOW, SUPPOSE I DID THE FOLLOWING CALCULUS, WHICH IS I SAID, "WELL, WHAT'S THE CHANCE WE'RE GOING TO GET TO 10 PERCENT?" WELL, ACTUALLY WE KNOW HOW TO DO THAT NOW. WE MIGHT HAVE A CHANCE OF GETTING TO 50 PERCENT OR SOMETHING LIKE THAT. AND SUPPOSE CIRM ONLY GAVE ME A 10-PERCENT CHANCE -- INCREASED THE CHANCE OF FINDING SUCH A TECHNOLOGY BY

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10 PERCENT? WELL, THAT GENERATES AN EXPECTED VALUE, 6 BILLION IN VALUE, TO CALIFORNIA. AND SO THE WAY WE MAKE INVESTMENT DECISIONS, VERY COLD-HEARTED WAYS, WE COMPARE THE EXPECTED COST WITH THE EXPECTED BENEFITS. AND WHEN YOU LOOK AT THAT, IT BECOMES QUITE CLEAR.

NOW, I DID WANT TO SAY ONE OTHER POINT ABOUT MEDICAL COSTS. I DON'T WANT TO DIMINISH THE POTENTIAL THAT OUR STATE MEDI-CAL PROGRAM IS FACING A LOT OF BUDGETARY PRESSURE. IT CROWDS OUT INVESTMENT ELSEWHERE. AND SO OUR ABILITY TO ADDRESS DISEASE WILL ALSO ALLOW THE STATE TO INVEST IN OTHER AREAS.

AND THEN THE FINAL THING, A LOT OF WHAT I SHOWED THERE WAS CANCER, DIABETES, AND STROKE. I THINK IT'S IMPORTANT TO UNDERSTAND THAT, AND HERE, AGAIN, THE PLAYING FIELD IS TILTED AGAINST TREATING RARE, BUT SEVERE DISEASE. AND SO THE POINT I WANT TO MAKE, FOR EXAMPLE, IS THE POTENTIAL FOR A CURE FOR SOME OF THESE EYE DISEASES, AND I WON'T GO THROUGH THE DATA UNLESS YOU ASK ME TO, COULD BE WORTH, BY OUR ESTIMATE, $2.7 BILLION FOR THE COHORT THAT HAS EXPERIENCED THE ILLNESS OVER THE REST OF THEIR LIFETIMES. I WANT TO MAKE CLEAR THAT THE INVESTMENTS THAT WE MAKE IN RARE DISEASE FAR FROM

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NOT RETURNING -- THEY OBVIOUSLY DON'T RETURN AS MUCH AS INVESTING IN DIABETES, BUT THEY'RE ALSO MORE OF AN ARGUMENT FOR PUBLIC INTERVENTION BECAUSE THE PRIVATE MARKET DOESN'T HAVE INCENTIVES TO DO IT. AND ON THEIR OWN THEY ALSO WOULD JUSTIFY MAKING THESE INVESTMENTS, IN MY VIEW.

I THINK -- I'M GOING TO CONCLUDE. AS A SOCIETY, WE UNDERINVEST IN HEALTH. CIRM CAME ALONG AND CALIFORNIANS RECOGNIZE THAT FACT AND WERE WORRIED ABOUT IT AND CAME INTO EXISTENCE. WE DID WHAT WE WERE ASKED TO DO, AND WE DEMONSTRATED THAT IT'S ALREADY HAD A SUBSTANTIAL ECONOMIC BENEFIT IN CALIFORNIA. BUT TO ME THE REAL PROMISE IS THAT IF WE COULD JUST MAKE PROGRESS IN ANY OF THESE DISEASES WHERE YOU'RE MAKING INVESTMENTS, IT WOULD MORE THAN JUSTIFY WHAT WE ARE DOING, WHAT YOU'RE DOING IN THIS ROOM. THANK YOU.

(APPLAUSE.)

MR. TORRES: DANA, I WISH I HAD YOUR SLIDES WHEN I BRIEFED THE GOVERNOR ON YOUR REPORT. IT'S MUCH MORE UNDERSTANDABLE, ALTHOUGH HE DID UNDERSTAND WHAT I WAS TALKING ABOUT. BUT I JUST WANT TO SAY MANY OF THE BOARD MEMBERS MAY NOT KNOW, BUT I AM ONE OF FIVE MEMBERS PRO BONO OF COVER CALIFORNIA. AND WE'VE USED USC AND YOUR INSTITUTE A

LOT IN TERMS OF OUR DATA, WHICH IS WHY I CALLED UPON YOU TO SEE IF YOU WOULD BE WILLING TO DO THIS ECONOMIC REPORT. IT'S THE BEST DECISION I EVER MADE.

AND, SECONDLY, I WANT TO THANK MARIA AND THE STAFF, ESPECIALLY BEN AND OTHERS, WHO WORKED SO HARD, GIL AND OTHERS, IN SUPPLYING YOU THE DATA THAT YOU NEEDED TO MAKE THE ADEQUATE REVIEW. IF ANYONE HAS ANY DOUBT OF WHAT ECONOMIC BENEFIT THIS AGENCY HAS HAD IN THE STATE OF CALIFORNIA AND THE FACT THAT WE NEED TO BE RENEWED, THIS IS THE ARGUMENT IN TERMS OF THE JOBS, THE ECONOMY, THE TAX REVENUE, AND ALSO THE POTENTIAL FUTURE FOR CURES WHICH WILL AFFECT A TREMENDOUS AMOUNT OF INCENTIVES, ESPECIALLY AS I'M WORKING NOW WITH INSURERS AND COVER CALIFORNIA AND EDUCATING THEM ON WHAT THESE TREATMENTS ARE GOING TO BE AND THE FACT THAT, YES, THEY MAY BE EXPENSIVE INITIALLY; BUT IN THE LONG TERM, THE SAVINGS WILL BE PHENOMENAL FOR THE INSURANCE COMPANIES IN THIS STATE.

SO I WANT TO THANK YOU, DANA, AND THANK YOU FOR PUTTING UP WITH US AND WITH ME THROUGHOUT THIS PROCESS. IT'S TAKEN A LONG TIME, BUT I THINK WE'VE REACHED AN ADMIRABLE CONCLUSION. AND I CAN TELL YOU THE GOVERNOR WAS IMPRESSED WITH THE

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RESULTS. THANK YOU.

MR. JUELSGAARD: IF YOU WOULDN'T MIND, I'D LIKE TO GO BACK TO YOUR SLIDE 20 FOR A MOMENT. AND THIS IS A QUESTION THAT ACTUALLY IS ON A DIFFERENT SUBJECT. SO THIS IS, AS IT'S TITLED, THE PER CAPITA LIFETIME SOCIAL VALUE GAINED FOR CURING A SELECTED DISEASE. AND I WANT TO TAKE DIABETES.

MR. GOLDMAN: ECONOMISTS ARE GOOD AT OBSCURE TITLES.

MR. JUELSGAARD: SO IF I READ THIS, AND DEALING WITH THIS PURELY AS A MATTER OF ECONOMICS, IF WE COULD CURE DIABETES FOR ANY AMOUNT OF MONEY UP TO $92,089, THAT WOULD BE AN ECONOMIC GAIN OR BREAK-EVEN POINT. BUT IF WE STARTED SPENDING $1 OVER THAT AND ANYTHING ABOVE THAT, THEN ECONOMICALLY WE ARE NOT BETTER OFF. WE ARE WORSE OFF.

MR. GOLDMAN: NO. ACTUALLY THAT'S NOT QUITE RIGHT, AND ACTUALLY IT GETS TO SOMETHING ART SAID. IF YOU THINK -- THE REALITY IS THE COST OF THESE TREATMENTS COME DOWN OVER TIME, AND YOU NEED TO AGGREGATE OVER THE FUTURE GENERATIONS. THIS IS JUST ONE COHORT.

THE INTERESTING THING IS IF -- BY THE WAY, IF YOU MULTIPLY THIS UP, WHAT YOU GET IS THAT RIGHT NOW THE POPULATION AGE 50 AND OLDER WOULD PAY $1.5

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TRILLION FOR A CURE. THAT PART IS RIGHT. BUT ONCE WE DEVELOP IT, PEOPLE HAVE ACCESS TO IT. AND ACTUALLY IF YOU THINK ABOUT HIV, UNITED STATES IDENTIFIED EFFECTIVE, ACTIVE ANTIRETROVIRAL TREATMENT IN ABOUT 20 YEARS FROM THE DIAGNOSIS, WE FIRST DIDN'T EVEN KNOW WHAT CAUSED THE DISEASE, AS SOME OF YOU MAY RECALL, AND WITHIN 20 YEARS WE HAD HIGHLY ANTIRETROVIRAL TREATMENT, AND THAT GENERATED BILLIONS IN VALUE. AND THE TREATMENTS CAME OUT AND THEY WERE 15,000 A YEAR AT THE TIME. OF COURSE, PEOPLE WERE UPSET BECAUSE WE DON'T WANT TO LIMIT ACCESS. BUT NOW TODAY WE TREAT HIV FOR A DOLLAR A DAY IN AFRICA. IN FACT, YOU COULD ARGUE THAT ONE OF THE GREATEST THINGS THAT THE UNITED STATES HAS EVER DONE IN FOREIGN POLICY, AND WE'VE HAD SOME MISTAKES, I MIGHT ADD, WAS ACTUALLY PEPFAR WHERE WE WENT TO AFRICA AND OFFERED TREATMENT FOR HIV.

MR. JUELSGAARD: SO LET ME ASK MY QUESTION IN A DIFFERENT FASHION. SO A LITTLE LATER IN THE PRESENTATION, YOU INTRODUCED THE TERM "QALY," WHICH IS A TERM OF ART THAT'S USED LARGELY IN THE UNITED KINGDOM THESE DAYS BY THE NHS. IS THIS NUMBER EQUIVALENT TO A QALY?

MR. GOLDMAN: IT IS. SO LET ME TELL YOU WHAT THIS NUMBER REFLECTS. WE HAVE A MODEL THAT

WE'VE DEVELOPED AT USC WITH FUNDING FROM NIH AND CMS, AND DEPARTMENT OF LABOR AND SOME OTHER SOURCES, MCARTHUR FOUNDATION. AND THAT MODEL ALLOWS US TO PROJECT OUT WHAT DISEASE WILL DO TO A POPULATION OF CALIFORNIANS AND AMERICANS, TAKING INTO ACCOUNT THE FACT THAT IF YOU GET -- THAT WE HAVE THESE COMPETING RISKS, CARDIOVASCULAR DISEASE, CANCER, DIABETES. SO YOU CAN SIMULATE SOMEONE'S LIFETIME, AND SOME OF THEM ARE GOING TO GET DIABETES, ABOUT 40 PERCENT. BUT YOU CAN ALSO SIMULATE IT IF THEY DIDN'T GET IT. AND WHAT YOU SEE IS THEY LIVE LONGER, THEY SPEND LESS TIME IN DISABILITY. AND SO WE CAN COMBINE THE DISABILITY AND THE QUANTITY OF LIFE INTO WHAT OFTEN IS REFERRED TO AS A QUALITY ADJUSTED LIFE YEAR.

MR. JUELSGAARD: SO THE REASON THAT THIS IS INTERESTING TO ME, ANYWAY, IS AS MANY OF THE PRODUCTS THAT WE'RE TALKING ABOUT DEVELOPING HERE WILL TURN OUT TO BE VERY EXPENSIVE THERAPIES, IN EXCESS OF A MILLION DOLLARS, ET CETERA. AND SO WE HAVE TO HAVE SOME WAY OF DETERMINING THE VALUE PROPOSITION AROUND THAT.

SO WHAT HAPPENS IN THE UK IS THEY HAVE A COMMITTEE, NICE, THAT LOOKS AND DEVELOPS A QALY, AND NICE THEN SUBMITS TO THE NHS THAT THEY SHOULD BE WILLING TO PAY NO MORE THAN A CERTAIN DOLLAR AMOUNT

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FOR ANY PARTICULAR TREATMENT, AND THAT TURNS INTO A NEGOTIATION WITH THE MANUFACTURER. I FIND THIS INTERESTING IN THAT TO WHAT EXTENT WE'RE GOING TO WIND UP FINDING OURSELVES USING A SIMILAR APPROACH TO TRYING TO FIGURE OUT WHAT'S APPROPRIATE TO TREAT, HOW MUCH MONEY TO SPEND ON A TREATMENT FOR A CONDITION, AND HOW MUCH DO WE UTILIZE ECONOMIC VALUATION IN DOING THAT.

MR. GOLDMAN: WELL, SO WE HAD SIR MICHAEL ROLLINS OUT TO USC. HE USED TO CHAIR NICE, WHICH IS THE COMMITTEE IN THE UK THAT YOU'RE TALKING ABOUT. AND WE TALKED TO HIM AND WE SAID, "HOW MUCH ARE YOU WILLING IT PAY FOR INNOVATION?" AND HE GOES, "I DON'T HAVE PAY FOR ANY OF IT. YOU GUYS DO." THAT'S EXACTLY RIGHT.

SO IT'S VERY INTERESTING TO ME AS AN ECONOMIST BECAUSE IF YOU LOOK WORLDWIDE, THE NUMBER OF PEOPLE WHO DIE OF ALZHEIMER'S IS ABOUT 1.5 MILLION. THAT'S ALSO THE SAME NUMBER WHO DIE OF TUBERCULOSIS. THE DIFFERENCE IS ALZHEIMER'S AFFECTS AGED COUNTRIES, HIGHER INCOME COUNTRIES LIKE OURS AND WESTERN EUROPE; WHEREAS, TUBERCULOSIS IS MORE OF A CONCERN IN LOWER AND LESS DEVELOPED COUNTRIES.

AND THE ONLY INNOVATION -- THE NUMBER OF TRIALS GOING ON IN ALZHEIMER'S IS MUCH HIGHER THAN

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THE NUMBER OF TRIALS IN TUBERCULOSIS, BUT IRONICALLY TUBERCULOSIS IS GETTING PEOPLE AT EARLIER AGES. SO FROM A NICE PERSPECTIVE, YOU'D SAY, WELL, WE SHOULD BE INVESTING IN TUBERCULOSIS.

AND THE ONLY THING THAT GOT INVESTMENT IN TUBERCULOSIS, IT TOOK PHILANTHROPY ON THE PART OF BILL GATES TO DO THAT. WE CAN'T HAVE A SYSTEM THAT RELIES ON PHILANTHROPY TO MAKE THESE INVESTMENTS. AND SO WHAT I WOULD SAY ABOUT THE HIGH PRICES, HIGH PRICES ARE THE PROBLEM IF YOU HAVE GENEROUS INSURANCE BECAUSE IF YOU HAVE GENEROUS INSURANCE AND YOU REWARD THE INNOVATIVE, AND IT HAS TO BE VALUABLE INNOVATION. THERE IS AN ISSUE WHEN WE PAY A LOT FOR SOMETHING THAT DOES NOTHING.

WHEN WE DISCOVER SOMETHING -- COMING BACK TO DIABETES, THE LESSON MOST MANUFACTURERS HAVE GOTTEN IS, YOU KNOW WHAT, IT'S OKAY -- I HAVE TYPE 1 DIABETES -- IT'S OKAY TO SPEND $15,000 A YEAR ON DIABETES; BUT IF YOU DEVELOP A CURE AND WANT TO PRICE IT AT $100,000 A YEAR, PEOPLE WILL GET UPSET AND RIGHTLY SO. BUT THE RIGHT ANSWER FOR THIS IS TO REWARD THE INNOVATOR AND THEN MAKE SURE PEOPLE HAVE ACCESS. AND THAT'S WHAT HEALTH INSURANCE DOES.

MS. MILLER: I JUST HAVE TO CHIME IN. THE REASON WHY THE NUMBER OF DEATHS FROM ALZHEIMER'S IS

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SO LOW IS BECAUSE OFTEN WHEN SOMEONE HAS ALZHEIMER'S, IT IS INCORRECTLY REPORTED ON THEIR DEATH CERTIFICATE WHAT THEY DIED FROM. IT IS OFTEN MISREPORTED AS SOME OTHER DISEASE THAT THEY DEVELOPED ALONG THE WAY THAT ADVANCED GREATLY POTENTIALLY BECAUSE THEY HAD ALZHEIMER'S. AND SO JUST THAT NUMBER OF REPORTED DEATHS FROM ALZHEIMER'S IS --

MR. GOLDMAN: SORRY. THAT'S NOT DEATHS. THAT'S PREVALENT CASES. SO, IN FACT, THAT IS THE NUMBER OF PEOPLE LIVING WITH ALZHEIMER'S.

MS. MILLER: ONE AND A HALF MILLION? IS THAT WHAT YOU SAID?

MR. GOLDMAN: SORRY. YOU TALKING ABOUT THE SLIDES?

MS. MILLER: NO. YOU JUST SAID THAT THE SAME AMOUNT OF CASES OF ALZHEIMER'S AND TUBERCULOSIS WAS THE SAME.

MR. GOLDMAN: SORRY. I THOUGHT YOU WERE TALKING ABOUT A PREVIOUS SLIDE. IN ANY EVENT, I WILL SAY THAT OUR MODEL SHOWS THAT THE BURDEN OF ALZHEIMER'S IS SOMEWHERE ON THE ORDER OF $150 BILLION A YEAR IN DIRECT MEDICAL COSTS, AND THE INFORMAL COSTS ALMOST DOUBLE THAT. SO I DON'T THINK THERE'S ANY DOUBT THAT WE NEED TO INVEST IN

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ALZHEIMER'S. MY POINT IS WE SHOULD BE INVESTING IN BOTH ALZHEIMER'S AND TUBERCULOSIS, AND WE SHOULDN'T BE RELYING ON PHILANTHROPY TO DO IT, AND THAT'S WHY WE NEED PUBLIC INVESTMENT.

I THINK, AGAIN, COMING BACK TO AN EARLIER POINT, IT'S NOT THE CASE THAT THE PRIVATE MARKET IS GOING TO MAKE THE LEVEL OF INVESTMENT THAT WE ALL AS A SOCIETY WANT.

DR. MALKAS: THERE'S ALL THE ISSUES ON SOMETHING LIKE -- HERE YOU'RE TALKING ABOUT DOLLARS ON THE PATIENT, BUT THERE'S SO MUCH LOSS IN PRODUCTIVITY AND CAPITAL BECAUSE THIS PATIENT HAS A CARE TEAM AROUND THEM. ENORMOUS IMPACTS ARE IN LOST PRODUCTIVITY BECAUSE OF THE PEOPLE THAT HAVE TO CENTER A TEAM AROUND EACH ONE OF THESE PATIENTS. I THINK YOU'RE ONLY TOUCHING A LITTLE BIT OF WHAT THE LOSS AND COSTS ARE.

