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

REGULAR MEETING

LOCATION: VIA ZOOM

DATE: NOVEMBER 30, 2023
10 A.M.

REPORTER: BETH C. DRAIN, CA CSR
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I N D E X

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NOVEMBER 30, 2023; 10 A.M.

CHAIRMAN GOLDSTEIN: SO LET ME CALL US TO ORDER, AND THEN THE FIRST ORDER OF BUSINESS IS SCOTT CALLS THE ROLL.

MR. TOCHER: THANK YOU, LARRY. HAIFAA ABDULHAQ. MARIA BONNEVILLE.

VICE CHAIR BONNEVILLE: PRESENT.

MR. TOCHER: MONICA CARSON.

MEMBER SARKISIAN: PRESENT.

MR. TOCHER: HAL COLLARD. SHLOMO MELMED.

DR. MELMED: PRESENT.

MR. TOCHER: MARK FISCHER-COLBRIE.

DR. FISCHER-COLBRIE: HERE.

MR. TOCHER: ELENA FLOWERS.

DR. FLOWERS: PRESENT.

MR. TOCHER: JUDY GASSON.

DR. GASSON: HERE.

MR. TOCHER: LARRY GOLDSTEIN.

CHAIRMAN GOLDSTEIN: HERE.

MR. TOCHER: DAVID HIGGINS.

DR. HIGGINS: HERE.

MR. TOCHER: VITO IMBASCIANI.

DR. IMBASCIANI: HERE.

MR. TOCHER: PAT LEVITT. CHRISTINE

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MIASKOWSKI.

DR. MIASKOWSKI: HERE.

MR. TOCHER: AND KAROL WATSON.

WE HAVE TEN MEMBERS, WHICH IS A QUORUM.

CHAIRMAN GOLDSTEIN: OKAY. SO WE HAVE A FAIRLY HEFTY LOAD OF BUSINESS TODAY, GUYS. SO HANG IN THERE.

FIRST UP IS A DISCUSSION AND VOTE ON AMENDMENTS TO DISC, TRAN, AND CLIN GRANTS. FIRST UP IS DISC, AND I THINK THAT'S ROSA.

DR. CANET-AVILES: THAT IS CORRECT, YES. SHOULD I JUST GET STARTED?

CHAIRMAN GOLDSTEIN: PLEASE.

DR. CANET-AVILES: CAN YOU SEE MY SCREEN?

UNIDENTIFIED SPEAKER: ROSA, WE CAN SEE YOUR NOTES. YOU NEED TO SWAP IT.

DR. CANET-AVILES: THANK YOU. YOU SEE THE SCREEN, NOT THE NOTES, CORRECT?

DR. IMBASCIANI: YES.

DR. CANET-AVILES: FANTASTIC. GOOD MORNING, MR. CHAIRMAN AND MEMBERS OF THE SCIENCE SUBCOMMITTEE. DR. CREASEY AND I ARE GOING TO BE PRESENTING IN TANDEM THE PROPOSED AMENDMENTS FOR THE DISCOVERY AND THE CLINICAL PROGRAM AWARDS.

SO THESE AMENDMENTS HAVE BEEN DEVELOPED BY

OUR TEAMS TO ADAPT TO THE CURRENT NEEDS AND OPTIMIZE THE DELIVERY OF OUR MISSION, WHICH IS ACCELERATE WORLD-CLASS SCIENCE TO DELIVER TRANSFORMATIVE REGENERATIVE MEDICINE TREATMENTS IN AN EQUITABLE MANNER TO A DIVERSE CALIFORNIA AND THE WORLD.

THIS PRESENTATION IS STRUCTURED, AS I WAS MENTIONING, INTO TWO MAIN PARTS. INITIALLY WE WILL EXPLORE THE PROPOSED AMENDMENTS FOR THE DISC PILLAR. AND FOLLOWING THAT, MY COLLEAGUE, DR. CREASEY, WILL GUIDE US THROUGH THE DEVELOPMENTS IN THE CLINICAL PILLAR.

FOR CONTEXT, THE DISCOVERY PILLAR IS COMPOSED OF THREE TYPES OF AWARDS. WE WILL PRESENT AMENDMENTS FOR THE FIRST TWO, WHICH CORRESPOND TO THE DISC-0 OR THE FOUNDATION AWARDS THAT REPRESENT THE BEDROCK FOR ALL THE DISCOVERY PILLARS AT CIRM, EMPHASIZING THE GENERATION OF FOUNDATIONAL KNOWLEDGE. AND THIS PROGRAM FOSTERS INITIAL DISCOVERY RESEARCH AIMING TO EXPLORE NOVEL CONCEPTS AND INNOVATIVE IDEAS THAT HAVE THE POTENTIAL TO REVOLUTIONIZE OUR UNDERSTANDING AND TREATMENT OF DISEASES.

THE DISC2, QUEST AWARDS, WHICH IS THE OTHER PROGRAM THAT WE WILL PRESENT AMENDMENTS FOR, SIGNIFY THE CRITICAL TRANSITION FROM FOUNDATIONAL

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KNOWLEDGE TO A TARGETED INQUIRY WHERE SPECIFIC HYPOTHESES ARE TESTED. AND THESE AWARDS ARE DESIGNED TO VALIDATE INITIAL FINDINGS AND ASSESS THEIR POTENTIAL TO RESULT IN A SINGLE PRODUCT CANDIDATE FOR THERAPEUTIC DEVELOPMENT.