MR. GOLDMAN: WE WRITE A LOT ON THAT. I GUESS MY POINT IS THE HEALTH BENEFITS -- IT TURNS OUT THAT IN MOST CASES, ESPECIALLY IN DISEASES THAT AFFLICT PEOPLE AT OLDER AGES, IT'S THE HEALTH BENEFITS THAT SWAMP THE PRODUCTIVITY COSTS. BUT YOU THINK ABOUT MIGRAINE, YOU THINK ABOUT DIABETES, AND OTHERS, OUR MODEL ACTUALLY TAKES INTO ACCOUNT PEOPLE'S EARNINGS CAPACITY AND THE ABILITY TO

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GENERATE THAT, AND THAT'S ACTUALLY IN OUR NUMBERS. I JUST HAVEN'T ARTICULATED IT, BUT YOU'RE RIGHT. THIS IS WHY WEALTHY SOCIETIES WANT TO INVEST IN HEALTH. IT'S AN IMPORTANT POINT.

ALSO, AS YOU MENTIONED EARLIER WHEN YOU ARE TALKING ABOUT CAREGIVING, CAREGIVERS WHO ARE REQUIRED TO DO THIS, THERE'S AN ENORMOUS AMOUNT OF LOST PRODUCTIVITY IF SOMEONE HAS TO STAY HOME AND TAKE CARE OF SOMEONE WHO'S SICK. BY THE WAY, IT'S MORE DETRIMENTAL FOR LOW-INCOME HOUSEHOLDS. SO IT EXACERBATES THE HEALTH DISPARITIES THAT WE HAVE.

CHAIRMAN THOMAS: I HAVE A QUESTION. THIS IS INFECTIOUS DISEASE AS OPPOSED TO A CELLULAR THERAPY QUESTION. SO YOU'RE TALKING ABOUT PHILANTHROPY IN TUBERCULOSIS. OF COURSE, THE BIG DILEMMA FOR BACTERIAL INFECTIONS IS THE ECONOMIC MODEL IN THE PRIVATE SECTOR FOR DEVELOPING NEW ANTIBIOTICS IS REALLY BAD. AND AS A RESULT, NOBODY IS DOING IT. AND SORT OF THERE ARE A LOT OF HEADS IN THE SAND SUCH THAT IN THE NOT TOO DISTANT FUTURE, WE REALISTICALLY COULD BE BACK AT THE PRE-PENICILLIN ERA.

HAVE YOU DONE ANY MODELING ON THE IMPACTS OF THAT IN TERMS OF WHAT THAT IS GOING TO COST DOWN THE ROAD NOT VERY LONG FROM NOW?

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MR. GOLDMAN: WE HAVE, BUT I WILL TELL YOU THE FIRST PANEL I EVER GOT KICKED OFF WAS ONE ON ANTIMICROBIAL RESISTANCE. I WAS THE ECONOMIST ON IT, AND EVERYONE IN THE ROOM WAS SAYING WE'RE NOT INVESTING ENOUGH IN DEVELOPING ANTIBIOTICS. THAT WAS THE ISSUE THEN. AND THEY ALSO SAID WE ARE USING THEM TOO MUCH. AND I SAID, WELL, YOU CAN'T HAVE IT BOTH WAYS. WHAT HAPPENS IS IF YOU DON'T WANT TO USE THEM, BUT YOU WANT THEM IN YOUR ARSENAL, YOU'RE GOING TO HAVE TO FIGURE OUT SOME WAY TO DO IT.

WE HAVE MODELED THIS OUT. AND THE BROADER POINT -- I DIDN'T GET KICKED OFF, BY THE WAY. BUT THE BROADER POINT IS THAT'S WHERE PUBLIC INVESTMENT COMES IN.

SO, FOR EXAMPLE, ONE OF THE MOST SUCCESSFUL THINGS HAS BEEN TO PROMISE THAT YOU WOULD BUY A CERTAIN LIMITED QUANTITY IF SOMEONE MEETS A CERTAIN THRESHOLD. SO THINK OF IT AS A PRIZE-TYPE MODEL. IF YOU MEET THIS THRESHOLD, YOU'LL GET AT LEAST A FLOOR ON YOUR REVENUES AND DEVELOP THIS DRUG. AND THEN WE WANT TO HAVE BROAD ACCESS TO IT AS PART OF OUR ARSENAL, AND THAT WOULD ENCOURAGE THE INNOVATION.

SO I GUESS MY POINT IS YOU CAN DO IT BY DIRECTLY INVESTING IN THE R&D. THAT'S THE PUBLIC

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FINANCE MODEL. BUT YOU COULD ALSO DO IT BY GUARANTEEING OTHERS WHO ARE GOING TO DO IT THAT THEY DO IT, AND THAT'S ACTUALLY WHAT THE MODEL OF THE GATES FOUNDATION SAID. THEY SAID WE WANT TO GET GSK TO INVEST IN ANTIMALARIALS, SO WE WILL PROMISE TO BUY A VACCINE AT A CERTAIN RATE IF YOU REACH CERTAIN BENCHMARKS.

DR. MARTIN: I'LL JUST COMMENT THAT I THINK THAT THIS POINT THAT J.T. JUST BROUGHT UP IS ONE THAT I CAN REMEMBER 30 YEARS AGO WHEN JERE GOYAN RETIRED AS COMMISSIONER OF THE FDA, AND WE HAD A CELEBRATION AT UCSF. I TALKED ABOUT THE PROBLEM OF THE CONFLICT BETWEEN SOCIAL NEED AND/OR SOCIETAL NEED AND CAPITALISM. AND IT'S A SITUATION THAT WE ARE TALKING ABOUT WHERE WE REALLY NEED SOCIALISM AND MANDATORY VACCINATION, FOR EXAMPLE, VERSUS A CAPITALISM THAT IS ABSOLUTELY REQUIRED IN ORDER TO DEVELOP THESE VACCINES, THESE TREATMENTS, ET CETERA.

AND RECENTLY, A COUPLE YEARS AGO, AT THE FDA, WE WERE TALKING ABOUT THIS, AND I MADE THE COMMENT THAT THERE WERE THREE PROBLEMS WITH ANTIBIOTICS. ONE WAS THAT THEY SELECTED FOR RESISTANCE AND HORIZONTAL TRANSMISSION, AND THE OTHER IS THAT THEY WERE ESSENTIALLY, THE BIG ONE WAS THAT THEY WERE ABUSED BECAUSE THEY WERE TOO CHEAP.

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AND THAT'S A PROBLEM. YOU CAN'T GET CAPITALISM INVESTMENT IN ORDER TO BUILD THEM BECAUSE THEY ALSO CURE. THAT WAS THE THIRD ONE. THEY CURE THE DISEASE.

CHAIRMAN THOMAS: THEY'RE USED EVERY ONCE IN A WHILE FOR A COUPLE WEEKS.

MR. GOLDMAN: THE IRONY IS IF YOU THINK ABOUT THE BAD ACTORS IN, SAY, THE GENERIC INDUSTRY, WHAT HAPPENED IS GENERICS GOT SO CHEAP, THAT PEOPLE STOPPED MAKING THEM. AND THEN SUDDENLY YOU HAD A MONOPOLY ON GENERICS BECAUSE YOU WERE THE ONLY ONE. AND WE HAVE MONOPOLY POWER, WE HIKE THE PRICE. BUT THERE IS AN INTERESTING ANALOGY BECAUSE IF YOU THINK ABOUT IT, IN MY VIEW, SOME OF THESE DRUGS, ONCE THEY GO GENERIC, WE HAVE TO MAKE SURE PATIENTS HAVE ACCESS. AND WE DO THAT WITH -- THIS IS MAYBE NOT A GOOD ANALOGY TODAY, BUT IN ELECTRICITY WE REGULATE IT. WE KNOW EVERYONE NEEDS IT, AND WE MAKE SURE THERE'S A SAFE, EFFECTIVE SUPPLY. IT TURNS OUT IT'S NOT AS SAFE AND EFFECTIVE IN NORTHERN CALIFORNIA AS WE THOUGHT. SO THAT'S WHY IT'S A BET. BUT THE POINT IS WE GUARANTEE A FAIR RATE OF RETURN AND WE MAKE SURE THERE'S ACCESS.

AND THERE IS AN ELEMENT OF THAT FOR DRUGS, THAT YOU WANT TO MAKE SURE ONCE THINGS GO OFF

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PATENT. IT'S ENSHRINED IN THE CONSTITUTION THAT WE PROTECT INVENTORS' RIGHTS. AND THE REASON IT'S THERE IS WE WANT TO ENCOURAGE THE INNOVATION.

MY CONCERN IS PEOPLE DON'T REALIZE -- TO AN ECONOMIST WHAT WE REALLY CARE ABOUT IS NOT PILLS. WE WANT THE PRICE OF HEALTH. AND SO YOU THINK ABOUT MY HIV EXAMPLE. PRIOR TO THE INTRODUCTION OF ACTIVE ANTIRETROVIRAL THERAPY, THE PRICE OF HEALTH WAS INFINITE. MAGIC JOHNSON ANNOUNCED THAT HE WAS DIAGNOSED WITH HIV, AND I SAW HIS LAST PRESS CONFERENCE. I THOUGHT THAT WAS THE LAST I WOULD EVER SEE HIM BECAUSE IT WAS RIGHT BEFORE THE INTRODUCTION OF THE DRUGS, AND HE HAD ENOUGH MONEY. AT THAT POINT WE DIDN'T THINK THERE WAS ANYTHING. NOW IN THE ULTIMATE IRONY, HE OWNS THE LOS ANGELES DODGERS, AND HE'S DOING JUST FINE.

THE POINT IS THE PRICE OF HEALTH WENT FROM INFINITE DOWN TO 15,000 A YEAR AND NOW A DOLLAR A DAY. AND SO THAT TO AN ECONOMIST IS THE GREATEST SALE EVER. BUT WE HAVE TO DISTINGUISH BETWEEN THE PRICE OF THE TREATMENT AND THE PRICE OF THE HEALTH. COMING BACK TO THESE MILLION-DOLLAR TREATMENTS, YOU CAN ANNUITIZE THESE COSTS OVER A LIFETIME, AND THEY WILL LOOK VERY DIFFERENT THAN WHAT THEY LOOK LIKE IF WE PAY THEM ALL UPFRONT. WE JUST HAVE TO FIGURE OUT

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HOW TO ANNUITIZE THEM SO THE PEOPLE WHO REAP THE BENEFITS ARE PAYING PART OF THE COST.

DR. BLUMENTHAL: AS SENATOR TORRES POINTED OUT EARLIER, YOU DID A VERY INTERESTING JOB OF ESTIMATING THE ECONOMIC BENEFITS OF CIRM AS WELL AS THE MULTIPLICATIVE EFFECT, AND YOU ALSO DID AN ANALYSIS OF THE DOLLAR BENEFITS OF GOOD HEALTH GOING FORWARD FOR CURING DISEASES IN THE U.S. DID YOU MAKE ANY EFFORT TO ACTUALLY ASSESS THE ECONOMIC BENEFITS OF THE WORK THAT CIRM SPECIFICALLY HAS DONE IN ADVANCING HEALTHCARE, WHICH IS SORT OF ANALOGOUS TO YOUR FUTURES ANALYSIS, BUT ONE THAT'S MORE RETROSPECTIVE IN TERMS OF THE WORK THAT CIRM HAS DONE?

MR. GOLDMAN: WE HAVE NOT DONE A DEEP DIVE INTO THE CIRM PORTFOLIO. WE DID DO DRY AMD AND RETINAL PIGMENT- -- THANK YOU. I'M AN ECONOMIST AND I FULLY RECOGNIZE MY LIMITATIONS -- AND THOSE ARE AREAS WHERE WE'VE MADE SUBSTANTIAL PROGRESS, AND THAT'S WHY WE LOOKED AT THAT. BUT I CAN'T TELL YOU WITH CERTAINTY WHAT THE EXPECTED RETURN IS. WE'D HAVE TO LOOK MORE BROADLY AT THE PORTFOLIO.

WHAT I CAN TELL YOU IS WHEN YOU LOOK AT THE CONDITIONS WHERE THERE'S POTENTIAL BENEFITS, THEY'RE ALL REFLECTED IN THE DISEASES THAT WE

ANALYZED HERE.

CHAIRMAN THOMAS: ANY OTHER COMMENTS? DANA, THANK YOU VERY MUCH FOR YOUR WORK AND FOR A MOST INTERESTING DISCUSSION.

MR. GOLDMAN: THANK YOU.

(APPLAUSE.)

CHAIRMAN THOMAS: TWO OUTSTANDING PRESENTATIONS BACK TO BACK.

SO I THINK WHAT WE'D LIKE TO DO NOW, WE'RE COMING DOWN TO THE HOMESTRETCH, IF WE COULD BREAK JUST TO GRAB LUNCH AND POSSIBLY RECONVENE IN TEN TO FIFTEEN MINUTES TO WRAP UP. SO, BETH, IS THAT GOOD BY YOU? THANKS VERY MUCH.

(A RECESS WAS TAKEN.)

CHAIRMAN THOMAS: SO WE'RE DOWN TO A FEW ITEMS ON THE DISCUSSION AGENDA. WE WILL DO THE CHAIR'S REPORT FIRST FOLLOWED BY THE PRESIDENT'S REPORT AND THEN A RESOLUTION TO THE GRANTS WORKING GROUP.

START THE CHAIR'S REPORT. BITTERSWEET NEWS TO REPORT, WHICH IS LONGTIME, HUGELY INFLUENTIAL BOARD MEMBER, SHERRY LANSING, SUBMITTED HER RESIGNATION FROM THE BOARD. SHE FELT THAT SHE WOULD BE IN A BETTER POSITION TO HELP WITH A NEW INITIATIVE, WHICH SHE OBVIOUSLY COULD NOT DO IF SHE

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REMAINED ON THE BOARD. AND SO WITH RELUCTANCE AND GREAT FONDNESS FOR CIRM, ALL OF THE BOARD, ALL THE TEAM, ALL THE WORK WE'VE BEEN DOING, SHE SUBMITTED THAT. I'M NOT GOING TO DISCUSS THAT VERY MUCH AT THE MOMENT BECAUSE WE ARE MAKING PLANS TO PROPERLY THANK HER AT A FUTURE MEETING, WHICH I'LL GET TO IN A SECOND, BUT I JUST WANTED TO ALERT THE BOARD TO THE FACT THAT SHE HAS STEPPED DOWN, HAVING BEEN ONE OF THE ORIGINAL BOARD MEMBERS, AND THAT'S OBVIOUSLY A HUGE DEAL FOR CIRM. AND SO I WANTED YOU TO BE SO APPRISED.

THIS MEETING OBVIOUSLY IS AN UNUSUAL ONE. WITH THE EXCEPTION OF FUNDS THAT WE HAVE EARMARKED FOR SICKLE CELL PROJECTS THROUGH THE COLLABORATION WITH NHLBI AND SUCH ADDITIONAL FUNDS THAT WILL BE RECOVERED FROM OUTSTANDING AWARDS GOING FORWARD, THIS MARKS THE END OF THIS PHASE OF CIRM AND ITS ABILITY TO PUT OUT NEW MONEY AWARDS. THAT OBVIOUSLY IS A MAJOR MILESTONE EVENT.

YOU'VE HEARD THROUGH DR. MILLAN'S PRESENTATIONS, AND YOU WILL HEAR MORE, OF THE TREMENDOUS STATE OF PLAY OF THE WORK THAT WE HAVE ENABLED OVER THE YEARS AND ALL OF THE BEST-IN-CLASS PROJECTS THAT WE HAVE FINANCED THAT, IN TURN, HAVE LED TO DRAMATIC LEVERAGE FROM OTHER SOURCES THAT

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EXCEEDS THE AMOUNT OF MONEY WE'VE PUT OUT BY A LOT, WHICH IS A REMARKABLE STATISTIC. THIS HAS ALL DEVELOPED A BODY OF WORK FOR WHICH ALL OF US, CURRENT AND FORMER CIRM PARTICIPANTS AND TEAMMATES, SHOULD BE ENORMOUSLY PROUD.

HAVING SAID ALL OF THAT, THERE WILL BE WORK TO DO IN THE COMING YEAR. I WOULD LIKE, AS PART OF THIS DISCUSSION, TO PROPOSE THAT WE HAVE THREE MEETINGS NEXT YEAR IN FEBRUARY, MAY, AND SEPTEMBER. THEY'RE ALL STRATEGICALLY CALCULATED. AND BY THE WAY, HOPING TO BE ABLE TO SET UP THE FEBRUARY MEETING ON A DATE WHICH SHERRY CAN ATTEND. SHE WAS NOT ABLE TO ATTEND TODAY, WHICH IS WHY WE'RE NOT GIVING HER THE MASSIVE ACCOLADES SHE DESERVES.

SO THE FEBRUARY MEETING, AND ALL OF THESE, BY THE WAY, WILL INCLUDE, IMPORTANTLY, REPORTS BACK TO THE PUBLIC ON THE STATUS OF CIRM'S WORK AS OF THOSE TECHNICAL DATES. WE MAY, IN FACT, HAVE ONE OF THE MEETINGS DOWN IN LOS ANGELES SO AS TO BE ABLE TO HAVE PATIENTS AND PATIENT ADVOCATES FROM THERE ATTEND AS PART OF THIS REPORTING BACK TO THE PUBLIC AS THEY OBVIOUSLY ARE CRITICALLY IMPORTANT STAKEHOLDERS AS ARE ALL THE FOLKS STATEWIDE.

IN THE FEBRUARY MEETING, AT THAT POINT WE WILL HAVE -- THE LANGUAGE OF THE NEW INITIATIVE WILL

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HAVE BEEN FINALIZED. AS WE WILL THEN KNOW WHAT THE PROGRAM WILL BE, IF AND WHEN THAT INITIATIVE IS PASSED, WE WILL BE COMING BACK TO TALK TO THE BOARD ABOUT THE NEED TO START A DISCUSSION ON THE STRATEGIC PLAN, IF AND WHEN THE NEW MEASURE PASSES. AS YOU KNOW, OUR STRATEGIC PLAN CURRENTLY IN PLACE RUNS THROUGH THE YEAR 2020. SO IT'S ONLY PROPER THAT WE HAVE THAT CONVERSATION STARTING IN FEBRUARY. THE BOARD WILL BE INTEGRALLY INVOLVED ALONG THE WAY. EACH OF YOU WILL BE PARTICIPANTS AND ASKED TO GIVE YOUR GUIDANCE ON VARIOUS TOPICS.