SO FOR THE FIRST PROGRAM, WHICH IS THE DISC2, OR THE QUEST AWARDS, WE ARE PROPOSING TWO CHANGES. ONE IS TO THE AWARD TRACK AND THE OTHER IS TO THE AWARD BUDGET, AND WE HAVE ONE SLIDE FOR EACH WHICH DETAIL THE PROPOSED CHANGES.

FOR THE DISC2 AWARDS CHANGES IN TRACK, CURRENTLY OUR PROGRAM IS STRUCTURED AROUND TWO TRACKS. THE FIRST IS THE THERAPEUTIC CANDIDATE TRACK, WHICH IS DEDICATED TO ADVANCING PROJECTS TOWARDS THE DEVELOPMENT CANDIDATE READY FOR PROGRESSION THROUGH VARIOUS STAGES OF THERAPEUTIC DEVELOPMENT. AND THE SECOND IS TECHNOLOGY CANDIDATE TRACK THAT HAS TRADITIONALLY BEEN ALIGNED WITH DIAGNOSTICS, DEVICES, OR TOOLS. AND WHAT WE ARE PROPOSING IS A SHIFT BY CONFORMING THIS TRACK INTO A BIOMARKER CANDIDATE TRACK.

WHY ARE WE DOING THIS? WE ARE PROPOSING THIS, THE RATIONALE IS BECAUSE THE TOOL/DEVICE DEVELOPMENT SEGMENT OF THE CURRENT DISC2 IS ALREADY SUPPORTED BY THE DISC-0 PROGRAM, BY THE FOUNDATIONAL

AWARDS. THIS PROGRAM ACTUALLY DID NOT EXIST WHEN WE FIRST DEVELOPED THESE TWO. SO POST PROPOSITION 14 WE INTRODUCED DISC-0, AND THIS PROGRAM ENCOMPASSED TOOL AND DEVICE DEVELOPMENT, TACKLING BOTTLENECKS IN CELL AND GENE THERAPY, AND ENHANCING RESEARCH TOOLS, INCLUDING THOSE FOSTERING DIVERSITY, EQUITY, AND INCLUSION IN SCIENCE. THEREFORE, WE PROPOSE THAT THE ALLOCATION OF THE TOOL/DEVICE FOCUS EXCLUSIVELY TO DISC-0, THEREBY ELIMINATING REDUNDANCY. AND THESE TWO ARE MAKING A SPACE FOR THE CRITICAL BIOMARKER TRACK.

THE INCLUSION OF A BIOMARKER TRACK IN THESE TWO UNDERSCORES WIDESPREAD DEMAND FOR BIOMARKERS -- THERE'S A BIG NEED -- AND IS CRUCIAL FOR NOT ONLY GENERAL THERAPEUTIC DEVELOPMENT, BUT PARTICULARLY VITAL IN THE REALM OF REGENERATIVE MEDICINE AND CNS DISEASES.

BY PROPOSING THIS BIOMARKER TRACK, WE ARE NOW EXPANDING TO SUPPORT NOT ONLY THE DIAGNOSTIC BIOMARKERS, BUT TO INCLUDE OTHER BIOMARKERS LINKED TO MEDICAL INTERVENTIONS FOR DISEASE CONDITIONS SUCH AS PROGNOSTIC BIOMARKERS, RISK MONITORING BIOMARKERS.

THE NEXT SLIDE HAS TO DO WITH THE CHANGE IN BUDGET TO ADAPT TO WHAT WE ARE PROPOSING AS WELL.

SO CURRENTLY THE THERAPEUTIC DEVELOPMENT CANDIDATE HAS AN ALLOCATION OF $1.5 MILLION FOR THREE YEARS. THE $1.5 MILLION IS FOR DIRECT PROJECT COSTS FOR THE ENTIRE AWARD. WE ARE NOW PROPOSING AN INCREASE TO $1.75 MILLION. SO IT'S A $250,000 INCREASE. THE RATIONALE FOR THAT IS ALLOWANCE FOR HIGHER COST OF TRAINEES AND RESEARCH.

AND THE SECOND IS THAT CURRENTLY THE DISC2 AWARDS HAVE ALREADY A SUPPLEMENT. WE ALLOW A $200,000 SUPPLEMENT FOR SPECIFIC PROJECT TYPES. AND WHAT WE ARE DOING NOW IS EXPANDING AND INCREASING TO ALLOW FOR ALL AWARDEES. AND IN THIS PROPOSAL SCENARIO, THE SUPPLEMENT OF 200,000 COULD BE ELIMINATED AS IT'S ALREADY INCLUDED. AND OBVIOUSLY, ANYBODY THAT ASKS FOR THE MAXIMUM, THE BUDGET NEEDS TO BE JUSTIFIED ANYWAY. SO THIS IS GOING TO BE ALWAYS REVIEWED BY OUR GRANTS WORKING GROUP MEMBERS.

FOR THE BIOMARKER TRACK, WE ARE PROPOSING $1.5 MILLION, WHICH IS JUSTIFIED IN TERMS OF DURATION AND SIZE OF COMPARABLE AWARDS. AND WE HAVE DONE AN ANALYSIS OF OTHER FUNDING AGENCIES THAT FUND SPECIFIC BIOMARKERS EARLY IDENTIFICATION AND EARLY VALIDATION OF BIOMARKER PROJECTS. AND IT COMES TO ABOUT $500,000 PER YEAR ON AVERAGE AND IS ABOUT BETWEEN TWO AND THREE YEARS.