I WILL BE HIGHLY INVOLVED WORKING WITH DR. MILLAN AND THE LEADERSHIP TEAM, WHICH WILL BE MEETING AT REGULAR INTERVALS, TO DISCUSS THE STRATEGIC PLAN. I, IN ADDITION TO YOU HAVING DIRECT INPUT, WILL ACT AS A CONDUIT FOR YOUR COMMENTS IN THOSE STRATEGIC PLAN DISCUSSIONS.

WE WILL ALSO BE INVOLVED THROUGH MYSELF AND WORKING WITH DR. MILLAN TO DRAFT THE OUTLINES OF A STRATEGIC PLAN. AND THE FIRST OUTLINE OF THE STRATEGIC PLAN WILL BE BROUGHT TO MEETING NO. 2 NEXT YEAR, WHICH WILL BE IN MAY, WHICH WILL ALSO BE A TIME WHEN WE WILL CONSIDER THE BUDGET FOR THE COMING STRETCH, WHICH WILL BE BASED ON FUNDS THAT ARE AVAILABLE AS IDENTIFIED AT THAT TIME.

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AND THEN, AS I SAID OFF THE TOP, WE'LL HAVE A REPORT BACK TO THE PUBLIC AT THAT MEETING AS WELL. THE INITIATIVE, IF IT'S GOING TO MAKE IT ONTO THE BALLOT, WILL BE SO NOTED IN JUNE. AND SO WE NEED TO HAVE A MEETING IN SEPTEMBER AT WHICH THE BOARD CONSIDERS WHETHER OR NOT TO ENDORSE THE INITIATIVE FORMALLY. AND AT THAT TIME WE WILL HAVE FURTHER DISCUSSION ON THE DRAFT STRATEGIC PLAN, ALL OF WHICH, OF COURSE, IS NOT GOING TO BE FINALIZED UNTIL AND IF THE MEASURE IS PASSED IN NOVEMBER AND THE NEW BOARD CONVENES THEREAFTER. IT WILL BE THE BODY THAT WILL ACTUALLY SAY YEA OR NAY ON THE STRATEGIC PLAN. SO WE'LL HAVE A BENEFIT OF MULTIMONTH, MULTISTAKEHOLDER BOARD HEAVY PARTICIPATION IN THE PROCESS DEVELOPMENT OF THAT PLAN, AND THAT WILL BE FINALIZED IN ADVANCE OF THE 2021 ACTUAL DECISION TO ADOPT OR NOT.

SO WE WILL BE ACTING REALLY AS ADVISORS, IF YOU WILL, TO THE BOARD AS IT CONVENES AFTER THAT. SO THERE ARE THOSE THREE BOARD MEETINGS.

THE APPLICATION REVIEW SUBCOMMITTEE AND THE BOARD IN GENERAL, BUT AS WE HAVE HAD REGULARLY TELEPHONIC MEETINGS OF THE APPLICATION REVIEW SUBCOMMITTEE, IT WILL MEET ON AN AD HOC BASIS TO VOTE ON SUCH PROJECTS THAT ARE RECOMMENDED BY THE

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GWG, WHETHER IT'S THE SICKLE CELL OR IT'S OTHER PROJECTS THAT MAY BE POSSIBLE COURTESY OF FURTHER RECOVERED FUNDS OR OTHER FUNDS THAT WE MAY GET.

I SHOULD NOTE THAT I THINK, IN ADDITION IN FEBRUARY, WE ARE ALSO GOING TO WANT TO HAVE SOME BRAINSTORMING AT THE BOARD LEVEL ON IF WE DO GET ADDITIONAL FUNDS BACK IN, WHERE DO WE SEE MOST FIT FOR THOSE TO BE DEPLOYED IN TERMS OF WHETHER IT'S CLIN OR TRAN OR WHATEVER IT MIGHT BE, IT'S AT THE BOARD'S PLEASURE. AND SO THAT IS HOW I SORT OF SEE THE BOARD MEETINGS GOING FOR NEXT YEAR.

THERE ARE OTHER THINGS THAT ARE GOING TO BE GOING ON, OF COURSE. WE HAVE HAD, IN TERMS OF ADDITIONAL FUNDS, WE HAVE HAD AND CONTINUE TO HAVE ONGOING EFFORTS TO SECURE BRIDGE FUNDING WHICH HAVE NOT BEEN SUCCESSFUL TO DATE. HOWEVER, WE WILL CONTINUE THOSE EFFORTS APACE AND HOPEFULLY WILL BE ABLE TO REPORT BACK AT SUCH TIME AS WE ARE ABLE TO HAVE SUCCESS IN THAT.

THE BOARD WILL CONTINUE. WE'VE ALL ACTED AS AMBASSADORS FOR CIRM AND FOR WHAT WE DO. AND SO I AND ALL OF US, WE CAN EXPECT TO BE CALLED UPON TO SPEAK TO REPRESENT CIRM AT CONFERENCES, MEETINGS, ET CETERA AS PART OF THIS ONGOING REPORTING BACK TO THE PUBLIC ON WHAT WE ARE DOING.

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WE WILL BE VERY ACTIVE IN COMMUNICATIONS, WHICH TAKES VARIOUS FORMS, WHETHER IT'S AS CALLED UPON BY SENATOR TORRES IN HIS MOST ABLE STEWARDING OF ISSUES THAT ARISE IN SACRAMENTO. IF HE NEEDS HELP ON THAT, WE WILL BE THERE FOR THAT. WE WILL, OF COURSE, WE FREQUENTLY END UP GIVING SPEECHES, INTERVIEWS, EDITORIAL BOARD MEETINGS, ET CETERA. WE WILL CONTINUE TO DO ALL THAT.

SO WHEN YOU SORT OF ADD THAT ALL TOGETHER, WHILE, YES, IT'S TRUE WE ARE NOT GOING TO HAVE, WITH LIMITED EXCEPTION, MEETINGS TO MAKE NEW AWARDS, WE HAVE PLENTY OF WORK THAT WE CAN DO IN ADVANCE AND ON THE ASSUMPTION THAT THE NEW INITIATIVE WILL PASS.

SO THAT'S SORT OF HOW I SEE THE GAME PLAN GOING FORWARD, AND I WELCOME ANY COMMENTS ON THAT.

MR. SHEEHY: SO I HAD SOME QUESTIONS ABOUT THE STRATEGIC PLANNING PROCESS. SO WHAT'S THE SCOPE THAT YOU'RE ANTICIPATING FOR THE STRATEGIC PLAN?

CHAIRMAN THOMAS: WELL, I THINK THAT THAT IS ONE OF THE MAJOR TOPICS FOR BOARD DISCUSSION IN FEBRUARY.

MR. SHEEHY: AND WHAT -- LIKE -- SO I THINK I'VE BEEN THROUGH THREE STRATEGIC PLANS, MORE OR LESS. SO, IN GENERAL, ONE OF THE THINGS I'VE BEEN VERY FRUSTRATED ABOUT IS WE'VE NEVER HAD AN

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HONEST LOOK BACK. SO IF YOU GO BACK TO OUR ORIGINAL STRATEGIC PLAN THAT WAS DEVELOPED WHEN ZACH HALL WAS THE FIRST PRESIDENT, HE ACTUALLY CONVENED A TWO-DAY MEETING WITH PEOPLE FROM AROUND THE COUNTRY TO ACTUALLY PROVIDE THE SCIENTIFIC INPUT. AND THEN HE HAD PUBLIC MEETINGS WITH PATIENT ADVOCATES.

I THINK THE SECOND ONE WAS A LITTLE ATTENUATED FROM THAT, AND REALLY THE ONE RANDY DID WAS OPERATIONAL.

SO I GUESS MY FIRST KIND OF HOPE IS THAT WE WOULD HAVE A VERY PUBLIC PROCESS, ESPECIALLY SINCE WE'RE ASKING PEOPLE FOR $5.5 BILLION IN ORDER TO DO THIS, AND THAT WE REALLY DO ANALYZE WHAT WE'VE DONE IN A FAIRLY SOPHISTICATED WAY. THE SCIENCE HAS CHANGED SO DRAMATICALLY, THAT I REALLY THINK -- AND WE HAD A DISCUSSION HERE AND I THINK WE ENDED UP ALMOST MORE CONFUSED BEFORE WE STARTED THAN AFTER -- MORE CONFUSED AFTER WE HAD OUR DISCUSSION THAN WHEN WE STARTED. SO I WOULD HOPE THAT WE COULD HAVE A LOT OF TRANSPARENCY, A LOT OF PUBLIC PARTICIPATION. IT WOULD BE VERY FRUSTRATING TO ME IF I GET A DOCUMENT, ASK FOR MY REACTION, AND THEN IT'S JUST DROPPED IN FRONT OF US. I WOULDN'T THINK THAT WAS A LEGITIMATE PROCESS.

AND THE OTHER QUESTION I HAVE ABOUT THAT

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PLANNING IS THAT THERE ARE ELEMENTS IN THE NEW MEASURE THAT COULD IMPACT -- WELL, WE HAVE REQUIREMENTS. DO WE DO A STRATEGIC PLAN WITH THOSE REQUIREMENTS EMBEDDED IN IT WHETHER OR NOT WE THINK THAT THOSE ELEMENTS MAKE SENSE? WE HAVE TO SET UP A STATEWIDE CLINIC SYSTEM WITHIN THE NEW MEASURE. I DON'T UNDERSTAND HOW WE, AS A RESEARCH FUNDING AGENCY, INTEND TO DO THAT. THAT'S A SERIOUS UNDERTAKING. WE ARE REQUIRED TO DO CERTAIN TYPES OF TRAINING PROGRAMS. WE'VE DONE SOME OF THEM BEFORE, SO THAT MAY MAKE SENSE. DO WE JUST DECIDE AUTOMATICALLY THAT WHAT'S IN THE MEASURE IS GOING TO BE PART OF OUR STRATEGIC PLAN? THERE'S A SHARED LABS PROGRAM WHICH REALLY WAS A PROGRAM THAT HAD ITS FULL FUNCTION TO CREATE ADDITIONAL SPACE WHERE WE COULD DO EMBRYONIC STEM CELL RESEARCH BECAUSE WE HAD THE FEDERAL MANDATE TO SEGREGATE ANY FEDERALLY FUNDED RESEARCH INCLUDING --

MR. TORRES: I THOUGHT WE COULDN'T DO THAT.

MR. SHEEHY: WELL, I'M DISCUSSING THE RELATIONSHIP BETWEEN THE INITIATIVE AND THE STRATEGIC PLAN. DO WE HAVE IN OUR STRATEGIC PLAN A SHARED LABS PROGRAM? DO WE HAVE IN OUR STRATEGIC PLAN AN EDUCATION PROGRAM? DO WE HAVE IN OUR

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STRATEGIC PLAN A CLINIC NETWORK PROGRAM? DO WE INCLUDE IN OUR THINKING FOR THE STRATEGIC PLAN ALL OF THE ELEMENTS THAT ARE INCLUDED IN THE NEW MEASURE? IT'S JUST A QUESTION.

CHAIRMAN THOMAS: MR. HARRISON, WOULD YOU LIKE TO ADDRESS THAT ISSUE?

MR. HARRISON: SURE. I THINK THERE ARE PERHAPS TWO APPROACHES TO THE STRATEGIC PLAN, AND THEY'RE NOT MUTUALLY EXCLUSIVE. ONE APPROACH IS WHAT IS CIRM'S STRATEGIC PLAN GOING FORWARD IF THERE IS NO ADDITIONAL FUNDING FORTHCOMING? THE SECOND IS A STRATEGIC PLAN THAT ASSUMES THAT THE BALLOT MEASURE, AS IT'S FINALIZED, IS APPROVED BY THE VOTERS AND PLANS FOR THE IMPLEMENTATION OF THAT. SO UNDER THAT SCENARIO, THE STRATEGIC PLAN WOULD BE CONSISTENT WITH WHATEVER THE MEASURE REQUIRES OR MANDATES, OR WHERE IT'S PERMISSIVE, WHATEVER THE BOARD DECIDES TO RECOMMEND. AND GOING FORWARD, AS THE CHAIR SAID, THE ULTIMATE DECISION WOULD BE UP TO THE BOARD.

MR. SHEEHY: THAT'S FINE. I'M NOT -- CURIOUS. THANK YOU. I WASN'T ANTICIPATING A LEGAL ANSWER. I WAS THINKING PEOPLE MIGHT TAKE LEADERSHIP AND ASSERT A POLICY ROLE, BUT THE LAW WILL DO --

CHAIRMAN THOMAS: WELL, I THINK THE ISSUE

HERE IS WE HAVE TO CONFORM TO WHATEVER -- THAT'S WHY I ASKED MR. HARRISON HERE. WE HAVE TO CONFORM TO WHAT'S DICTATED OR DO WE HAVE DISCRETION. TO ME GOING BACK HISTORICALLY, NOT HAVING BEEN HERE AT THE OUTSET, WAS THE STRATEGIC PLAN THAT WAS FORMULATED THAT JEFF REFERS TO BY ZACH, DID THAT STRICTLY ADHERE TO THE FOUR CORNERS OF PROP 71, OR WERE THERE SOME THINGS THAT THE BOARD DECIDED NOT TO DO? WHAT IS THE HISTORY ON THIS?

MR. HARRISON: IT TURNS ON THE LANGUAGE OF THE STATUTE. CERTAIN PROGRAMS ARE PERMISSIVE AND SOME ARE MANDATED. A STRATEGIC PLAN WOULD ANALYZE THOSE PROGRAMS THAT THE INSTITUTE IS REQUIRED TO CARRY OUT AND THOSE PROGRAMS OVER WHICH IT HAS DISCRETION, AND THE BOARD WOULD CONSIDER THOSE DIFFERENT PATHS AND MAKE DECISIONS ABOUT HOW IT WISHES TO PROCEED.

MR. JUELSGAARD: GOING BACK TO THE AMOUNT THAT A LAWYER MIGHT BE INVOLVED IN THIS, THIS IS A QUESTION FOR JAMES. IMAGINE THAT THE NEW STRATEGIC PLAN WHICH GETS DISCUSSED, AND WHICH, OF COURSE, IS ALL HAPPENING IN A PUBLIC SETTING, SO MEMBERS OF THE PUBLIC CAN ATTEND, AND WE DECIDE WE'RE GOING TO CURE ALZHEIMER'S. SO THAT BECOMES PART OF THE STRATEGIC PLAN. DOES THAT GO BEYOND THE BOUNDS OF THE CASES

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THAT YOU PRESENTED?

MR. HARRISON: NO. AND SO I WOULD ANALOGIZE THIS TO THE PLANNING PROCESS THAT THE CITY OF SALINAS UNDERTOOK WHEN IT WAS CONFRONTED WITH A VOTER-QUALIFIED BALLOT MEASURE THAT WOULD HAVE ELIMINATED THE CITY'S UTILITY USERS TAX, WHICH WOULD HAVE RESULTED IN A SIGNIFICANT DECREASE IN THE CITY'S BUDGET.

SO WHAT THE COUNCIL DID IN RESPONSE TO THAT WAS TO ENGAGE IN A PLANNING PROCESS IN WHICH IT ADOPTED A BUDGET THAT WAS CONTINGENT UPON THE VOTERS' APPROVAL OF THE MEASURE, AND THEN AN ALTERNATIVE BUDGET THAT WAS BASED ON THE VOTERS' REJECTION OF THE MEASURE.

SO I WOULD POSIT THAT YOU'RE IN A VERY SIMILAR SITUATION TO THE CITY OF SALINAS BECAUSE YOU ARE CONFRONTED WITH A SITUATION WHERE EITHER -- THIS IS ALL ASSUMING, BY THE WAY, THAT THE MEASURE QUALIFIES -- YOU'LL BE CONFRONTED WITH A SITUATION WHERE EITHER THERE WILL BE NO ADDITIONAL FUNDS FORTHCOMING BECAUSE THE VOTERS WILL REJECT THE MEASURE, OR YOU WILL HAVE AN ADDITIONAL $5.5 BILLION WHICH COME WITH SOME STRINGS, IN WHICH CASE YOU'D HAVE TO PLAN FOR HOW THOSE FUNDS WOULD BE EXPENDED.

MR. JUELSGAARD: SO LET ME JUST DISAGREE

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WITH YOU AS ANY GOOD LAWYER WOULD. SO THE CITY OF SALINAS WAS DEALING WITH NUMBERS. THEY COULD DEAL WITH NUMBERS WITH AND NUMBERS WITHOUT. WE ARE TALKING STRATEGIC PLANS TEND TO BE ASPIRATIONAL IN NATURE. SO NOT SO MUCH YOU'VE GOT A FIXED SET OF FACTS, BUT THIS IS WHAT WE HOPE TO DO, INTEND TO DO, AND THEY'RE USUALLY VERY POSITIVELY ORIENTED. I DON'T EXPECT TO ANSWER THIS RIGHT HERE RIGHT NOW. WE'LL WIND UP DEALING WITH THIS LATER.

MY CONCERN IS THAT WITH THE STRATEGIC PLAN MIGHT IN SOME FASHION BE VIEWED A LITTLE DIFFERENTLY THAN YOU JUST LAID IT OUT.

MR. HARRISON: SO THAT'S A FAIR POINT. AS MR. SHEEHY OBSERVED, THIS AGENCY HAS HAD EXPERIENCE WITH DIFFERENT KINDS OF STRATEGIC PLANS OVER THE YEARS, SOME OF WHICH ARE MORE ASPIRATIONAL AND SOME OF WHICH ARE MORE OPERATIONAL IN NATURE. SO I THINK PART OF WHAT YOU'LL BE CONFRONTED WITH IS WHAT THE STRATEGIC PLAN LOOKS LIKE. IN MY THINKING I'M IMAGINING SOMETHING THAT IS MORE OPERATIONAL IN NATURE BECAUSE YOU WILL HAVE A DECISION TO MAKE ABOUT HOW $5.5 BILLION WOULD BE ALLOCATED. IN SOME CASES THERE ARE OR WILL BE POTENTIALLY RESTRICTIONS ON HOW THOSE FUNDS CAN BE USED. SOME FUNDS MAY BE EARMARKED. SO YOU AS A BOARD WILL BE CONFRONTED

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WITH THE RESPONSIBILITY FOR PLANNING FOR THAT EVENTUALITY.