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I DON'T KNOW IF, DR. GOLDSTEIN, IF YOU WOULD LIKE TO STOP AT DISC-0 FOR QUESTIONS OR IF YOU WOULD LIKE ME TO PROCEED TO DISC2 -- SORRY -- TO STOP NOW FOR QUESTIONS OR PROCEED.

CHAIRMAN GOLDSTEIN: I'D SAY DO THE FULL DISC LOAD, AND THEN WE'LL PAUSE FOR QUESTIONS AND A VOTE PRIOR TO ABLA PRESENTING THE CLIN PROPOSALS.

DR. CANET-AVILES: SOUNDS GREAT. THANK YOU, DR. GOLDSTEIN.

SO FOR THE DISC-0 FOUNDATIONAL AWARDS CONCEPT, WE ARE PROPOSING THREE CHANGES. ONE IS TO AWARDS TRACKS. THE OTHER IS TO AWARD BUDGETS. AND THE LAST ONE IS TO THE PI PERCENT EFFORT.

FOR THE AWARD TRACK, DISC-0 OR FOUNDATIONAL AWARDS, CURRENTLY HAS ONE TRACK. IT'S THE SINGLE PI TRACK. BUT BEYOND THE UNIQUE CONTRIBUTIONS OF INDIVIDUAL INNOVATORS, CIRM RECOGNIZES THE VALUE OF TEAM SCIENCE IN MAKING SCIENTIFIC BREAKTHROUGHS THAT COULD NOT BE ACHIEVABLE BY INDIVIDUAL INVESTIGATORS WITHIN AN AWARD PERIOD. AND THE DISC-0 FOUNDATIONAL AWARDS CAPITALIZE ON BOTH APPROACHES BY SUPPORTING TWO TYPES OF PROGRAMS OR COULD CAPITALIZE IF APPROVED THESE AMENDMENTS.

IF WE COULD SUPPORT TWO TYPES OF PROGRAMS,

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ONE COULD BE THE CURRENT SINGLE PI TRACK THAT COULD SUPPORT PROJECTS WITH DISCRETE OBJECTIVES THAT ARE ACHIEVABLE UNDER THE LEADERSHIP OF A SINGLE INVESTIGATOR. AND THEN ANOTHER TRACK, THE TEAM TRACK, THAT COULD SUPPORT MULTIDISCIPLINARY COLLABORATIONS OF TWO TO THREE INVESTIGATORS THAT BRING SPECIFIC KNOWLEDGE AND SKILLS TO A PROJECT TO CREATE A UNIQUE ADVANTAGE OR SYNERGY WHERE THEIR PERSPECTIVES COULD DRIVE INNOVATION AND CREATIVITY IN REGENERATIVE MEDICINE.

THIS IS ALSO SOMETHING THAT WE HAVE LEARNED FROM DEVELOPING THE RECENTLY APPROVED REMIND PROGRAM. WE ARE TRYING TO STIMULATE TEAM SCIENCE AND INNOVATION AND MULTIDISCIPLINARY COLLABORATION. SO THAT IS WHY WE ARE ADDING THIS TRACK.

SO THE NEXT CHANGE THAT WE ARE PROPOSING IS CHANGES IN BUDGET. CURRENTLY THE SINGLE PI TRACK HAS A BUDGET OF $1 MILLION FOR THREE YEARS. THIS CORRESPONDS TO ABOUT $353,000 IN DIRECT PROJECT COSTS PER YEAR. AND WE ARE PROPOSING AN INCREASE TO HALF A MILLION DOLLARS PER YEAR FOR THREE YEARS. A TOTAL ON THE SINGLE PI'S IS $1.5 MILLION, ACCOUNTING FOR HIGHER PROJECT TRAINEE COST AND RESEARCH. AND FOR THE TEAM TRACK, WE ARE DOUBLING THIS, TAKING INTO ACCOUNT THAT WE WILL HAVE AT LEAST TWICE THE

AMOUNT OF PROGRESSION EVENTS, ONE MAIN PI AND ONE CO-PI AT LEAST, HOPEFULLY THREE.

AND THEN IN TERMS OF PERCENT OF EFFORT, THE CURRENT PERCENT EFFORT FOR A SINGLE TRACK PI IS 20 PERCENT MINIMUM EFFORT. AND WE ARE PROPOSING A DECREASE OF 5 PERCENT FOR THE SINGLE PI OF 15 PERCENT, ONE FIVE; AND FOR THE TEAM TRACK, THE PI COULD BE ALSO 15 PERCENT, ONE FIVE; AND FOR THE CO-INVESTIGATORS, 10 PERCENT MINIMUM REQUIREMENT. AND THIS IS FROM A CHANGE THAT WE ARE PROPOSING GIVEN BOARD FEEDBACK AND ALIGNMENT WITH OTHER FUNDING BODIES.

AND WITH THAT, I'M FINISHING MY PRESENTATION. AND WE WOULD LIKE -- CIRM REQUESTS THE COMMITTEE TO RECOMMEND TO THE ICOC APPROVAL OF THESE AMENDMENTS. AND I WOULD BE HAPPY TO ANSWER ANY QUESTIONS. THANK YOU SO MUCH FOR YOUR ATTENTION.

CHAIRMAN GOLDSTEIN: GREAT PRESENTATION, ROSA. OKAY. SHLOMO, YOU'RE UP FIRST.

DR. MELMED: THANK YOU, ROSA, THAT WAS TERRIFIC. THANK YOU.

I HAVE TWO QUESTIONS. ONE IS THE TERM "BIOMARKER" IS EXTREMELY BROAD. DO WE HAVE TO, ESPECIALLY FOR THIS COMMITTEE, DO WE HAVE TO BE MORE

GRANULAR IN OUR DEFINITION? BECAUSE I'M CONCERNED WE'RE GOING TO GET SWAMPED WITH ALL SORTS OF STUFF FROM IMAGING TO MOLECULAR TO CLINICAL. IT WILL BE A VERY, VERY WIDE CATCHMENT. SO I'M WONDERING IF THAT'S THE INTENT. THAT'S FINE. BUT IF THE INTENT IS TO BE MORE FOCUSED ON STEM CELL-SPECIFIC BIOMARKERS, I THINK WE SHOULD BE MORE GRANULAR.

AND MY SECOND COMMENT RELATED TO THE FIRST IS THE EFFORT. 15 PERCENT EFFORT SEEMS A LITTLE BIT HIGH IF YOU ARE GOING TO DO A SIMPLE BIOMARKER. WELL, THOSE ARE MY TWO QUESTIONS.

DR. CANET-AVILES: SO FOR THE FIRST ONE, IN TERMS OF THE BIOMARKER, OUR TEAM HAS ALREADY DEVELOPED IN THE PROGRAM ANNOUNCEMENT, IN THE CONCEPT, WE HAVE MADE SOME CHANGES. AND THE BIOMARKERS COULD HAVE TO BE RELATED TO STEM CELLS. SO YOU WOULD HAVE TO EITHER USE STEM CELLS TO DISCOVER THE BIOMARKER. AND IT'S GOING TO BE THAT COULD HELP THE ADVANCEMENT OF THERAPIES, CLINICAL THERAPIES, WITH THE BIOMARKER DISCOVERED. DOES THAT ANSWER YOUR QUESTION?

DR. MELMED: NO. THOSE ARE TWO DIFFERENT THINGS. USING STEM CELLS TO DISCOVER BIOMARKERS OR USING BIOMARKERS TO MEASURE THE EFFICACY OF STEM CELL THERAPY, THOSE ARE TWO DIFFERENT SCIENTIFIC

QUESTIONS. ARE WE DOING BOTH? ARE WE DOING ONE? I THINK WE SHOULD BE MORE SPECIFIC. I DON'T KNOW WHAT THE INTENT IS IF SOMEONE READS IT. THERE ARE TWO DIFFERENT HYPOTHETICAL APPROACHES TO THIS RFA.

DR. CANET-AVILES: YES. SO THE TYPE OF BIOMARKER THAT WE ARE TRYING TO COVER HERE COULD BE THOSE THAT SUPPORT THE DEVELOPMENT OF THE CLINICAL USE OR THERAPEUTICS OF THE MODALITIES THAT WE DEFINE FOR THE DISCOVERY RESEARCH. SO, FOR EXAMPLE, IN THE DISCOVERY RESEARCH, WE ARE ALLOWING FOR THERAPEUTICS THAT IS A CELL THERAPY WHERE A HUMAN PROGENITOR CELL EITHER COMPOSE THE THERAPY OR ARE USED TO MANUFACTURE THE CELL THERAPY OR THE GENE THERAPY APPROACH.

AND IN TERMS OF BIOMARKERS, WHAT WE ARE ASKING IS THE SUPPORT OF DEVELOPMENT OR THE CLINICAL USE OF THOSE THERAPEUTICS. AND THE SECOND IS FOR WHICH HUMAN OR STEM CELL PROGENITOR CELLS ARE UNIQUELY ENABLING FOR THE IDENTIFICATION, TESTING, AND VALIDATION OF ASSESSMENT OF THE THERAPY. SO WE ARE ACTUALLY INCLUDING THOSE TWO TYPES.

AND WHAT I'M HEARING FROM YOU IS THAT YOU WOULD LIKE FOR US TO BE MORE SPECIFIC RESTRICTED TO EITHER --

DR. MELMED: NO. BOTH ARE FINE AS LONG AS

WE ARE -- WE ARE DETAILED BECAUSE THE MORE DETAIL THE BETTER. I WANT TO PREVENT A SLAB OF IRRELEVANT APPLICATIONS.

DR. CANET-AVILES: YES. NO --

DR. MELMED: NOT IRRELEVANT, BUT NOT RELEVANT TO OUR MISSION.

DR. CANET-AVILES: NO. IT'S GOING TO BE RELEVANT TO THE MISSION. AND IN THE CONCEPT, IT'S VERY CONCRETE THE WAY THAT WE HAVE EXPLAINED THIS. BUT WE WILL PROVIDE MORE SPECIFICS AND EXAMPLES WHEN WE DEVELOP THE PROGRAM ANNOUNCEMENT.

DR. MELMED: OKAY. THANK YOU.

DR. CANET-AVILES: AND THEN THE SECOND QUESTION WAS WITH REGARDS TO THE PERCENT EFFORT?