CHAIRMAN THOMAS: SO IN LIGHT OF YOUR COMMENTS, I THINK THE ANSWER, JEFF, WOULD BE I THINK IT'S GOING TO LARGELY DEPEND ON HOW THE BOARD VIEWS THE APPROACH IT WANTS TO TAKE IN THAT PARTICULAR STRATEGIC PLAN CONTEXT, NOT TO BE DECIDED HERE TODAY, BUT I JUST WANTED TO GET A HANDLE ON WHAT CONSTRAINTS WE MIGHT BE UNDER COURTESY OF THE LANGUAGE, WHICH WILL BE FIXED AT THAT POINT, BUT IT'S THEN UP TO US TO PRIORITIZE AND TO DETERMINE WHETHER WE WANT IT TO BE ASPIRATIONAL, OPERATIONAL, SOME COMBINATION OF WHATEVER. I THINK WE WANT TO DO WHAT'S BEST TO IMPLEMENT A PROGRAM THAT WILL ACHIEVE THE BEST POSSIBLE RESULTS. AND I'M SURE WE'LL HAVE A VERY ROBUST DISCUSSION AT THAT POINT.

MR. SHEEHY: CAN I ASK A COUPLE OF QUESTIONS OF COUNSEL?

CHAIRMAN THOMAS: CERTAINLY.

MR. SHEEHY: IS THERE ANYTHING THAT WOULD PROHIBIT THIS BOARD FROM EXPRESSING OPINION ON THE MEASURE THAT'S CURRENTLY FILED WITH THE ATTORNEY GENERAL?

MR. HARRISON: SO AS INDIVIDUAL BOARD MEMBERS, AS I MENTIONED AT THE OUTSET OF THE MEETING

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TODAY, YOU'RE ALL FREE TO EXPRESS YOUR OWN OPINIONS.

MR. SHEEHY: YOU'RE MISSING THE QUESTION. SO THIS THING IS ACTUALLY OPEN RIGHT NOW TO BE CHANGED.

MR. HARRISON: CORRECT.

MR. SHEEHY: SO IT'S NOT LEGAL FOR US AS A BOARD TO WEIGH IN ON ELEMENTS?

MR. HARRISON: NO. I WAS TRYING TO RESPOND TO THAT QUESTION. YOU ARE FREE IN YOUR INDIVIDUAL CAPACITY TO WEIGH IN ON ELEMENTS OF THE MEASURE TO PROVIDE COMMENTS TO THE AG OR TO THE PROPONENT DIRECTLY. THE BOARD AS A BODY COULD COLLECTIVELY WEIGH IN, BUT IT WOULD HAVE TO DO SO AT A NOTICED PUBLIC MEETING AT WHICH THOSE COMMENTS WERE ASSEMBLED.

SO THERE ARE TWO DIFFERENT WAYS IN WHICH YOU AS BOARD MEMBERS CAN EXERCISE YOUR OPINION OR PROVIDE YOUR INPUT. ONE IS DIRECTLY AND THE OTHER WOULD BE IF THE BOARD WERE TO DECIDE TO NOTICE A MEETING AND CONSIDER IT AS A WHOLE.

MR. SHEEHY: BECAUSE THERE'S SEVERAL PROGRAMMATIC -- IN FACT, THIS, I THINK, HAS MORE PROGRAMMATIC, DRAMATICALLY MORE PROGRAMMATIC IMPERATIVES IN IT, REQUIREMENTS, I THINK, THAN THE ORIGINAL MEASURE, NO?

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MR. HARRISON: IT HAS SOME ADDITIONAL ONES IS THE WAY I WOULD FRAME IT.

MR. SHEEHY: RIGHT. THE ORIGINAL MEASURE REALLY, OUTSIDE OF THE REQUIREMENT TO BUILD BUILDINGS, DID NOT ACTUALLY DIRECT THE AGENCY TO HAVE SPECIFIC PROGRAMS.

MR. HARRISON: CORRECT.

MR. SHEEHY: SO MY QUESTION IS WHY HAVE WE NOT AS A BOARD -- WHY ARE WE NOT HAVING THIS DISCUSSION? WE HAVE TILL NOVEMBER 11TH, I BELIEVE, TO GET INPUT IN.

MR. HARRISON: NOVEMBER 18TH IS THE DATE BY WHICH AMENDMENTS HAVE TO BE FILED. THE PUBLIC COMMENT PERIOD CLOSES FIVE DAYS PRIOR TO THAT.

MR. SHEEHY: I DON'T UNDERSTAND WHY WE AS A BOARD, WHEN WE HAVE THIS WINDOW TO ASK QUESTIONS AMONGST OURSELVES OF WHAT WE THINK IS APPROPRIATE TO BE IN THE NEXT MEASURE, WE HAVEN'T SCHEDULED A MEETING OR AGENDAD ANY DISCUSSION OF THE ELEMENTS OF THE NEW MEASURE. THIS AFFECTS THE WORK THAT THE AGENCY WILL DO GOING FORWARD.

WE HAVE BASICALLY CEDED ANY INPUT OVER WHAT WILL BE -- HOW THE NEXT 5.5 BILLION WILL BE SPENT IN SEVERAL REALMS.

MR. TORRES: NOT RELEVANT.

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MR. SHEEHY: AM I WRONG? AM I THE ONLY BOARD MEMBER THAT FEELS LIKE WE SHOULD DECIDE -- WE SHOULD AT LEAST HAVE AN OPINION WHETHER WE THINK CERTAIN ELEMENTS SHOULD BE INCLUDED IN THE NEW MEASURE? WE ARE RUNNING A STATE AGENCY. WE'RE APPOINTED BY STATE OFFICEHOLDERS. AM I CRAZY? I FEEL LIKE I'M -- NO ONE AGREES? WE SHOULD JUST HAVE HANDS OFF? WHATEVER COMES UP IS FINE WITH US?

CHAIRMAN THOMAS: I THINK, JEFF, IF THE BOARD WOULD BE INTERESTED, AND CERTAINLY BECAUSE THERE ARE NEW ELEMENTS IN THE INITIATIVE BEYOND PROP 71, THAT IF THE BOARD IS INTERESTED IN HAVING SUCH A GROUP DISCUSSION, WE DO HAVE TIME, WE COULD AGENDIZE THAT AND PROCEED.

MR. TORRES: MR. CHAIRMAN, I DON'T UNDERSTAND WHAT THE END RESULT WILL BE SINCE WE ARE NOT THE WRITERS OF THIS INITIATIVE. OUR ONLY OPTION AT THIS POINT IS TO SUPPLY COMMENTS TO THE ATTORNEY GENERAL, CORRECT? OR TO HAVE A DIRECT CONVERSATION WITH BOB KLEIN, WHICH YOU CAN OBVIOUSLY HAVE. OR SUBMIT COMMENTS TO THE AG. THAT'S THE ONLY OPTION WE HAVE. SO HAVING A DISCUSSION BY THE BOARD, AND I THOUGHT WE HAD ONE ALREADY, BUT I GUESS I MISUNDERSTOOD.

I JUST THINK THAT THOSE ARE THE ONLY TWO

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OPTIONS. IF YOU SO DESIRE, I THINK ANY BOARD MEMBER IS MORE THAN ABLE AND ALLOWED TO TALK TO THE AG AS A CITIZEN OF CALIFORNIA. IS THAT CORRECT OR NOT?

MR. HARRISON: THAT IS CORRECT.

MR. SHEEHY: I'M JUST ASKING, AS A BOARD, DO WE PERCEIVE THAT WE HAVE A RESPONSIBILITY TO TAKE POSITIONS WHILE THE MEASURE CAN STILL BE CHANGED ON ELEMENTS THAT DIRECTLY REQUIRE US TO -- IT SHAPES THE PROGRAM WE HAVE GOING FORWARD. IN SOME WAYS I THINK IT CHANGES THE NATURE OF WHAT WE'VE BEEN DOING AS AN AGENCY.

MR. TORRES: MY QUESTION IS DOES THAT REQUIRE A VOTE OF THE BOARD TO DO THAT? IF SO, IT HAS TO BE AGENDIZED. OR TAKE OUR INDIVIDUAL RESPONSIBILITIES AS CITIZENS OF CALIFORNIA TO SUBMIT A COMMENT TO THE ATTORNEY GENERAL INDIVIDUALLY.

MR. HARRISON: BOTH THOSE OPTIONS WOULD BE AVAILABLE TO THE BOARD, AND THEY'RE NOT MUTUALLY EXCLUSIVE.

DR. MARTIN: I HAVE NOT SEEN THE INITIATIVE. DO I HAVE ACCESS TO IT?

MR. SHEEHY: YES.

MR. JUELSGAARD: THERE WAS A LINK THAT WAS SENT TO US.

DR. PRIETO: I GUESS I FELT CONSTRAINED

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ABOUT COMMENTING. I WASN'T FULLY AWARE REALLY UNTIL THIS CONVERSATION THAT WE DID HAVE THAT KIND OF FREEDOM TO OPERATE, IF YOU WILL. SO I THINK IF WE DO NOT HAVE TIME TO MAKE COMMENTS AS A BOARD BETWEEN NOW AND NOVEMBER 18TH, I GUESS IT BEHOOVES US TO EXAMINE THE LANGUAGE NOW AND SUBMIT COMMENTS. IF WE SUBMIT COMMENTS TO THE ATTORNEY GENERAL, WHAT'S THE POTENTIAL EFFECT OF THAT VERSUS SUBMITTING COMMENTS TO THE AUTHOR?

MR. HARRISON: THEY'RE EFFECTIVELY THE SAME. THE ATTORNEY GENERAL WILL COMPILE ALL PUBLIC COMMENTS THAT HIS OFFICE RECEIVES DURING THE 30-DAY PERIOD FOLLOWING THE FILING OF THE MEASURE AND THEN TURN THEM OVER TO THE PROPONENT. SO IT'S JUST A QUESTION OF WHETHER THE ATTORNEY GENERAL DELIVERS THEM OR WHETHER YOU SEND THEM DIRECTLY.

DR. PRIETO: AND THEN IT'S UP TO THE PROPONENT TO REVISE THE LANGUAGE?

MR. HARRISON: CORRECT. THE PROPONENT HAS THE DISCRETION TO DETERMINE WHAT TO DO, IF ANYTHING, WITH THE COMMENTS.

MR. TORRES: ONLY THE PROPONENT.

MR. SHEEHY: I GET THE PROPONENT. I THINK THE BOARD HAS A RESPONSIBILITY. I THINK IT'S OUR JOB TO LOOK AT THIS MEASURE WHILE IT CAN STILL BE

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CHANGED, WHILE IT STILL CAN BE AMENDED. AND THE SPONSOR HAS EVERY RIGHT TO DO WHATEVER THEY WANT; BUT TO NOT DO SO, SEEMS TO ME, LIKE AN ABDICATION OF RESPONSIBILITY. FRANKLY, I'M SURPRISED IT'S NOT ON TODAY'S AGENDA, WHICH WOULD HAVE BEEN -- I THOUGHT THAT THAT WOULD HAVE BEEN PART OF TODAY'S DISCUSSION TO ON A VERY GRANULAR LEVEL, ESPECIALLY WHERE THERE'S PROGRAMMATIC REQUIREMENTS, LIKE -- PART OF OUR STRATEGIC PLAN IS ALREADY WRITTEN. AND ARE WE OKAY WITH IT? DO WE THINK THIS IS A GOOD USE OF RESOURCES? THESE ARE HANDCUFFS. WE HAVE TO FUND THESE PROGRAMS. MAYBE THEY'RE GOOD IDEAS. I'M NOT SAYING. ONE POINT BILLION GOES FOR BRAIN DISEASE. I THINK THAT'S GREAT. THANK YOU, MS. MILLER. I THINK THAT'S GREAT. YOU KNOW, WHAT ELEMENTS -- AS A BOARD, DO WE JUST SAY THIS HAS BEEN DECIDED BY SOMEONE ELSE OUTSIDE OF A PUBLIC FRAMEWORK FOR AN AGENCY THAT'S BEEN IN EXISTENCE 16 YEARS? IT JUST IS A VERY UNUSUAL PROCESS FOR ME.

MR. TORRES: WELL, IT'S STATUTORY AND IT'S CONSTITUTIONAL, AND THAT'S WHY WE ARE RESTRICTED IN THIS WAY.

MR. SHEEHY: WE ARE NOT RESTRICTED. WE CAN LOOK AT WHAT'S IN THE MEASURE.

MR. TORRES: THIS IS RESTRICTED TO EVERY

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INITIATIVE THAT GOES FORWARD TO THE PUBLIC. IT COMES BACK TO THE ATTORNEY GENERAL FOR TITLE AND SUMMARY; AND DURING A CERTAIN PERIOD OF TIME, ANYONE IN THE STATE CAN COMMENT ON WHETHER IT'S AB 5, WHETHER IT'S A DAM PROJECT, WHETHER IT'S WHATEVER IS GOING TO APPEAR ON THE BALLOT FOR CIRCULATION. THAT'S THE WAY THE LAW IS WRITTEN, UNFORTUNATELY. SO EITHER YOU DEAL WITH THE ATTORNEY GENERAL, WHO JUST IS THE RECIPIENT OF THE COMMENTS, WHICH ARE THEN TRANSFERRED TO THE PROPONENT, AND ONLY THE PROPONENT, ACCORDING TO THE LAW, CAN CHANGE OR ADD. THAT'S WHERE WE'RE RESTRAINED.

MR. SHEEHY: I'M JUST TALKING ABOUT THE BOARD PLAYING A ROLE IN MAKING A COMMENT. INDIVIDUALS WE CAN, BUT DO WE HAVE AN OPINION? IT HAS BEEN DECIDED THAT WE DO NOT.

MR. TORRES: I THINK WE ARE CONSTRAINED BY --

MR. SHEEHY: WE ARE NOT CONSTRAINED.

MR. TORRES: I'M SORRY. I THOUGHT THAT WE WERE CONSTRAINED BECAUSE WE WOULD HAVE TO TAKE A VOTE ON ANY OPINION THAT WAS ISSUED HERE. OTHERWISE, YOU CAN DO IT ON YOUR OWN. IF YOU'RE COMING TO THE BOARD, THEN YOU'RE GOING TO HAVE TO HAVE A VOTE OF THE BOARD ON WHETHER PEOPLE AGREE

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WITH THAT OPINION OR NOT. OKAY. WE AGREE WITH NO. 1. SUBMIT IT. WE AGREE WITH NO. 2. SUBMIT IT. WE DON'T AGREE WITH NO. 3. DON'T SUBMIT IT. THAT'S WHAT WE'RE DEALING WITH UNFORTUNATELY. IT'S NOT ANYTHING THAT WE'RE LIABLE FOR. IT'S WHAT THE LAW IS.

MR. SHEEHY: THAT'S THE PROCESS I'M ASKING FOR. I THINK WE SHOULD HAVE HAD THAT PROCESS. WE SHOULD HAVE THAT PROCESS. THIS IS -- WE ARE RESPONSIBLE FOR THIS AGENCY. WE ARE THE BOARD OF DIRECTORS FOR AN AGENCY. A MEASURE HAS COME UP THAT DIRECTLY AFFECTS THIS AGENCY, AND WE HAVE NOT SCHEDULED A MEETING WITH AN AGENDA IN ORDER TO REVIEW THE MEASURE, IN ORDER TO OFFER OUR OPINION ON EACH ELEMENT THAT'S NEW IN THAT MEASURE.

AND THAT'S NOT TO GET INTO SOME SORT OF CONFLICT WITH THE PROPONENT, BUT IT IS TO DO OUR DUTY AS BOARD MEMBERS. WE ARE RESPONSIBLE FOR THIS.

MR. TORRES: WE ARE RESPONSIBLE APPROPRIATELY ON WHETHER WE DECIDE TO TAKE A POSITION ON THE INITIATIVE OR NOT. AND IT'S YOUR PREROGATIVE, IF YOU WANT TO VOTE NO WHEN THAT MOTION IS MADE OR IF IT'S EVEN MADE, THEN THAT'S YOUR PREROGATIVE. THAT'S WHEN THIS BOARD WILL OFFICIALLY ACT ON WHETHER TO SUPPORT AN INITIATIVE OR NOT.

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RIGHT NOW IT'S -- I DON'T KNOW WHETHER YOU HAD CONVERSATIONS WITH BOB KLEIN RECENTLY OR NOT. I'M NOT AWARE OF THAT, SO I DON'T KNOW. THAT'S THE ONLY OPTIONS WE HAVE. YOU CAN'T HAVE A DISCUSSION OF THE BOARD AND SAY WE'RE GOING TO SUBMIT THIS WITHOUT A VOTE BY THE BOARD. IS THAT CORRECT?

MR. HARRISON: RIGHT. IF THE DESIGN OF THE MEETING IS TO PROVIDE COMMENTS FROM THE BOARD, THEN THERE WOULD BE MOTIONS TO RECOMMEND AND APPROVE A SET OF COMMENTS JUST AS THE BOARD ORDINARILY DOES BUSINESS.

MR. SHEEHY: SOMEWHERE THERE WAS A DECISION MADE THAT I DID NOT PARTICIPATE IN TO NOT HAVE THIS BOARD WEIGH IN AS A BODY ON THIS MEASURE. AND THAT'S WHAT I'M OBJECTING TO.

MR. TORRES: WELL, THIS BOARD WILL HAVE THAT OPPORTUNITY ONCE WE DECIDE, IF WE DECIDE, TO TAKE A PUBLIC POSITION ON THIS INITIATIVE OR, AS WE HAVE IN THE PAST, ANY PIECE OF LEGISLATION. YES, WE WILL HAVE THAT OPPORTUNITY. THE OPPORTUNITY OF GOING AD SERIATIM AT EVERY SECTION TO PROVIDE A COMMENT, THAT'S UP TO YOU GUYS.

MR. SHEEHY: I'M NOT THE CHAIR OR VICE CHAIR OF THIS BOARD WHO SETS THE AGENDA, BUT I DO THINK THAT WE DO HAVE, NOT ONLY THE RIGHT, BUT THE

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OBLIGATION SINCE THIS MEASURE IS NOT FINALIZED. IT HAS BEEN SUBMITTED. IT IS SITTING OPEN FOR PUBLIC COMMENT THAT THE PROPONENT CAN EITHER TAKE OR NOT. I THINK THE OPINION OF THIS BOARD WOULD HAVE WEIGHT. I THINK IT IS OUR DUTY TO HAVE AN OPINION ABOUT THE SPECIFIC ELEMENTS OF THIS NEW MEASURE.

I FEEL LIKE I'M A CRAZY PERSON HERE.

MR. TORRES: I WOULDN'T GO THAT FAR.