DR. MELMED: YEAH.

DR. CANET-AVILES: AND WHAT WAS THE QUESTION? COULD YOU REPEAT IT?

DR. MELMED: 15 PERCENT MAY BE HIGH FOR A SIMPLE IN VITRO BIOMARKER STUDY.

DR. CANET-AVILES: WELL, IT'S NOT A SIMPLE IN VITRO BIOMARKER STUDY. THIS IS THE DEVELOPMENT OF A BIOMARKER THAT SUPPORTS THE DEVELOPMENT OR THE CLINICAL USE OF THE THERAPEUTICS. AND MY EXPERIENCE HAS BEEN THIS REQUIRES QUITE A BIT OF EFFORT FROM THE PI. I SEE THE SAME AS THE LEVEL OF A

DEVELOPMENT CANDIDATE, BUT JUST IN THE BIOMARKER MODALITY. SO I THINK THAT WE SHOULD REQUIRE 15 PERCENT, ESPECIALLY WITH THE BUDGET THAT WE ARE ALLOCATING.

DR. MELMED: THANK YOU.

CHAIRMAN GOLDSTEIN: I THINK THAT'S GREAT. AN INSIDE BASEBALL QUESTION, ROSA. AS WE INCREASE THE NUMBER AND DIFFERENT OPTIONS FOR THESE VARIOUS GRANTS, WHAT ARE THE IMPLICATIONS FOR INTERNAL TRACKING OF THESE AWARDS? IS THIS GOING TO RAISE THE OVERHEAD SUBSTANTIALLY?

DR. CANET-AVILES: NO, WE DON'T THINK THAT BECAUSE I THINK IT'S GOING TO ACTUALLY BE AN ADVANTAGE BECAUSE RIGHT NOW THE TOOLS/TECHNOLOGY TYPE OF AWARDS, WHICH ARE CURRENTLY IN THE BUDGET ALLOCATION AS WELL, THEY TEND TO NOT BE, I THINK, REVIEWED AT THE SAME LEVEL AS THE OTHERS. SO THEY DON'T DO SO WELL. AND RIGHT NOW WHAT I THINK WE ARE GOING TO GET IS TWO TYPES OF AWARDS THAT WILL BE AROUND THE SAME, AND WE WILL JUST GET ABOUT THE SAME AMOUNT OF AWARDS AT THE END. THE BUDGET IS GOING TO BE ESTABLISHED. FOR THIS ONE, THE BUDGET IS ALREADY ESTABLISHED BECAUSE THE NEXT CALL WOULD BE IN MAY. BUT I DON'T THINK IT COULD BE INCREASING THE AMOUNT OF AWARDS. WE JUST COULD HAVE PROBABLY, OUR WISH

COULD BE THAT IT'S HALF AND HALF ALLOCATION, BUT IT'S NOT GOING TO BE MORE AWARDS. IT'S JUST GOING TO BE DIFFERENT TYPES OF AWARDS.

CHAIRMAN GOLDSTEIN: GREAT. OTHER QUESTIONS OR COMMENTS FROM THE SUBCOMMITTEE? SCOTT, WE HAVE ANY PUBLIC COMMENT ON THE LINE?

MR. TOCHER: LOOKING NOW. I DON'T SEE ANY. CLAUDETTE?

MS. MANDAC: NO. THERE ARE NO HANDS RAISED.

CHAIRMAN GOLDSTEIN: OKAY. SO CAN SOMEBODY MOVE FOR US TO MOVE FORWARD?

VICE CHAIR BONNEVILLE: SO MOVED.

DR. LEVITT: I SECOND.

CHAIRMAN GOLDSTEIN: OKAY. MOVED AND SECONDED. SCOTT, WILL YOU PLEASE CALL THE ROLL.

MR. TOCHER: HAIFAA ABDULHAQ.

DR. ABDULHAQ: YES.

MR. TOCHER: MARIA BONNEVILLE.

VICE CHAIR BONNEVILLE: YES.

MR. TOCHER: MONICA CARSON.

DR. CARSON: YES.

MR. TOCHER: HAL COLLARD. SHLOMO MELMED.

DR. MELMED: YES.

MR. TOCHER: MARK FISCHER-COLBRIE.

DR. FISCHER-COLBRIE: YES.
MR. TOCHER: ELENA FLOWERS.
DR. FLOWERS: YES.
MR. TOCHER: JUDY GASSON.
DR. GASSON: YES.
MR. TOCHER: LARRY GOLDSTEIN.
CHAIRMAN GOLDSTEIN: YES.
MR. TOCHER: DAVID HIGGINS.
DR. HIGGINS: YES.
MR. TOCHER: VITO IMBASCIANI.
DR. IMBASCIANI: YES.
MR. TOCHER: PAT LEVITT.
DR. LEVITT: YES.
MR. TOCHER: AND CHRISTINE MIASKOWSKI.
DR. MIASKOWSKI: YES.
MR. TOCHER: GREAT. THANKS VERY MUCH. THAT MOTION CARRIES.
THE REPORTER: SCOTT, THIS IS BETH. I DIDN'T HEAR THE SECOND. WHO WAS THAT PLEASE?
MR. TOCHER: SECOND WAS PAT LEVITT.
THE REPORTER: THANK YOU VERY MUCH.
CHAIRMAN GOLDSTEIN: OKAY. SO THAT RECOMMENDATION WILL GO ON TO THE FULL ICOC.
NEXT UP IS ABLA CREASEY, WHO WILL TELL US ABOUT PROPOSED AMENDMENTS AND CHANGES TO THE CLIN

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AWARD SERIES. ABLA, WHEREVER YOU ARE.

DR. CREASEY: THANK YOU. CAN YOU SEE MY SCREEN?

CHAIRMAN GOLDSTEIN: YEP.

DR. CREASEY: GREAT. THANK YOU, DR. GOLDSTEIN, MEMBERS OF THE SCIENCE SUBCOMMITTEE, CIRM COLLEAGUES, AND THE PUBLIC.

SO I'M GOING TO COVER TODAY THE PROPOSED CLIN CONCEPT AMENDMENTS AND SHARE WITH YOU A NEW CONCEPT THAT WE ARE PROPOSING FOR CLIN, CLIN4.

SO WHAT ARE SOME OF THE THINGS WE'RE GOING TO DISCUSS TODAY? WE ARE RECOMMENDING THE FOLLOWING FOUR THINGS. ONE IS TO REMOVE THE CLINICAL TRACK FOR MEDICAL DEVICES FROM THE CLIN PILLAR. SECOND, INCREASE MAXIMUM AWARD AMOUNTS FOR CLIN1. AND I'LL GO INTO MORE DETAILS ABOUT EACH. THIRD, UPDATE CLIN2 PROGRAM ANNOUNCEMENT TO HIGHLIGHT SPECIFIC ALLOWABLE ACTIVITIES FOR PRODUCT DEVELOPMENT. AND THEN LAST WOULD BE TO INTRODUCE THIS NEW CLIN4 PROGRAM ANNOUNCEMENT TO FUND LATE-STAGE DEVELOPMENT ACTIVITIES THAT ARE NECESSARY TO FILE A BIOLOGICS LICENSE APPLICATION AND READINESS FOR PRODUCT LAUNCH.

I JUST WOULD LIKE TO, BEFORE I PROCEED, TO MENTION A COUPLE OF THINGS. ONE IS WE ARE MOVING

OTHER DEVELOPMENT PROGRAMS TOWARDS POTENTIAL ADVANCEMENT FOR APPROVAL AS WELL AS HARMONIZING WITH WHAT YOU HEARD THROUGH THE AAWG ROADMAP SO THAT THERE IS CONSISTENCY BETWEEN WHAT WE DELIVER FOR ACCESS AND AFFORDABILITY. SO WHAT CLINICAL RESEARCH IS DOING. SO THE MOST IMPORTANT THING HERE IS MAKE SURE THAT OUR PORTFOLIO IS MOVING TOWARDS GETTING TO THE PATIENTS.

SO FOR MOVING THE CLINICAL TRIAL TRACK FOR MEDICAL DEVICES, THE RATIONALE FOR DOING THAT IS WE HAVE NOT HAD ANY APPLICATIONS THAT ARE REQUIRING MEDICAL DEVICE SANCTIONING BY THE FDA. AND FOR THAT REASON, WE SUPPORT THE COMBINATION OF DEVICE DEVELOPMENT WITH A CLINICAL TRIAL WITH A THERAPEUTIC AGENT, BUT NOT NECESSARILY A MEDICAL DEVICE ALONE BECAUSE WE HAVE NOT HAD THOSE TYPES OF APPLICATIONS.

SO AS A REMINDER, THE CLINICAL PROGRAMS AWARDS OVERVIEW IS ON THIS SLIDE. YOU ARE ALL FAMILIAR WITH CLIN1 AND CLIN2. THE CLIN1 IS FOR IND-ENABLING. THIS IS MEANING INVESTIGATIONAL NEW DRUG. AND THE CLIN1 REQUIRES THE TEAMS TO HAVE CONDUCTED A PRE-IND MEETING, AND THE DURATION FOR THAT GRANT IS 24 MONTHS.

FOR THE CLIN2, THIS IS FOR EMBARKING ON CONDUCTING A CLINICAL TRIAL. AND THE APPLICANTS

HAVE TO HAVE AN ACTIVE IND, AND THE LENGTH OF THE GRANT IS 48 MONTHS. THOSE GRANTS HAVE TO START WITHIN 45 DAYS AFTER ICOC APPROVAL.

THE NEW CONCEPT PLAN FOR CLIN4 IS REALLY MEANINGFUL BECAUSE IT'S BIOLOGICS LICENSE APPLICATION ENABLING. WE HAVE A NUMBER OF GRANTS THAT ARE ON TRACK TOWARDS THAT STAGE. THE REQUIREMENT FOR A CLIN4 CONCEPT IS AN ACTIVE CLIN2 AND/OR PHASE 2 MEETING WITH FDA. AND THE LENGTH FOR THIS GRANT WOULD BE 48 MONTHS AND WILL LEAD TO A CLIN2 APPLICATION.