MR. JUELSGAARD: CAN I INTERVENE FOR JUST A MOMENT? SO I THINK IT WOULD BE VALUABLE TO ACTUALLY HAVE A MEETING AND TO SIT DOWN AND DISCUSS THE CHANGES THAT ARE BEING MADE TO THIS ORGANIZATION AS A RESULT, WITH THE PROPOSED CHANGES AS A RESULT OF THIS INITIATIVE. MOST PEOPLE PROBABLY THINK ALL WE'RE TRYING TO DO IS RAISE SOME MORE MONEY. IT'S NOT THAT SIMPLE. THERE ARE SOME SIGNIFICANT CHANGES GOING ON IN THIS ORGANIZATION THROUGH THIS PROPOSAL, SOME OF WHICH I FRANKLY DON'T THINK ARE VERY HELPFUL. THAT'S JUST MY OPINION. SOME OF WHICH I AGREE WITH. BUT I DON'T KNOW HOW MANY OF YOU HAVE HAD A CHANCE -- IT'S BEEN SENT TO US. MARIA SENT IT TO US ABOUT THREE WEEKS AGO OR SO. I DON'T KNOW HOW MANY OF YOU HAVE HAD A CHANCE TO SIT DOWN AND GO THROUGH IT. THERE'S A LOT ACTUALLY TO DIGEST THERE.

WHETHER WE THEN, AS A RESULT OF

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UNDERSTANDING COLLECTIVELY BETTER WHAT'S IN THIS, DECIDE TO ISSUE A COLLECTIVE OPINION, SEND IT TO BOB, OR WHETHER WE DECIDE TO HAVE INDIVIDUAL OPINIONS, THOSE OF US THAT ARE WILLING TO HAVE THOSE AND INDIVIDUALLY SEND THEM TO BOB, BUT I WOULD SAY GO TO BOB, NOT TO THE AG, MR. KLEIN. BUT I THINK THAT WOULD PROVE VALUABLE TO THIS BODY, AT LEAST TO HAVE A DISCUSSION AND A BETTER UNDERSTANDING BECAUSE I WORRY THAT MAYBE THERE ARE A LOT OF PEOPLE THAT REALLY HAVEN'T DELVED INTO THIS VERY CLOSELY AND AS A RESULT HAVE A VERY CURSORY UNDERSTANDING, THAT ALL THIS REALLY IS IS JUST RAISING MORE MONEY BECAUSE IT'S REALLY JUST NOT. THERE'S A LOT OF OTHER STUFF THROWN IN HERE. AS I SAID, YOU CAN GO EITHER WAY ON SOME OF THOSE ISSUES.

CHAIRMAN THOMAS: OTHER COMMENTS? OKAY. I AM PERSUADED THAT WE SHOULD HAVE THE OPPORTUNITY TO DISCUSS. I DON'T KNOW WHERE THAT WILL ULTIMATELY LEAD, BUT I DO KNOW THAT A NUMBER OF THE MEMBERS OF THE BOARD HAVE HAD THE OPPORTUNITY TO TALK TO BOB, BUT CERTAINLY NOT EVERYBODY. SO I THINK THAT THE NOTION OF EVERYBODY NOW GETTING A CHANCE TO REVIEW THE INITIATIVE AS DRAFTED, WE CAN NOTICE A TELEPHONIC MEETING IN TEN DAYS FOR WHATEVER DATE WE PICK, TEN DAYS IN ADVANCE, CORRECT?

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MS. BONNEVILLE: YES, THAT'S CORRECT. IF THE FINAL DATE TO SUBMIT IS NOVEMBER 18TH AND THE COMMENT PERIOD CLOSES ON THE 13TH, IT WOULD HAVE TO BE THE -- 18TH IS A MONDAY. SO WE ARE LOOKING AT THE WEEK OF NOVEMBER 11TH IS THE SOONEST. THAT'S THE ONLY WEEK THAT'S AVAILABLE FOR EVERYONE. SO IT WOULD HAVE TO BE THAT WEEK OF NOVEMBER 11TH, 11TH, 12TH, 13TH, 14TH, OR 15TH. THAT'S THE ONLY TIME. AND IF IT'S THE 11TH, I NEED TO POST TOMORROW MORNING. SO THAT'S SORT OF WHAT WE ARE WORKING WITH.

CHAIRMAN THOMAS: SO PERHAPS, SINCE TAKING TIME TO POLL PEOPLE'S AVAILABILITY CAN TAKE A LOT OF TIME IN AND OF ITSELF, PERHAPS WE COULD START WITH THOSE WHO ARE PARTICIPATING IN THIS MEETING WHETHER IN THE ROOM OR ON THE PHONE AS TO DATES THE WEEK OF THE 11TH THAT WORK SO THAT MARIA CAN COMPILE RIGHT NOW AND WE CAN PROPERLY AGENDIZE.

MR. TORRES: THE 11TH IS A STATE AND FEDERAL HOLIDAY.

MS. BONNEVILLE: IT'S VETERAN'S DAY. SO IT WOULD HAVE TO BE THAT TUESDAY, WEDNESDAY, THURSDAY, OR FRIDAY, THE 12TH, 13TH, 14TH, OR 15TH. WE CAN MAKE WHATEVER WORK ON OUR CALENDAR OBVIOUSLY TO ACCOMMODATE WHATEVER WORKS FOR THE MOST PEOPLE.

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DR. STEWARD: CAN I ASK A QUESTION?

CHAIRMAN THOMAS: YES, SIR.

DR. STEWARD: JEFF, I'M VERY SYMPATHETIC WITH YOUR COMMENTS, AND I ALSO AGREE THAT THERE ARE PARTS OF IT THAT I MIGHT DISAGREE WITH, DO DISAGREE WITH A LITTLE BIT. BUT I'M TRYING TO UNDERSTAND, AND I THINK EVERY MEMBER OF THIS BOARD HAS EXTREMELY VALUABLE VIEWPOINTS BASED ON OUR HISTORY HERE, THAT COULD HAVE INFORMED THE WRITING OF THE NEW INITIATIVE. I'M TRYING TO UNDERSTAND WHAT WE'RE GOING TO DO AT THIS MEETING. OTHER THAN TALK, IS THIS GOING TO BE A FORMAL ACTION BY THE BOARD TO RESPOND IN SOME WAY TO SAY WE LIKE THIS, WE DON'T LIKE THAT, OR IS IT JUST KIND OF DISCUSSION? I'M HAVING TROUBLE CONCEIVING OF THE PURPOSE OF THIS.

I'M NOT SAYING IT SHOULDN'T BE DONE, BUT, AGAIN, I JUST DON'T QUITE UNDERSTAND WHERE WE'RE GOING TO END UP AFTER HAVING DONE ALL OF THIS.

MR. SHEEHY: JUST MY BIAS. I FEEL VERY UNCOMFORTABLE IN DIRECTING THE WORK OF THE BOARD. I THINK THAT'S THE CHAIR'S JOB. BUT I DO FEEL LIKE WE ARE TALKING ABOUT A STRATEGIC PLAN THAT WILL HAVE ELEMENTS THAT HAVE ALREADY BEEN DECIDED BECAUSE THEY'RE IN THE MEASURE. IF WE THINK THOSE ELEMENTS ARE NECESSARY -- THIS MEASURE IN SOME WAYS, IT'S

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PRESCRIPTIVE ON HOW WE CAN SPEND THE MONEY, OR THE BOARD GOING FORWARD. I'M NOT GOING TO BE ON THE BOARD. BUT IF WE THINK THAT SOME OF THESE PIECES THAT ARE IN THE MEASURE ARE NOT WISE, WE SHOULD TAKE A FORMAL VOTE AS A BODY AND SAY IT'S NOT A GOOD IDEA. I DON'T KNOW WHAT CIRM TEAM THINKS ABOUT SOME OF THESE PROGRAMS THAT THEY'RE GOING TO BE TOLD WILL HAVE TO BE PART OF THE NEW MEASURE.

GIVE YOU AN EXAMPLE. SHARED LABS IS SOMETHING THAT WE DID AWAY WITH. THAT'S IN THE NEW MEASURE. AND WE HAD A GOOD REASON FOR DOING AWAY WITH IT, SO WHY ARE WE REINSTITUTING THAT? AND THAT'S MONEY.

DR. STEWARD: I GUESS WHAT I'M JUST REALLY ASKING IS IS THE OPINION OF THIS BOARD AS A GROUP WITH A MAJORITY VOTE MORE MEANINGFUL THAN THE OPINION OF US AS INDIVIDUALS CONNECTING WITH EITHER BOB OR WHATEVER? I'M JUST NOT SURE THAT ANY ACTION THAT THIS BOARD MIGHT TAKE WOULD HAVE MEANING. WHAT IS OUR STANDING? AGAIN, I DON'T QUITE UNDERSTAND WHAT WE ARE GOING TO DO WITH THIS.

MR. SHEEHY: WE DON'T HAVE TO DO IT, BUT I THINK WE SHOULD AT LEAST TALK ABOUT IT, WHICH I HOPE -- I HAVE MY OPINION, AND I FEEL LIKE I'M PRETTY CLEARLY IN THE MINORITY, BUT IT'S REALLY WHAT

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YOU BELIEVE YOUR RESPONSIBILITIES AND DUTIES ARE RELATED TO THE ASK FOR ANOTHER $5.5 BILLION FOR AN AGENCY THAT'S BEEN AROUND FOR 16 YEARS. I'LL BE PERFECTLY BLUNT. I THOUGHT WE SHOULD HAVE GONE TO THE LEGISLATURE AND ACTUALLY BEEN IN CHARGE OF THE NEXT MEASURE, BUT THERE WAS NO SUPPORT FOR ME ON THAT WHEN I SUGGESTED THAT. BECAUSE THE LEGISLATURE COULD HAVE PUT ON A NEW BOND MEASURE FOR US, BUT DIDN'T DO THAT.

NOW THAT WE ARE IN THIS POSITION WHERE SOMEONE ELSE IS DOING THIS, THEY PUT FORWARD A MEASURE. IT DIDN'T GO THROUGH A PUBLIC PROCESS. SO HOW THE ELEMENTS IN THAT MEASURE GOT INTO THAT MEASURE I DON'T KNOW. THE RATIONALE FOR THOSE BEING IN THE MEASURE I DON'T KNOW. I LOOK AT WHAT'S IN THE MEASURE AND THE PARTS OF IT THAT I FRANKLY DON'T SEE THE NEED FOR. THERE ARE SOME THINGS THAT I WISH WERE IN THE MEASURE. I'M HAPPY TO REACT AS AN INDIVIDUAL. THE QUESTION TO US AS A BOARD, DO WE FORMALLY WANT TO TAKE A POSITION ON SOME OF THESE ELEMENTS? THAT'S UP TO YOU GUYS.

I HAVE A VIEW AS SOMEONE WHO HAS A BELIEF IN CERTAIN GOVERNMENT PROCESSES BEING CONDUCTED IN CERTAIN WAYS. CALIFORNIA ONLY, AND PEOPLE DO TALK ABOUT THESE THINGS AND TAKE POSITIONS, BUT PEOPLE

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MAY HAVE DIFFERENT VIEWS. I'M FINE. BUT I DID THINK -- I PROBABLY WOULDN'T HAVE BROUGHT IT UP EXCEPT THAT WE'RE TALKING ABOUT A STRATEGIC PLAN, AND THE STRATEGIC PLAN THAT WE WOULD BE IMPLEMENTING WOULD HAVE ELEMENTS IN IT THAT ARE ALREADY BAKED INTO THE MEASURE. AND WHETHER OR NOT WE THINK THOSE -- I DON'T THINK THAT THOSE ELEMENTS, ALL THOSE ELEMENTS, WOULD HAVE BEEN IN A STRATEGIC PLAN THAT WE DERIVED ON OUR OWN. I DON'T. I DON'T THINK -- AND I USE THE EXAMPLE OF SHARED LABS BECAUSE WE DID THAT PROGRAM, WE ANALYZED IT, WE FELT IT HAD SERVED ITS PURPOSE, AND WE DIDN'T DO IT AGAIN. AND NOW THAT'S IN THE MEASURE. I JUST USE THAT AS AN EXAMPLE.

MR. TORRES: MR. CHAIRMAN, IF I MAY, THE PROCESS THAT WE HAVE IN THE CONSTITUTION AND STATUTORY PROVISIONS BASICALLY ALLOW FOR, NO. 1, A PROPONENT TO PUT FORWARD A PROPOSITION. THEN THAT PROPOSITION IS OPINED BY THE LEGISLATIVE ANALYST OFFICE AND THE ATTORNEY GENERAL'S OFFICE. AND DURING THE ATTORNEY GENERAL'S REVIEW, PUBLIC COMMENT IS INVITED DURING A CERTAIN PERIOD OF TIME. ONCE 25 PERCENT OF THE SIGNATURES ARE GATHERED, THEN THE LAW REQUIRES BOTH THE ASSEMBLY AND THE SENATE TO CONDUCT HEARINGS ON AN INITIATIVE. THEY CAN'T CHANGE IT OR

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AMEND IT, BUT THEY ARE REQUIRED TO HAVE HEARINGS ON THE INITIATIVE, WHICH IS ANOTHER OPPORTUNITY FOR YOU TO TESTIFY IF YOU SO DESIRE TO BEFORE THE ASSEMBLY AND THE SENATE HEARINGS ON THE INITIATIVE. THOSE ARE THE PUBLIC PARAMETERS.

WHAT I DON'T WANT TO SEE, BUT MAYBE WE'RE GOING TO END UP DOING THIS, IS TAKING EVERY LINE AND TAKING A VOTE ON EVERY LINE THAT YOU AGREE WITH. WELL, THAT'S GOING TO LAST FOREVER. AND SO MAYBE IT'S BETTER FOR INDIVIDUAL BOARD MEMBERS, IF THEY HAVE CONCERNS, TO SUBMIT THEIR CONCERNS DURING THIS PUBLIC COMMENT PERIOD, NO. 1.

AND, NO. 2, I DON'T TAKE SECOND PLACE TO ANYBODY ABOUT WHAT MY DUTY IS AS A MEMBER OF THIS BOARD OR AS A PRIOR PUBLIC SERVANT. I THINK I HAVE FULFILLED MY OATH OF OFFICE AT EVERY LEVEL. SO I'M NOT GOING TO TAKE SECOND PLACE TO ANYBODY WHO SAYS THAT THEY HAVE A SUPERIOR ROLE IN TERMS OF THEIR DUTY TO THIS AGENCY, TO THE PEOPLE OF CALIFORNIA, OR TO THE OFFICE THAT ALL OF US HOLD AS APPOINTED AND ELECTED MEMBERS OF THIS BOARD.

MR. SHEEHY: I'M NOT CLAIMING A SUPERIOR ROLE, BUT I'M CLAIMING A SINGLE LINE OF RESPONSIBILITY.

DR. PRIETO: I DON'T THINK THE INTENT, I

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CERTAINLY WOULDN'T FAVOR ANY KIND OF LINE-BY-LINE REVIEW OF THE INITIATIVE, BUT I THINK IT DOES BEHOOVE US TO LOOK AT IT. AND I THINK IT WOULD HAVE SOMEWHAT MORE IMPACT IF WE, AS A BOARD, SAID, FOR EXAMPLE, THAT WE DID NOT THINK THAT SHARED LABS SHOULD BE MANDATED OR THAT ANOTHER ELEMENT OF THE INITIATIVE OUGHT TO BE PERMISSIVE RATHER THAN EXPLICIT AND DIRECTIVE. I THINK THAT THE IMPACT OF THE BOARD SAYING THAT WOULD BE GREATER THAN THAT OF ONE OF US OR ANY OF US AS INDIVIDUALS DOING SO.

DR. MARTIN: I THINK WE CAN DO BOTH AND WE SHOULD DO BOTH. THE BOARD SHOULD HAVE A POSITION THAT WE ALL INDIVIDUALLY HAVE THE OPPORTUNITY TO REINFORCE THAT POSITION OR OPPOSE IT.

DR. BLUMENTHAL: SO I AM OF MIXED MINDS ON THIS. I DO HAVE SOME CONCERNS. I ACTUALLY HAVE A LOT OF SYMPATHY WITH THE POSITION MR. SHEEHY HAS POINTED OUT, THAT AS A PUBLIC AGENCY THAT HAS EXPERIENCE, WE COULD HAVE SIGNIFICANT INPUT AND MEANINGFUL KNOWLEDGE OF THE INPUT ON THE NATURE OF AN INITIATIVE. BUT I HAVE A POLITICAL CONCERN, WHICH IS IF WE WERE TO TAKE A POSITION THAT ITEM NO. 1 OR ITEM NO. 3 IN THE INITIATIVE WAS NOT A GOOD IDEA, AND IF THAT ITEM NO. 1 OR ITEM NO. 3 REMAINED IN THE INITIATIVE, THEN THAT WOULD BE USABLE BY

OPPONENTS AT THE END OF THE DAY TO SAY EVEN CIRM DIDN'T LIKE THOSE ITEMS. I COULD SEE THAT FINDING ITS WAY INTO AN OPPONENT'S ARGUMENT AGAINST THE INITIATIVE, AND THAT GIVES ME GREAT CONCERN. I SAY THAT EVEN THOUGH I ACTUALLY DO SYMPATHIZE WITH THIS POSITION.

MR. SHEEHY: I THINK YOUR POINT JUST EMPHASIZES THE WEIGHT OF OUR OPINION IF WE CHOSE TO USE THAT WEIGHT. YOU'RE BASICALLY KIND OF IN SOME WAY AGREEING WITH ME. IF WE AS A BODY THOUGHT THAT SOMETHING WAS NOT GOOD, I THINK THE PROPONENT WOULD FEEL A CERTAIN WEIGHT TO TAKE THAT SERIOUSLY BECAUSE OF THE VERY REASON YOU JUST ELUCIDATED.

DR. SANDMEYER: I'M RELATIVELY NEW ON THE BOARD, BUT I GUESS I THINK WE ARE TRYING TO DECIDE IF WE'RE GOING TO ALL AGREE OR DISAGREE BEFORE WE EVEN HAVE THE DISCUSSION. SO I STILL BELIEVE THAT TO US AS INDIVIDUALS, SPEAKING FOR MYSELF, IT WOULD BE USEFUL TO HEAR A DISCUSSION OF THE PROPOSAL. AND MAYBE THEN IN THE CONTEXT OF THAT DISCUSSION, WE DECIDE IF THERE ARE THINGS THAT WE WOULD TAKE A UNANIMOUS POSITION ON OR NOT OR IF WE CHOOSE TO GO FORWARD INDIVIDUALLY.

CHAIRMAN THOMAS: MY TAKE IS, AS I SAID, A LIMITED NUMBER OF US HAVE HAD THE OPPORTUNITY TO

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TALK TO BOB, VERY LIMITED. GOING AROUND THE ROOM, I'M SURE IT'S LESS THAN A HANDFUL, AND THAT'S NOT GOOD. SO I DO THINK A DISCUSSION THAT ALLOWS MEMBERS OF THE BOARD TO VOICE THEIR OPINIONS ON THE NEW ELEMENTS, HOWEVER WE CONSTRUCT THAT DISCUSSION, OF THE INITIATIVE AS DRAFTED IS A WAY TO GET EVERYBODY ON THE BOARD'S INPUT TO BOB. AND AT THE END OF THE DAY, IT IS BOB'S HUNDRED PERCENT DISCRETION. BUT THAT WAY AT LEAST ALL OF US WHO WOULD LIKE TO HAVE THAT CONVERSATION HAVE THE OPPORTUNITY TO MAKE THEIR VIEWS KNOWN.

SO, AGAIN, I WOULD BE IN FAVOR OF US CALENDARING A MEETING, HAVING THIS DISCUSSION. I DO THINK DR. BLUMENTHAL'S COMMENTS WE HAVE TO PAY ATTENTION TO. THE LAST THING YOU WANT IS FOR IT TO SOUND LIKE WE ARE TAKING A POSITION ONE WAY OR ANOTHER. GOT TO BE CAREFUL HERE, JAMES. I DON'T WANT TO SAY SOMETHING THAT IS OUT OF TURN HERE. ANYWAY. SO UNLESS THERE'S A VEHEMENT OBJECTION, I THINK WE SHOULD TRY TO GET A CONSENSUS ON A DATE HERE WHERE WE CAN HAVE THIS DISCUSSION AND THEN PROCEED.

DR. STEWARD: AGAIN, I JUST WOULD REALLY LIKE TO KNOW WHAT IT IS WE'RE GOING TO HAVE AT THE END OF THIS MEETING. AND I'M NOT NECESSARILY ASKING

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FOR AN ANSWER RIGHT NOW, BUT I THINK IT WOULD BE IMPORTANT BEFORE WE GO INTO THAT MEETING TO KNOW ARE WE TALKING ABOUT A SET OF RECOMMENDATIONS THAT HAVE A VOTE ATTACHED TO THEM OR A SET OF OPINIONS? I JUST WOULD --

CHAIRMAN THOMAS: TO ME, I DON'T KNOW IF WE'RE GOING TO BE ABLE TO HAVE A CONSENSUAL SET OF RECOMMENDATIONS. I THINK THE POINT OF THIS DISCUSSION IS TO GET A SENSE OF THE BOARD WITH RESPECT TO THEIR TAKES ON VARIOUS ISSUES THAT CAN BE CONVEYED TO BOB. IT DOES NOT HAVE TO BE, IN MY OPINION, SOMETHING THAT GETS VOTED ON. IT'S A SORT OF SENSE OF WHAT WE THINK WOULD BE HELPFUL FOR HIM TO UNDERSTAND OUR PERSPECTIVE ON.

MR. TORRES: I DON'T AGREE WITH IT. IF YOU'RE GOING TO TAKE THE TIME TO GO SECTION BY SECTION, YOU SHOULD TAKE A VOTE ON WHETHER YOU SUPPORT THAT SECTION OR NOT.

THEN THE OTHER QUESTION IS AT SOME POINT WHEN WE TAKE THE ISSUE BEFORE THE FULL BOARD FOR ENDORSEMENT OR NOT, DOES THAT MEAN WE WON'T ENDORSE THE INITIATIVE BECAUSE WE MAY HAVE VOTED AGAINST CERTAIN PROVISIONS IN THE INITIATIVE AT A PRIOR MEETING? THAT'S THE DIFFICULTY I'M HAVING.

CHAIRMAN THOMAS: I TOTALLY GET THAT LAST

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POINT. I DON'T KNOW WHAT THE VALUE IS, WITH ALL DUE RESPECT, IF WE'RE CONSIDERING SOME PROVISION AND IT TURNS OUT THAT IT'S LIKE SIX/FOUR VOTE, I DON'T KNOW WHAT THAT MEANS TO BOB.

MR. TORRES: OR TO THE PUBLIC.

CHAIRMAN THOMAS: OR TO THE PUBLIC. SO I DON'T KNOW THAT VOTING ON THESE THINGS. IT'S JUST IT'S AN AIRING OF THE ISSUES AND GETTING TO BOB A SENSE OF WHAT THE BOARD THINKS. MR. SHEEHY, WOULD YOU RESPOND TO THAT PLEASE?

MR. SHEEHY: I THINK WE SHOULD TAKE A VOTE ON THINGS AND EXPRESS A DEFINITIVE OPINION OR NOT DO IT AT ALL. JUST TO DISCUSS THIS IS A WASTE OF EVERYBODY'S TIME. AND I'M FINE IF WE DON'T DO IT. I JUST PUT IT OUT THERE. BUT IF WE'RE GOING TO DO IT, WE SHOULD LOOK AT THE SPECIFIC ELEMENTS AND TAKE A VOTE IF WE THINK IT'S A GOOD IDEA OR BAD IDEA. AGAIN, WE DON'T HAVE TO DO IT. I JUST THOUGHT I'D RAISE THE ISSUE.

THIS IS NEW TO ME. THIS IS A STATE AGENCY THAT'S EXISTED FOR 16 YEARS. I DON'T KNOW OF ANOTHER SINGLE AGENCY THAT'S PUT THEIR WHOLE FATE IN THE HANDS OF AN EXTERNAL ACTOR -- I'M NOT SAYING ANYTHING MALIGNED ABOUT THE EXTERNAL ACTOR -- BUT A HUNDRED PERCENT, A HUNDRED PERCENT FOR POLICY

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CHANGES AND GOVERNANCE CHANGES TO AN EXISTING STATE AGENCY, AND THE BOARD OF DIRECTORS HAS NO OPINION. SO THAT -- BUT IT'S FINE IF WE DON'T. THAT'S KIND OF THE DECISION THAT FEELS LIKE HAS ALREADY BEEN MADE. WHERE I DON'T KNOW. I APOLOGIZE FOR ASKING THE QUESTION, BUT YOU KNOW.

CHAIRMAN THOMAS: MR. JUELSGAARD.

MR. JUELSGAARD: LET ME JUST DISAGREE WITH YOU, JEFF. THE PURPOSE, AND I'M GOING TO REITERATE WHAT WAS JUST SAID A MOMENT AGO, THE PURPOSE OF THE MEETING IS FOR ALL OF US TO BETTER UNDERSTAND WHAT THESE NEW PROPOSALS ARE WITHIN THE INITIATIVE AND WHAT THEY MEAN. AND THERE MAY BE DIFFERING POINTS OF VIEW THAT ACTUALLY MIGHT HELP INFORM ME OF A DIFFERENT OPINION THAN THE ONE I HAVE NOW ABOUT SOME OF THEM BECAUSE SOME EXPERTISE THAT I DON'T HAVE OTHER PEOPLE IN THIS ROOM MIGHT HAVE. AND SO I THINK IF WE GET TOGETHER AND DISCUSS THIS AND HAVE A GENERAL SENSE OF WHAT THIS MEANS AND WHAT IMPACT IT HAS WITH CIRM WOULD CERTAINLY HELP ME. IF WE DON'T AT THE END OF THE DAY COME TOGETHER COLLECTIVELY AND SEND SOMETHING TO BOB, SO BE IT. AT LEAST I'LL HAVE THE OPPORTUNITY TO SEND SOMETHING TO BOB. HE MAY CHOOSE TO IGNORE IT; HE MAY NOT CHOOSE TO IGNORE IT. AT LEAST I'LL BE ABLE TO EXPRESS MY VIEWS TO HIM

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AFTER SUCH A MEETING EVEN IF WE DON'T DO IT COLLECTIVELY AS A BOARD. THAT'S WHAT I WOULD HOPE TO GET OUT OF THAT.

CHAIRMAN THOMAS: I WOULD AGREE WITH THAT.

DR. MARTIN: HERE. HERE.

MS. BONNEVILLE: HOW DOES NOVEMBER 13TH WORK FOR EVERYONE? LET'S JUST THROW OUT A DATE. I'M JUST GOING TO THROW ONE OUT THERE. WE GOT TO START SOMEWHERE. IS ANY DATE, THE 12TH, 13TH, 14TH, OR 15TH, SOMETHING THAT MOST PEOPLE COULD DO?

MR. JUELSGAARD: WHY DON'T YOU JUST START WITH THE FIRST DATE.

MS. BONNEVILLE: THE 12TH IF YOU CANNOT MAKE IT.

DR. SANDMEYER: AT ANY TIME?

MS. BONNEVILLE: IT COULD BE TELEPHONIC. NOT EVERYBODY HAS TO SHOW UP IN ONE PLACE, ALTHOUGH IF YOU'D LIKE TO COME, WE'D LOVE TO HAVE YOU. TWO HOURS? THREE HOURS? TWO HOURS. MORNING OF THE 12TH, HANDS THAT CANNOT DO IT?

DR. VUORI: COULD WE DO A DOODLE POLL? IT COULD BE ONLINE IN REAL TIME THERE.

MS. BONNEVILLE: I AGREE. IF EVERYONE WILL COMMIT TO FILLING OUT THE DOODLE POLL TODAY WHEN I SEND IT OUT, THAT'D BE FANTASTIC BECAUSE I

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WILL HAVE TO POST --

MR. JUELSGAARD: JUST GO WITH WHOEVER RESPONDS AND WHAT WORKS BEST.

MS. BONNEVILLE: IF WE DON'T HAVE A QUORUM TO VOTE, JUST EVERYONE WILL HAVE TO UNDERSTAND.

DR. PRIETO: HAVE TO HAVE A QUORUM TO TAKE ACTION.

MS. BONNEVILLE: THAT'S FINE. I JUST WANTED TO MAKE SURE EVERYONE IS OKAY WITH THAT BECAUSE THERE HAVE BEEN DIFFERENT OPINIONS ON IT SO I WANT TO CLEAR IT.

MR. TORRES: WE'RE NOT REQUIRING A QUORUM?

MR. JUELSGAARD: NO QUORUM, NO VOTE.

MR. TORRES: NO QUORUM, JUST A DISCUSSION.

CHAIRMAN THOMAS: MR. JUELSGAARD, I UNDERSTOOD THAT YOU WERE NOT IN FAVOR OF A VOTE.

MR. JUELSGAARD: I'M NOT SAYING THAT AT ALL. I'M JUST SAYING AT THE VERY LEAST, THE ROCK BOTTOM IS THAT WE GET -- I DISAGREED.

MR. ROWLETT: J.T., THOSE OF US ON THE PHONE ARE NOT ABLE TO PICK UP MR. JUELSGAARD'S COMMENTS.

MR. JUELSGAARD: I'LL JUST REPEAT IT. SO JEFF INDICATED THAT THE ONLY PURPOSE TO HAVE THIS MEETING WAS TO HAVE A VOTE. WHILE I'M HAPPY IF WE

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CAN HAVE A VOTE, I'M ALSO HAPPY IF WE CAN'T BECAUSE AT LEAST WE'LL ALL BE BETTER INFORMED, AND THOSE OF THAT WANT TO CAN INDIVIDUALLY WRITE TO THE AUTHOR OF THE INITIATIVE WITH WHATEVER CONCERNS WE HAVE WITH THE CURRENT LANGUAGE OF THE INITIATIVE. SO FOR ME EITHER OUTCOME IS A WIN.

MR. ROWLETT: ELOQUENTLY STATED AND AGREED.

MS. BONNEVILLE: GREAT. WE'LL SEND A DOODLE POLL OUT SHORTLY. BE ON THE LOOKOUT.

MR. TORRES: AND RESPOND.

CHAIRMAN THOMAS: MARIA, ARE YOU SUGGESTING THIS MIGHT BE IN PERSON? I WOULD SAY THAT TELEPHONIC IS BEST.

MS. BONNEVILLE: THAT'S WHAT I SAID, TELEPHONIC. BUT IF ANYBODY WANTED TO COME UP, WE'D LOVE TO HAVE THEM. WE'LL EVEN GET A GOOD LUNCH. BRAIN HEALTHY, LAUREN.

MR. TORRES: LAUREN WILL DECIDE THE MENU.

MS. MILLER: SALMON.

CHAIRMAN THOMAS: SALMON, KALE SALAD.

ARE WE THROUGH THAT -- ANY OTHER COMMENTS ON THAT? HEARING NONE, THAT CONCLUDES THE CHAIR'S REPORT. DR. MILLAN, CAN YOU PLEASE PROCEED TO THE PRESIDENT'S REPORT.

DR. MILLAN: THANK YOU VERY MUCH, MEMBERS OF THE BOARD, COLLEAGUES, AND THE PUBLIC. THIS WILL BE A VERY SHORT PRESIDENT'S REPORT. SENATOR TORRES IS CLAPPING.

SO IT WILL BE SHORT. AND JUST TO LET YOU KNOW, WHAT WE'VE LAUNCHED IS WHAT YOU SEE HERE, A CIRM BOARD NEWSLETTER, WHICH WILL ALSO BE POSTED PUBLICLY SO OTHERS CAN ACCESS IT. IT WILL GIVE UPDATES ON OUR PROJECTS, OUR CLINICAL TRIALS. AND I THINK YOU WILL FIND IT TO BE VERY INFORMATIVE. AND BECAUSE WE'RE HAVING FEWER IN-PERSON MEETINGS AND OPPORTUNITIES TO GIVE YOU AN UPDATE, WE HOPE YOU'LL BE ABLE TO USE THAT AND ALSO CONTACT US IF YOU HAVE ANY QUESTIONS. THAT SHOULD BE IN YOUR INBOX SOON.

AND I SAID I WOULD MAKE THIS VERY SHORT, BUT I DID WANT TO GIVE AN UPDATE ON OUR CURRENT STRATEGIC PLAN, WHICH, AS YOU KNOW, GOES TILL 2020. AND WE CONTINUE TO MAKE GREAT PROGRESS AS LONG AS THE FUNDING ALLOWS. WE HAD A TARGET OF 50 NEW CANDIDATES THAT COME IN THROUGH EITHER TRAN OR CLINICAL 1, AND TODAY WE JUST INCREASED THAT TO 41. WE MAY BE CONSTRAINED IN TERMS OF HOW MANY OTHER ADDITIONAL NEW CANDIDATES CAN COME IN. WE HAVE CONTINUED TO MAKE PROGRESS ON PROGRESSION OF PROGRAMS GOING FROM FIRST STAGE TO THE NEXT. SO IN

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SOME WAYS WE ARE MAKING UP FOR THE FINANCIAL CONSTRAINTS AND BRINGING IN NEW CANDIDATES BY HAVING THE CANDIDATES PROGRESS THROUGH FROM THE DIFFERENT STAGES OF RESEARCH THROUGH TRANSLATION AND TO CLINICAL TRIALS.

WE HAVE CONTINUED TO SHAPE AND PARTNER WITH THE FDA IN TERMS OF THE REGULATORY PARADIGM. WE HAVE SIX OF OUR PROGRAMS THAT HAVE THE EXPEDITED PATHWAY DESIGNATION CREATED BY THE 21ST CENTURY CURES ACT CALLED THE RMAT DESIGNATION. AND IT'S QUITE REMARKABLE. I THINK THERE ARE 30 SOMETHING EVEN TODAY. SO WE HAVE A SIGNIFICANT PROPORTION OF THOSE, AND THERE ARE SEVERAL OF OUR PROGRAMS THAT ARE RIGHT NOW IN THE MIDST OF HAVING OR PLANNING FOR OR ARE IN THE MIDST OF DISCUSSING THIS WITH THE FDA.

SO THAT, AGAIN, IS A VERY IMPORTANT POLICY IMPLEMENTATION THAT HELPS OUR PROGRAMS ACCELERATE DOWN THE ROAD.

IN TERMS OF OPERATIONALLY, MR. SHEEHY HAD MENTIONED THAT OUR STRATEGIC PLAN IS VERY OPERATIONALLY FOCUSED. IT'S REALLY BEEN AN AMAZING ENGINE FOR US TO BE ABLE TO DO THINGS SUCH AS SHORTEN DEVELOPMENT TIME. SO WE HAVE HAD FOUR PROGRAMS THAT WERE ABLE TO OBTAIN THEIR IND WITHIN 18 MONTHS. THAT'S QUITE REMARKABLE. AND WE STILL

HAVE OTHER PROGRAMS UNDER WAY. OF COURSE, THAT DOESN'T MEAN THAT ALL PROGRAMS ARE ABLE TO DO THAT, BUT IT'S A GREAT ADVANCE FORWARD.

WE'VE INCREASED OUR CLINICAL PROTOCOL. SO WITH TODAY'S APPROVAL, THE FOUR CLIN2 PROJECTS, WE ARE NOW AT 43 OF THE TARGETED 50 NEW CLINICAL TRIALS. SO THAT'S REALLY REMARKABLE. WE HAVE SOME OTHER CANDIDATES COMING IN UNDER THE SICKLE CELL PROGRAM. AND IN TERMS OF PARTNERSHIPS, AS HAS BEEN MENTIONED AT PREVIOUS MEETINGS, WE ARE CONTINUING TO SEE INCREASED INTEREST IN INDUSTRY PULL. THIS YEAR ALONE WE'RE CLOSE TO A BILLION DOLLARS IN PARTNERSHIP AND VALUE PARTNERSHIP DEALS FOR OUR PROGRAMS. SO THAT BRINGS US UP TO ABOUT 2.2 OR 2.5 BILLION IN INDUSTRY PARTNERSHIPS.

SO ONE OF THE THINGS THAT WE ALSO DO, AND CHAIRMAN THOMAS HAS MENTIONED THIS, IS MAKE SURE THAT WE REALLY ARE, AS AN AGENCY, CONNECTED WITH THE REST OF KIND OF THE BROADER ECOSYSTEM. AND WE ARE VERY INVOLVED AT THE COMMUNITY LEVEL AS WELL AS WITH MAJOR THINK TANKS AND OPPORTUNITIES TO CONVENE KEY EXPERTISE.

I HAD THE OPPORTUNITY OF BEING INVITED AS THE INAUGURAL SPEAKER AT THE UC IRVINE DEANS LECTURE JUST IN SEPTEMBER, ON SEPTEMBER 11TH. AND WHAT WAS

REALLY REMARKABLE, THERE WERE SEVERAL COMPONENTS OF THIS, BUT REALLY ONE REMARKABLE COMPONENT WAS THE COMMUNITY LECTURE THAT OCCURRED THE NIGHT BEFORE THE SCIENTIFIC LECTURE. AND THERE WAS HUGE ENGAGEMENT FROM THE ORANGE COUNTY CITIZENS WHO HAD COME IN. AND FROM THAT, IT WAS VERY CLEAR THAT THEY VERY MUCH VALUED AND NEED EVEN MORE ACCESS TO DATA AND KNOWLEDGE AS WE CONTINUE WITH THIS FIELD.