SO FOR CLIN1 AWARDS, WHY ARE WE MAKING THOSE CHANGES? SO FOR THE LENGTH OF TIME I'VE BEEN AT CIRM, 2016, ALMOST SEVEN TO EIGHT YEARS, THE CLIN1 AWARD HAS NOT BEEN GIVEN AN INCREASE IN BUDGET. SO THE CURRENT BUDGET IS 6 MILLION FOR NON-PROFITS WHILE FOR-PROFITS HAS BEEN 4 MILLION. WE EVALUATED WHAT PERCENTAGE SHOULD BE AWARDED TO THESE INCREASES SO THAT FOLKS HAVE NO TROUBLE CONDUCTING THE NECESSARY ACTIVITIES. WE CAME UP WITH ABOUT A 20-PERCENT INCREASE. SO THE NON-PROFIT GOES FROM 6 MILLION TO ABOUT $7 MILLION, AND FOR-PROFITS GOES FROM 4 MILLION TO ABOUT 5 MILLION, UP TO THOSE NUMBERS.

AGAIN, THE RATIONALE IS THAT WE HAVE HEARD

FROM OUR GRANTEES, CURRENT AND FUTURE, IS THAT THE TOXICOLOGY STUDIES HAVE COST A LOT MORE, ESPECIALLY IF THEY'RE GOING TO HAVE TO USE NONHUMAN PRIMATES. MANUFACTURING COST HAS INCREASED AND, EQUALLY IMPORTANT, HIGHER WORKERS WAGES COSTS HAVE ALSO INCREASED.

SO WITH THOSE REQUESTED OR PROPOSED BUDGET INCREASES, THESE ARE AMOUNTS OF DOLLARS THAT ARE WITHIN OUR BUDGET AND WILL NEED ONLY FOR US TO MODIFY THE BUDGET FOR 23/24. THE DURATION OF THE CLIN1 WILL REMAIN AT 24 MONTHS LIKE I DESCRIBED IN THE PREVIOUS SLIDE.

SO CHANGES REGARDING THE CLIN2 CONCEPT CHANGES THAT WE ARE PROPOSING. WE'D LIKE TO EXPLAIN THE RATIONALE FOR THAT FIRST. CHANGES ARE NEEDED BECAUSE MOST CIRM-FUNDED TRIALS THUS FAR OR IN THE PAST HAVE BEEN IN EARLY-STAGE CLINICAL DEVELOPMENT, EITHER PHASE 1 OR PHASE 2. THIS IS WHETHER IT'S A CELL THERAPY OR A GENE THERAPY.

AS THE FIELD HAS MATURED, MORE PROGRAMS ARE ENTERING LATE-STAGE DEVELOPMENT. AND I MENTIONED EARLIER WE HAVE A NUMBER OF THEM THAT ARE EMBARKING ON THE LATE STAGE, WHETHER IT'S A PHASE 3 OR, AS DISCUSSED WITH THE REGULATORS, TO BE A PIVOTAL OR REGISTRATION TRIAL MOVING DIRECTLY

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INTO -- DEPENDENT, AGAIN, ON THE DISEASE INDICATION, TOWARDS GETTING THAT REGISTRATION TO EMBARK ON GETTING THE PRODUCT OUT TO THE PATIENTS AND THE PRODUCT TO BE ON THE MARKET.

SO THE CURRENT CLIN2 PROGRAM ANNOUNCEMENT IS NOT REALLY THAT CLEAR OR EXPLICIT ABOUT THE SUPPORT OF SPECIFIC LATE-STAGE DEVELOPMENT ACTIVITIES. WE, OUR TEAM AND THE THERAPEUTICS DEVELOPMENT TEAM, DISCUSSED SOME OF THOSE. AND WE ARE RECOGNIZING THAT WE NEED TO JUST MAKE WHAT WE CAN FUND MORE CLEAR TO THE POTENTIAL APPLICANTS. AND THAT WILL ENSURE BEST PRACTICES ALIGNMENT WITH THE FDA. AND AS I SAID EARLIER, IT HARMONIZES AND IS CONSISTENT WITH WHAT YOU HEARD IN THE DISCUSSION AT AAWG, THE ROADMAP THAT WAS PRESENTED, AND THAT WILL ALLOW US TO BE CLOSER TOWARDS WORKING TOWARDS ACCESS AND AFFORDABILITY.

SO WHAT ARE THOSE ACTIVITIES? YOU'VE HEARD IN THE PAST THAT THE FDA ALWAYS LIKES TO HAVE PLACEBO CONTROLLED TRIALS. SOME OF THE GRANTS THAT WE ARE GETTING IS WHERE PLACEBO CONTROLLED TRIALS IS NOT POSSIBLE, SUCH AS IN RARE DISEASES. THERE'S A NEED FOR ALTERNATIVE COMPARATOR DATA THAT IS ACCEPTABLE TO THE FDA FOR A MARKETING APPROVAL DECISION. AND THAT WAS INTENDED TO SUPPORT THE

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PROPOSED INTERVENTIONAL CLINICAL TRIAL IN, AS I MENTIONED, WHERE PLACEBO OR SHAM CONTROLS ARE NOT POSSIBLE.

SO THERE ARE OPTIONS, AND WE ARE ONLY GIVING YOU EXAMPLES HERE. NATURAL HISTORY STUDIES. OTHERS WOULD BE TO PURCHASE DATA REPOSITORIES FROM VARIOUS U.S. REPOSITORIES THAT ACTUALLY COLLECT SUCH DATA. AND THEY MUST HAVE DOCUMENTED THAT THE FDA AGREEMENT ACCEPTS THOSE COMPARATORS WHILE IN DISCUSSIONS WITH THE REGULATORS SO THERE ARE NO SURPRISES. AND SO WE WILL MAKE SURE THAT THAT'S WELL EXPLAINED TO THE APPLICANTS.