SO I APPLAUD UC IRVINE BECAUSE THIS IS A REGULAR THING FOR THEM TO HAVE THESE COMMUNITY LECTURESHIPS EVEN INDEPENDENT OF THIS SPECIAL DEANS LECTURE.

WE WERE ASKED TO TESTIFY OR GIVE SOME INPUT TO THE MEDICAL BOARD OF CALIFORNIA ON SEPTEMBER 18, 2019. WANTED TO THANK SENATOR TORRES, GEOFF LOMAX, MARIA BONNEVILLE FOR THEIR HELP IN THIS. THE ISSUE AT HAND IS THE CRISIS WE HAVE OF STEM CELL TOURISM OR DIRECT-TO-CONSUMER ACTIVITIES THAT ARE OCCURRING AT THE SAME TIME THAT WE'RE MAKING AMAZING PROGRESS WITH LEGITIMATE, REGULATED SCIENCE.

AND SO THE FEDERATION OF MEDICAL BOARDS ARE REALLY TRYING TO FIGURE OUT HOW, WITHIN THEIR PURVIEW, THEY CAN ADJUST TO THIS WORLD WE ARE IN TODAY WHERE THERE'S PROGRESS IN REGENERATIVE

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MEDICINE, BUT ALL THAT IS OCCURRING.

SO WE WERE ABLE TO SHARE THE STANDARDS, THE QUALITY, AND HOW WE'RE ABLE TO ENSURE THAT THE PROGRAMS THAT WE FUND AND SUPPORT MEET THAT QUALITY AND HOW WE PARTNER WITH THE FDA IN TERMS OF THE CLINICAL PROGRAMS.

ANOTHER LARGE INDUSTRY MEETING THAT OCCURRED WAS FORMERLY CALLED THE STEM CELL MEETING ON THE MESA. THEY SINCE MOVED IT TO CARLSBAD. I THINK THERE WERE 2,000 ATTENDEES IN OCTOBER 2019. IT IS SPONSORED BY ALLIANCE FOR REGENERATIVE MEDICINE OF WHICH CIRM IS A MEMBER. AND IT'S QUITE INCREDIBLE THE HUGE PROGRESS AND THE NUMBER AND THE GROWING PORTFOLIOS OF THESE INDUSTRY PARTNERS IN THE FIELD.

AND WHEN I SPEAK WITH THEM, I ALWAYS KIND OF ASK, "OKAY, WHERE DOES AN AGENCY LIKE CIRM FIT IN?" AND STILL IN THIS AREA OF EARLY DERISKING. SO WE STILL KIND OF FIT INTO THAT VALUE PROPOSITION IN TERMS OF THE ENTIRE ECOSYSTEM.

ONE OF THE MAJOR TOPICS, AS ALLUDED TO EARLIER, VERY HEALTHY DISCUSSION, WAS ABOUT AFFORDABILITY, ACCESS, AND REIMBURSEMENT, MAJOR TOPIC FOR EVERYBODY. AND THERE ARE EFFORTS, BUT IT'S GOING TO REQUIRE MULTISTAKEHOLDER EFFORT

INCLUDING WITH AGENCIES SUCH AS CIRM.

I RECENTLY ATTENDED THE NATIONAL ACADEMY OF MEDICINE ANNUAL MEETING WHERE VICTOR ZHAU LAUNCHED A HUMAN LONGEVITY GRAND CHALLENGE AS PART OF THEIR STRATEGY, WHICH IS A $100 MILLION INITIATIVE TO CATALYZE INNOVATION AND INFORM POLICIES TO ADVANCE HEALTHY AGING AND LONGEVITY AS IT RELATES TO THE SCIENCE, THE TECHNOLOGY, AND THE POLICY, AND THE SOCIAL ASPECTS OF THAT.

AND WE, AS AN AGENCY, ARE VERY INVOLVED IN WHAT'S CALLED THE FORUM FOR REGENERATIVE MEDICINE, WHICH IS WHERE THE NATIONAL ACADEMIES CONVENE MULTIPLE STAKEHOLDERS AND LEADERS FROM ACADEMIA, INDUSTRY, GOVERNMENT, PATIENT AND PROVIDER ORGANIZATIONS, REGULATORS, FOUNDATIONS, AND OTHERS TO DISCUSS THE ISSUES OF REGENERATIVE MEDICINE, KIND OF THE CHALLENGES AND OPPORTUNITIES, THE CROSSCUTTING CONCERNS IN A NEUTRAL ENVIRONMENT. AND CERTAIN, THE GOAL IS TO IDENTIFY THE POTENTIAL BARRIERS TO THIS SAFELY BEING DELIVERED TO PATIENTS.

AND ONE OF THE KEY THEMES THAT WAS RECURRENT IN ALL THESE DIFFERENT MEETINGS WAS THE IMPORTANCE OF DATA AND KNOWLEDGE SHARING. SO OFTEN MR. SHEEHY REFERRED TO THIS QUOTE FROM ONE OF OUR ADVISORS THAT SAID THAT DATA IS THE NEW OIL. AND

THAT'S CERTAINLY THE SENTIMENT AND SOMETHING THAT I THINK MULTIPLE STAKEHOLDERS ACROSS INDUSTRY, ACADEMIA, POLICY FEEL THAT THIS IS, WHEN WE ARE TALKING ABOUT BRINGING THESE NOVEL THERAPIES, BRINGING THESE INITIALLY, AT LEAST, EXPENSIVE THERAPIES, BUT LIFE-CHANGING THERAPIES FORWARD, THAT THIS BE INFORMED BY THE BEST INFRASTRUCTURE IN ORDER TO BE ABLE TO DO THIS.

DR. KEITH YAMAMOTO, WHO IS ON OUR BOARD, IS HEAD OF A COMMITTEE WITHIN THE NATIONAL ACADEMIES TARGETING HOW DO WE GET THIS OPEN SCIENCE AND DATA SHARING TO THE PLACE WHERE WE CAN ADVANCE SCIENCE MORE RESPONSIBLY AND ACCELERATE THE PROGRESS.

AND THEN, FINALLY, JUST YESTERDAY WE WERE, SOME MEMBERS HERE INCLUDING CHAIRMAN THOMAS AND I, WERE AT THE WORLD ALLIANCE FORUM. WE WERE ABLE TO GIVE AN UPDATE ON CIRM AT THAT FORUM. IT IS, AGAIN, THE IDEA OF TECHNOLOGY AND DATA AND KNOWLEDGE SHARING AND COLLABORATION IS SOMETHING THAT WAS EMPHASIZED THERE AS WELL.

SO WITH THAT, I JUST WANTED TO JUST REFER BACK TO SOME OF THE CONVERSATIONS THIS BOARD HAD ABOUT WHAT KIND OF PROCESSES WE GO THROUGH IN TERMS OF EVALUATING WHERE CIRM IS IN PREPARATION FOR A FUTURE STRATEGIC PLANNING EXERCISE. SO WHAT WE CAN

DO IS ACTUALLY, AS MR. SHEEHY HAD MENTIONED, TAKE A LOOK BACK AT WHAT HAS OUR EXPERIENCE BEEN? WHAT HAVE WE LEARNED? WHAT IS THE INPUT FROM OUR ECOSYSTEM WHICH WE HAVE BUILT AND HAVE BEEN WORKING IN FOR THE PAST 16 YEARS?

AND PART OF THIS, AS AN EXAMPLE OF THIS, DR. GIL SAMBRANO AND HIS TEAM, AT THE ADVICE OF JEFF SHEEHY AND OS STEWARD, HAD ASSEMBLED OUR GWG RECENTLY TO GAIN THAT KIND OF INPUT. AND IF THERE AREN'T ANY QUESTIONS ON MY KIND OF UPDATE, I'D LIKE TO INTRODUCE GIL SAMBRANO, WHO CAN GIVE A SUMMARY OF WHAT THAT WORKSHOP LOOKED LIKE. THANK YOU. THERE ARE NO QUESTIONS.

DR. SAMBRANO: THANK YOU VERY MUCH, MARIA. AND SO I DON'T WANT TO TAKE TOO MUCH OF YOUR TIME, BUT I THINK IT IS IMPORTANT TO SHARE THE OUTCOMES OF THIS MEETING. I THINK IT WAS REALLY PRODUCTIVE, THE ONE THAT WE HAD. AND SO WE REACHED OUT TO, AS YOU MIGHT IMAGINE, TO OUR GRANTS WORKING GROUP FOR SEVERAL REASONS, WHICH I'LL TELL YOU.

HERE'S JUST AN OVERVIEW OF THE MEETING THAT HAPPENED ON SEPTEMBER 26TH. WE HAD 28 SCIENTIFIC MEMBERS IN ATTENDANCE. SO THESE WERE CURRENT AND SOME FORMER MEMBERS, SIX OF OUR PATIENT ADVOCATE MEMBERS WHO SERVE ON THE GRANTS WORKING

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GROUP, AND FOUR MEMBERS OF THE PUBIC, AS WELL AS OUR BOARD CHAIR AND, OF COURSE, THE CIRM TEAM.

WE SOUGHT THE FEEDBACK OF THE GRANTS WORKING GROUP BECAUSE THEY'RE A GROUP THAT IS ACTUALLY VERY CLOSE TO US FOR GOOD REASON. AS YOU ARE AWARE, THEY HAVE A CENTRAL ROLE IN HELPING US SELECT THE MOST SCIENTIFICALLY MERITORIOUS STEM CELL PROJECTS TO FUND. THEY'RE OUR GATEKEEPERS FOR QUALITY AND MISSION ALIGNMENT.

SO IN THE COURSE OF 14 YEARS IN WHICH THEY HAVE BEEN ACTIVE, THIS GROUP HAS CONDUCTED 117 REVIEW MEETINGS WITH OVER 3,000 APPLICATIONS REVIEWED, WHICH MEANS THAT'S A PACE OF OVER 200 APPLICATIONS PER YEAR. AND THOSE HAVE RESULTED IN OVER 750 FAVORABLE RECOMMENDATIONS THAT HAVE COME TO THIS BODY.

SO IT'S AN INCREDIBLE BODY OF WORK FOR THIS GROUP. AND SO PART OF THE REASON IS TO GET THEIR PERSPECTIVE HAVING BEEN SO CLOSE TO US AND CONTINUING TO BE CLOSE TO US IN THIS WAY. AND ALSO EVEN JUST TO EXPRESS OUR THANKS TO THEM FOR MAKING THIS CONTRIBUTION.

SO IN ORDER TO PREPARE FOR THIS MEETING, AND I'LL DESCRIBE KIND OF WHAT THE FORMAT BEHIND IT WAS, WE PROVIDED MEMBERS A COMPREHENSIVE SET OF

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BACKGROUND INFORMATION ABOUT CIRM PROGRAMS. SO STARTING FROM OUR VERY FIRST RFA ON TRAINING PROGRAMS, WHICH WAS ISSUED IN 2005, TO OUR MOST RECENT OPPORTUNITIES THAT ARE FOCUSED ON THERAPY DEVELOPMENT IN OUR PIPELINE, SO OUR GOAL WAS TO GIVE THEM CONTEXT FOR THEM TO HAVE A MEANINGFUL DISCUSSION AND ALSO TO PROVIDE DIFFERENT WAYS IN WHICH THEY CAN LOOK AT WHAT CIRM HAS ACCOMPLISHED.

JUST TO GIVE YOU ONE EXAMPLE, WE TOOK SOME OF THE DATA AND INFORMATION WE HAVE AND PUT IT IN GRAPHS SUCH AS THIS. AND SO, AS YOU KNOW, WE TEND TO DIVIDE OUR FUNDING INVESTMENTS INTO FIVE DIFFERENT PILLARS OF DISCOVERY, TRANSLATION, CLINICAL, INFRASTRUCTURE, AND EDUCATION. JUST ARRANGING IT IN THIS MANNER WHERE WE KIND OF SEPARATED EARLY PROGRAMS VERSUS THE MOST RECENT, YOU CAN SEE THAT OVER A THIRD OF OUR INVESTMENT HAS BEEN TO REALLY EARLY STAGE WORK IN THE DISCOVERY PILLAR, INCLUDING FUNDAMENTAL KNOWLEDGE BUILDING STUDIES AS WELL AS MORE RECENTLY CANDIDATE DISCOVERY RESEARCH. AND THE GREATEST CONTRIBUTION HAPPENED VERY EARLY BEFORE 2015 IN PART BECAUSE THE FIELD WAS RELATIVELY NEW AND THERE WAS A LOT OF EFFORT TO GET THINGS GOING.

THE NEXT GREATEST CONTRIBUTION HAS BEEN TO

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THE CLINICAL PILLAR. AND OVER A QUARTER OF THE INVESTMENT, MOST OF THAT HAS COME IN RECENT YEARS AS THE FIELD HAS GROWN AND WE ACTUALLY HAVE THINGS THAT ARE SUFFICIENTLY ADVANCED TO MAKE IT INTO THE CLINIC.

AND THEN IN THE INFRASTRUCTURE CATEGORY, A LOT OF THAT OCCURRED, AGAIN, ALSO EARLY ON TO SUPPORT THINGS SUCH AS THE SHARED LABS WHICH WERE MENTIONED AND MAJOR FACILITIES. AND THE GOAL BEHIND THAT WAS TO ALLOW FOLKS TO BE ABLE TO CONDUCT HUMAN EMBRYONIC STEM CELL RESEARCH WITHOUT FEDERAL RESTRICTIONS.

SO WE PROVIDED BACKGROUND LIKE THIS. IT WAS ACTUALLY A VERY COMPREHENSIVE SET OF DATA TO EVERYONE THAT PARTICIPATED IN THIS. AND SO THIS WAS JUST AN EXAMPLE. AND IN ADDITION, WE ALSO PROVIDED SOME FORWARD-LOOKING QUESTIONS. SO PART OF IT WAS TO MAKE SURE THEY UNDERSTOOD WHAT CIRM HAD DONE AS CONTEXT, BUT ALSO TO PROBE THE GROUP WITH QUESTIONS TO THINK ABOUT AND TO STIMULATE THEIR THINKING ABOUT CURRENT AND FUTURE NEEDS FOR THE FIELD.

WE DID EXPLAIN TO THE GRANTS WORKING GROUP THAT WE DON'T KNOW IF CIRM WILL CONTINUE AND HAVE A FUTURE BEYOND 2020, BUT THAT POSSIBILITY CLEARLY EXISTS, BUT WE ALSO KNOW THERE'S AN ONGOING NEED

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REGARDLESS TO ADDRESS UNMET MEDICAL NEEDS AS WELL AS THE FACT THAT REGENERATIVE MEDICINE CONTINUES TO BE A PROMISING AVENUE.

SO GIVEN THE POSSIBILITY OF NEW FUNDING, OUR QUESTION, OUR MAIN REALLY CENTRAL QUESTION TO THE GROUP IS WHAT SHOULD CIRM BE THINKING ABOUT NOW TO PREPARE FOR A POSSIBLE LIFE BEYOND 2020? SO QUESTIONS SUCH AS THIS TO CONSIDER HOW CAN WE DELIVER THE GREATEST IMPACT IN THE FUTURE? WHAT OPPORTUNITIES MIGHT CIRM SEIZE IN ORDER TO ACCELERATE THE FIELD? WHAT CHALLENGES COULD BE ADDRESSED? WHAT TYPES OF PROGRAMS COULD BE SUSTAINED OR EXPANDED? WHAT'S MISSING? WHAT NEEDS MORE SUPPORT?

AND SO FOR PRACTICALITY, WE USED THE FUNDING PILLARS THAT I MENTIONED AND SHOWN HERE AGAIN TO ORGANIZE OUR DISCUSSION. SO WE SEPARATED AND CREATED EVEN MORE QUESTIONS FOR THEM TO STIMULATE THEIR THINKING PERTINENT TO EACH OF THOSE PILLARS. AND SO THE MEETING ITSELF THEN HAD TWO MAIN SESSIONS. SO WE HAD A BREAKOUT SESSION IN THE MORNING TO ALLOW THE GRANTS WORKING GROUP MEMBERS TO HAVE A FOCUSED DISCUSSION IN A SMALLER GROUP SETTING. AND THROUGH THIS DISCUSSION, THIS WAS ABOUT LITTLE OVER TWO HOURS, TO DEVELOP AND PROPOSE

THREE OR MORE RECOMMENDATIONS TO CIRM RELATED TO THOSE CENTRAL QUESTIONS.

WE ASSIGNED A DISCUSSION LEADER FROM THE GRANTS WORKING GROUP WHO HELPED MANAGE THAT AND THEN ALSO SOME CIRM TEAM MEMBERS WHO PROVIDED ADDITIONAL BACKGROUND OR CONTEXT INFORMATION.

AFTER LUNCH WE BROUGHT EVERYONE TOGETHER AND THEN HAD EACH OF THE GROUPS PRESENT THEIR INITIAL RECOMMENDATIONS TO CIRM, TO HAVE A DISCUSSION, AND TO JUST GET THE PERSPECTIVES FROM THE DIFFERENT GROUPS SO THAT THEY COULD EITHER FINE-TUNE, ADJUST, OR MAKE ADDITIONAL POINTS ON ALL OF THESE.

AT THE END OF THE MEETING, WE ENDED UP WITH WHAT WERE 27 RECOMMENDATIONS THAT CAME FROM THOSE FIVE GROUPS. AND SO WE ARE IN THE PROCESS RIGHT NOW OF DEVELOPING A FORMAL REPORT THAT WE ARE GOING TO PUBLISH ON THE WEBSITE AND, OF COURSE, THAT WE WILL SHARE WITH YOU THAT WILL CONTAIN DETAILS OF THESE RECOMMENDATIONS AND IDEAS THAT WERE BROUGHT ABOUT.

AND WHAT I WANTED TO DO TODAY WAS JUST SIMPLY GIVE YOU A LITTLE FLAVOR OF SOME OF THE THEMES THAT WERE BROUGHT, SOME OF THE GENERAL ADVICE THAT WAS GIVEN, AND SOME OF THE THINGS YOU MAY FIND

PERHAPS NOT TOO SURPRISING. THOSE THAT WERE IN ATTENDANCE MAY HAVE ADDITIONAL ONES. THESE ARE ONES THAT JUMPED OUT AT ME.

THE FIRST ONE IS PRIORITIZE FUNDING OF WORK THAT CANNOT BE FUNDED ELSEWHERE THAT IS UNDERFUNDED. I THINK MANY OF THE GWG MEMBERS VIEWED THIS AS ONE OF THE HALLMARKS OF CIRM, NOT ONLY IN THE FACT THAT CIRM HAS FUNDED HUMAN EMBRYONIC STEM CELL WORK, ACCESS TO RESEARCH USING FETAL TISSUE, BUT ALSO EVEN THE TYPES OF ACTIVITIES THAT ARE FUNDED ALONG THE DEVELOPMENT AND THERAPEUTIC PIPELINE ARE OFTEN UNDERFUNDED BY OTHERS AND AN IMPORTANT ELEMENT TO CONTINUE.

THERE WERE SUGGESTIONS TO EXPLORE WAYS TO ENCOURAGE COLLABORATIVE AND TEAM-BASED APPROACHES. SO THIS WAS IN A VARIETY OF WAYS, BOTH IN TERMS OF BRINGING INVESTORS TOGETHER WITH DIFFERENT EXPERTISE AND BACKGROUNDS, LIKE FOLKS IN BIOLOGY AND PHYSICS, TO THINK ABOUT NEW WAYS OF DEVELOPING ASSAYS OR ADDRESSING PROBLEMS, AS WELL AS EVEN THINKING ABOUT BIGGER PICTURE DISEASE TEAM-LIKE APPROACHES WHERE YOU BRING DISCOVERY, TRANSLATIONAL, AND CLINICAL PEOPLE TOGETHER TO ADDRESS A PROBLEM.

THERE WERE ALSO SUGGESTIONS TO ESTABLISH AND MAINTAIN CORE SERVICES, ENCOURAGE

STANDARDIZATION, AND IMPLEMENT DATA SHARING. AND SO DR. MILLAN TALKED A LITTLE BIT ABOUT THAT, BUT CERTAINLY ENCOURAGING WAYS IN WHICH OUR INVESTIGATORS CAN MAKE DATA THAT IS GENERATED ACCESSIBLE TO OTHERS FOR THE SAKE OF SHARING AND BENEFITING, DEVELOPING STANDARDS THAT INVESTIGATORS CAN USE IN ORDER TO BETTER SHARE AND MAKE USE AND ANALYZE DATA.

AND THEN THE LAST ONE, TO FUND GENERALLY ALL REGENERATIVE MEDICINE APPROACHES AND NOT LIMIT FUNDING JUST TO STEM CELLS. I THINK THE GROUP GENERALLY FELT THAT STEM CELLS IS A REALLY IMPORTANT ELEMENT AND TOOL THAT CIRM HAS FUNDED, BUT THERE ARE ADDITIONAL IMPORTANT TOOLS, SUCH AS GENE THERAPY THAT WE HAVE ALSO TALKED ABOUT FUNDING, THAT ARE WITHIN THE SCOPE OF REGENERATIVE MEDICINE THAT MAY DESERVE ATTENTION AS WELL.

THERE ARE ANOTHER HOST OF IDEAS THAT I WON'T NECESSARILY GO THROUGH, BUT JUST REMIND YOU THAT WE WILL PROVIDE A COMPREHENSIVE REPORT ABOUT THIS, BUT JUST WANTED TO GIVE YOU A SENSE OF KIND OF WHAT HAPPENED AT THAT MEETING AND WHAT WE ARE PREPARING. SO LOOK OUT FOR IT. HAPPY TO ADDRESS ANY QUESTIONS THAT YOU HAVE.

CHAIRMAN THOMAS: ANY QUESTIONS FOR DR.

SAMBRANO?

DR. STEWARD: SO, GIL, I JUST WANTED TO COMPLIMENT YOU ON WHAT I THOUGHT WAS A SPECTACULAR MEETING. IT WAS REALLY EXACTLY ALONG THE LINES THAT I THINK NEEDED TO BE DONE. IT LED TO EMPOWERING THE GROUP OF PEOPLE THAT'S BEEN WORKING WITH CIRM FOR ALL THESE YEARS AND DRAWING FROM THEIR COLLECTIVE WISDOM. I JUST WANT TO SAY THANK YOU VERY MUCH FOR DOING THIS. I LOOK FORWARD TO THE DOCUMENT. THANKS TO ALL OF CIRM STAFF WHO WERE THERE WHO MADE THIS REALLY, I THINK, VERY ENJOYABLE AND I THINK IT'S GOING TO BE A VERY PRODUCTIVE MEETING.

DR. SAMBRANO: THANK YOU. AGAIN, IT REALLY WAS A TEAM EFFORT. WE HAD SHYAM PATEL, HALEY LAMB, AND TRICIA CHIVERA, AND THE REVIEW GROUP AS WELL AS STEVEN LYNN AND KELLY SHEPHERD WHO REALLY HELPED FOCUS US AND THINK OF THESE QUESTIONS, PUT THIS DECK TOGETHER. SO VERY KEY. THANK YOU.

DR. PRIETO: I WOULD JUST LIKE TO ENDORSE THAT. REALLY WAS A VERY GOOD MEETING AND VERY WELL DONE.

DR. YAMAMOTO: THIS IS GREAT, GIL. THANKS FOR THAT. I'M JUST WONDERING HOW YOU THINK THAT THESE RECOMMENDATIONS WILL REALLY BE ADVANCED TO ACTION. HOW WILL IT AFFECT THE WAY THE CALLS FOR

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PROPOSALS ARE PUT FORWARD AND CONSTRUCTED? KIND OF THE EMPHASIS OF THE REVIEWS AND SO FORTH.

DR. SAMBRANO: THAT'S AN EXCELLENT QUESTION. I THINK PART OF WHAT OUR GOAL IS IS TO CONTINUE TO HAVE MEETINGS LIKE THIS WHERE WE ARE DRAWING EXPERT OPINIONS AND THOUGHTS ABOUT WHAT'S GOING ON IN THE FIELD. SO AS WE BEGIN TO DEVELOP RFA'S AND EVERYTHING ELSE, WE HAVE OUR PULSE ON IT. SO IT WILL GO INTO THE FILE THAT WE WILL CONTINUE TO EXPAND THROUGH OUR COLLECTION OF INPUT FROM OTHER SOURCES AS WELL.

ONE OF THE HOPES WAS THAT IN HIGHLIGHTING SOME OF THESE THEMES THAT I TALKED ABOUT, LET'S SAY DATA SHARING, FOR EXAMPLE, THAT THAT MIGHT POINT TO, SAY, ANOTHER WORKSHOP WHERE WE MAY GET EXPERTS IN DATA SHARING THAT MAY POINT US TO MORE SPECIFIC RECOMMENDATIONS THERE.

MR. TORRES: I'M SORRY I HAD TO MISS THE MEETING, BUT I APPRECIATE THE DOCUMENT THAT YOU FORWARDED TO ME. IT WAS VERY EXHAUSTIVE. AND ONE OF THE MOST INCREDIBLE EXPERIENCES I'VE HAD WORKING HERE IS SERVING ON THESE WORKING GROUPS BECAUSE YOU GET TO KNOW SO MANY INCREDIBLE PEOPLE THAT DEVOTE TIME TO HELP US OUT. AND, AGAIN, MY THANKS TO THE REST OF THE STAFF WHO PARTICIPATED IN THE MEETING

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AND HELPED PUT TOGETHER THE DOCUMENT. IT WAS VERY WORTHWHILE. THANK YOU.

CHAIRMAN THOMAS: GIL, I'D LIKE TO ADD THAT THE SENSE OF ACCOMPLISHMENT, CONTRIBUTION, AND PRIDE THAT WAS EVIDENT AMONGST ALL THE MEMBERS OF THE GWG WAS PALATABLE IN THIS MEETING. THEY REALLY FEEL LIKE THEY HAVE CONTRIBUTED TO SOMETHING REALLY BIG. IT JUST MADE FOR A GREAT ATMOSPHERE AND A GREAT REFLECTION AND SET OF RECOMMENDATIONS GOING FORWARD. I THOUGHT IT WAS OUTSTANDING.

DR. SANDMEYER: I THOUGHT THAT THE FINAL DOCUMENT WASN'T READY YET, BUT ART SAID HE RECEIVED A COPY. SO I WONDERED IF THERE WOULD BE COPIES AVAILABLE TO REST OF US.

TO FOLLOW UP ON OUR EARLIER DISCUSSION, BUT NOT TO RESTART IT, WHETHER THERE WAS ANYTHING IN THAT DOCUMENT THAT SPEAKS TO ANYTHING PARTICULAR IN THE BOND ISSUE.

DR. SAMBRANO: THE DOCUMENT THAT WAS REFERENCED BY MR. TORRES, SENATOR TORRES, IS REALLY A SLIDE DECK THAT PRESENTS ALL THE BACKGROUND. SO I SHOWED YOU ONE EXAMPLE. I'M HAPPY TO SHARE IT WITH THIS GROUP. BUT IT IS NOT THE DOCUMENT THAT HAS ALL THE RECOMMENDATIONS. SO WE'RE STILL WORKING ON THAT, AND OUR TARGET IS TO HAVE THAT HOPEFULLY BY

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DECEMBER 1ST.

MR. SHEEHY: PER THE QUESTION ABOUT THE MEASURE, I WAS ON THE INFRASTRUCTURE GROUP, AND THAT'S KIND OF WHAT STIMULATED THIS IS THE ELEMENTS THAT WE DISCUSSED IN THE INFRASTRUCTURE GROUP ARE NOT ELEMENTS THAT ARE IN THE BOND MEASURE, BUT, IN FACT, SOME OF THEM, THERE WAS A VERY TEPID REACTION TO. NOT TO SAY THAT WE HADN'T DONE AMAZING WORK WITH THOSE INITIATIVES, BUT THOSE INITIATIVES, IT WASN'T CLEAR THAT THEY HAD NOT -- TRY NOT TO USE DOUBLE NEGATIVES -- BUT THERE WAS A FEELING THAT THEY MAY HAVE SERVED THE PURPOSE THEY WERE MEANT TO SERVE.

THE ONE BIG ISSUE, AND IT'S REFERENCED IN THESE SLIDES, IS THE CLEARLY IDENTIFIED GAP IN MANUFACTURING AND IN CELL THERAPY. WE HAVE THESE OUTSTANDING ACADEMIC RESEARCH INSTITUTIONS WITH THE CAPABILITY TO GET US TO PHASE 1, PHASE 2. ONCE YOU GO COMMERCIAL, THERE'S ALONZA WHO SEEMS TO DO A LOT OF THE WORK, BUT TO REALLY GEAR UP FOR PHASE 3 AND ALSO, FRANKLY, TO CREATE SOME COMPETITION FOR THE FOR-PROFIT FOLKS WHO REALLY KIND OF HAVE PEOPLE OVER A BARREL. BUT THERE'S A REAL ROADBLOCK IN CAPACITY FOR MANUFACTURING THAT WE COULD REALLY HELP ADDRESS WITH NEW FUNDING. AND THAT'S NOT IN THE NEW

MEASURE. PROBABLY SHOULDN'T BE BECAUSE THAT WOULD BE TOO PROSCRIPTIVE. AND I'M CERTAIN THAT DR. MILLAN WILL HAVE IT IN OUR NEXT STRATEGIC PLAN, BUT IT'S A HUGE NEED.

CHAIRMAN THOMAS: THANK YOU VERY MUCH, GIL. ON THIS THEME, THE BOARD IS EXECUTING A RESOLUTION TO THE MEMBERS OF THE GWG THAT MEMORIALIZES THEIR WORK AND CONTRIBUTION. AND I'M JUST GOING TO READ IT BECAUSE IT SORT OF WILL TAKE TWO MINUTES AND IT CAPTURES THE ESSENCE OF THE CONTRIBUTION AND THE IMPORTANCE OF THE GWG TO THE WHOLE EFFORT.

WHEREAS, THE GRANTS WORKING GROUP WAS ESTABLISHED AS AN ADVISORY BODY TO CIRM'S GOVERNING BOARD TO EVALUATE AND IDENTIFY THE MOST SCIENTIFICALLY MERITORIOUS PROPOSALS.

WHEREAS, THE GWG -- JUST ACRONYMING HERE -- HAS CONDUCTED 117 REVIEW MEETINGS AND ASSESSED OVER 3,000 APPLICATIONS IN CIRM'S 14-YEAR LIFETIME.

WHEREAS, THE GWG UNIQUELY BRINGS TOGETHER THE PERSPECTIVES OF SCIENTISTS AND PATIENT ADVOCATES.

WHEREAS, THE GWG INCLUDES A BROAD GROUP OF HIGHLY REGARDED PIONEERS AND INNOVATORS IN THE FIELD

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OF REGENERATIVE MEDICINE.

WHEREAS, THE GWG HOLDS EXPERTISE ACROSS A HOST OF DISCIPLINES FROM FUNDAMENTAL BIOLOGY, TRANSLATIONAL RESEARCH, MEDICINE, PRODUCT MANUFACTURING, DRUG DEVELOPMENT, REGULATORY AFFAIRS, AND CLINICAL TRIALS.

WHEREAS, THE GWG MEMBERS RESIDE OUTSIDE OF CALIFORNIA, BUT THEIR COMMITMENT TO THE FIELD AND CIRM'S MISSION BRINGS THEM TOGETHER IN SUPPORT OF OUR EFFORTS.

WHEREAS, THE GWG MEMBERS DEDICATE THEIR TIME WELL BEYOND OUR ABILITY TO COMPENSATE TO THE THOROUGH, THOUGHTFUL, AND RIGOROUS EVALUATION OF SCIENTIFIC PROPOSALS.

WHEREAS, THE GWG TAKES CIRM'S MISSION TO HEART AND COINS TERMS LIKE CIRMY -- THAT'S MY FAVORITE PROVISION -- TO CHARACTERIZE PROPOSALS THAT BEST ALIGN WITH THAT MISSION. THAT'S MARK NOBLE'S TERM FOR ANY OF YOU GUYS WHO SAT ON THE GWG, COINED MANY YEARS AGO.

WHEREAS, THE GWG HAS CONTINUOUSLY CONTRIBUTED THEIR ADVICE AND EXPERIENCE TO HELP REFINE AND IMPROVE CIRM'S PROCESS AND POLICIES.

WHEREAS, THE GWG MEMBERS TAKE PRIDE IN SERVING THE FIELD THROUGH THEIR WORK FOR CIRM.

WHEREAS, THE GWG'S EARNEST AND PRINCIPLED REVIEWS HAVE ELEVATED THE RESPECT FOR CIRM'S PEER REVIEW PROCESS.

BE IT RESOLVED THAT THE GOVERNING BOARD OF THE CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE ON BEHALF OF THE STATE OF CALIFORNIA WISHES TO EXPRESS ITS DEEPEST GRATITUDE TO THE GWG MEMBERS FOR THEIR SERVICE TO CIRM AND DEDICATION TO ACCELERATING STEM CELL TREATMENTS TO PATIENTS WITH UNMET MEDICAL NEEDS.

SO THAT'S WHAT'S GOING TO GO TO ALL OF THEM. I JUST THOUGHT YOU SHOULD BE AWARE OF THAT.

THAT BRINGS US TO THE LAST ITEM ON THE AGENDA. DO WE HAVE ANY PUBLIC COMMENT ON ANYTHING? HEARING NONE, I WANT TO AGAIN WISH EVERYBODY A HAPPY HALLOWEEN. I CONGRATULATE THE WASHINGTON NATIONALS, NOT MY OBVIOUS FIRST CHOICE. I'D LIKE TO THANK AL FOR BEING THE FIRST PERSON TO SEND ME AN UNBELIEVABLY INSINCERE TEXT OF CONDOLENCE. THE DODGERS GOT KNOCKED OUT FOLLOWED BY MANY OTHERS.

AND, LASTLY, WOULD LIKE TO DO -- END THE MEETING ON A SHOUT OUT TO OUR INCREDIBLY BRAVE FIREMEN AND WOMEN OF THE STATE OF CALIFORNIA AND THOSE WHO COME IN FROM OTHER STATES TO BATTLE WHAT'S SEEMINGLY AN ENDLESS STRING OF FIRES. A NUMBER OF

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US ARE VERY CLOSE. DR. MALKAS UP IN SYLMAR AREA. CLIVE SVENDSEN WHEN WE WAS HERE HAD TO EVACUATE IN BRENTWOOD. OUR HOUSE IS THREE BLOCKS SOUTH OF THE EVACUATION ZONE. WE'VE BEEN ON ALERT SINCE 2 A.M. MONDAY AND MANY OTHERS AS WELL. BUT FOR THE INCREDIBLE PERFORMANCE BY OUR BRAVE FIREMEN AND WOMEN, WE WOULD BE IN A MAJOR WORLD OF HURT. SO I'D LIKE TO END THE MEETING --

MR. TORRES: YOU FORGOT ONE PART OF THE STATE, SONOMA AND NAPA COUNTIES. THIS IS THE SECOND TIME IN TWO YEARS THAT I ALMOST LOST MY HOUSE BUT FOR THE COURAGEOUS ACTIVITIES OF CAL FIRE AND ALL OF THE POLICE AND FIRE AND FIRST RESPONDERS FROM NOT ONLY OUR STATE, BUT OTHER STATES AS WELL THAT REALLY HELPED US OUT. IT'S HARD TO IMAGINE TO SEE A FIRE ENGINE IN CALISTOGA THAT SAYS BEVERLY HILLS, CALIFORNIA, AND YET WE DID. MY HEART AND MY THANKS GO OUT TO THE COURAGEOUS PEOPLE THAT WERE THERE AND ALL THE VOLUNTEERS AT THE EVACUATION CENTERS. WE STILL DON'T HAVE POWER YET IN SOME PARTS, AT LEAST IN MY PART, BUT POWER IS COMING BACK. I KNOW DR. MARTIN SUFFERED NO POWER IN MARIN COUNTY. MY HEART GOES OUT TO ALL OF THOSE FOLKS WHO HAD TO ENDURE THIS ONE MORE TIME, AND LET'S PRAY THAT PG&E IS TAKEN OVER BY A REAL COMPANY.

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CHAIRMAN THOMAS: ON THAT FINE NOTE, THANK YOU FOR THAT ADDENDUM. WE STAND ADJOURNED.

(THE MEETING WAS THEN ADJOURNED AT 2:19 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 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 AT THE LOCATION INDICATED BELOW

1999 HARRISON STREET
SUITE 1650
OAKLAND, CALIFORNIA
ON
OCTOBER 31, 2019

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.

BETH C. DRAIN, CA CSR 7152
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