AND THEN COMPILATION OF PATIENT-REPORTED OUTCOMES. THIS IS, AS I SAID, REALLY IMPORTANT ESPECIALLY WHEN IT COMES TO THE FOLKS WHO MANAGE THE CARE LIKE CMS, MEDICAID AND MEDICARE. AND SO WE WOULD LIKE TO MAKE SURE THAT OUR GRANTEES UNDERSTAND THAT THEY INCLUDE THAT AS WELL. AND THAT'S RELATED TO THE CONDUCT OF THE PROPOSED TRIAL.

AND THEN COMPILATION OF REAL-WORLD DATA AND REAL-WORLD EVIDENCE RELATED TO THE CONDUCT OF THE PROPOSED TRIAL. THE FDA HAS PUT OUT MULTIPLE, NOW, GUIDANCE DOCUMENTS THAT SAYS THEY WILL ACCEPT SUCH DATA INSTEAD OF PLACEBO OR SHAM CONTROLLED. AND SO WE WANT TO MAKE SURE WE ARE MAINSTREAM IN

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COLLABORATING CLOSELY WITH THE FDA TO ALLOW THE STUDIES TO SUCCEED.

IN ADDITION, WE ALWAYS WANT TO MAKE SURE THAT WE SUPPORT THE DEI GOALS BY ANY FUNDS THAT ARE NEEDED. AND WE HAVE HEARD THAT SOMETIMES THEY NEED MORE FUNDS FOR THAT ACTIVITY. AND SO WE WOULD JUST LIKE TO MAKE SURE THAT, WHEN THEY BUDGET, THEY BUDGET ACCORDINGLY.

SO NOW WE MOVE TO THE NEW CLIN4 CONCEPT PLAN. SO WHAT DOES CLIN4 MEAN AND WHAT IS IT FOR? SO THERE ARE CERTAIN KEY ACTIVITIES REQUIRED BY THE FDA TO GET A BIOLOGICS LICENSE APPLICATION. WE ALREADY HAVE ONE GRANTEE THAT HAS ARRIVED AT THAT STAGE, AND FDA HAVE ACCEPTED THE BIOLOGICS LICENSE APPLICATION FILING, AND THEY HAVE THAT FOR MARCH OF 2024.

SO I JUST WANT TO GIVE YOU THE FEELING THAT THIS IS REALLY BECOMING A REALITY FOR CIRM. SO READINESS FOR PRODUCT LAUNCH IS NOT COVERED BY THE CURRENT CLIN2 PA. AND INVARIABLY IN OUR CONVERSATION WITH OUR GRANTEES THAT ARE STARTING TO GET TO THAT STAGE, IT IS REQUIRED TO PLAN FOR READINESS FOR PRODUCT LAUNCH WHILE THE BLA IS BEING PREPARED OR FINALIZING THE TRIAL. AND THAT TAKES ABOUT ONE TO TWO YEARS BEFORE FILING THE BLA.

SO THE GOAL OF A CLIN4 IS TO SUPPORT CIRM-FUNDED PROGRAMS TO ACHIEVE A BLA FILING AND ADVANCEMENT TOWARDS THE GOAL OF OBTAINING A MARKETING APPROVAL.

IT IS A VERY IMPORTANT THING TO MENTION AGAIN THAT IT'S A VERY LOGICAL BRIDGE TO THE AAWG, AGAIN, DEMONSTRATING CIRM'S COMMITMENT TO ACCESS AND AFFORDABILITY. THIS IS REALLY AN IMPORTANT KIND OF CONNECTIVITY WITH THE LONG-TERM GOAL OF CIRM MAKING ALL THESE TYPES OF GRANTS AFFORDABLE AND ACCESSIBLE TO PATIENTS.

SO WHAT DOES THE NEW CLIN4 INCLUDE AND WHO WILL BE ELIGIBLE FOR THIS GRANT? WE DECIDED TO MAKE SURE THAT WE DON'T HAVE OVERLAPPING CLIN2 REQUESTS AND CLIN4 REQUESTS. SO WE SAID THEY MUST HAVE AN ACTIVE CLIN2 AWARD, OVERLAPPING REQUESTS WHEN I MENTIONED THAT. SO IT MUST HAVE AN ACTIVE CLIN2 AWARD. MUST HAVE COMPLETED 50 PERCENT OF THE MILESTONES ON AN ACTIVE CLIN2 AWARD. THAT'S THE FEELING THAT THEY CAN ACTUALLY DO IT, AND THEY HAVE DONE A GOOD JOB ON TIME, WITHIN BUDGET. MUST HAVE COMPLETED AN END-OF-PHASE 2 MEETING OR EQUIVALENT WITH THE FDA AND HAVE CONCURRENCE ON REQUIREMENTS FOR A BLA FILING.

AND, AGAIN, FROM EXPERIENCE SO FAR OF TWO

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GRANTEES WHO ARE CLOSE TO THAT IS THAT THAT WILL BE VERY HELPFUL FOR THEM.

WHAT WILL NEW CLIN4 PROVIDE? WE DEBATED WHETHER WE SHOULD MAKE A CLIN4 A LARGE GRANT, LARGER EVEN THAN THE CLIN2. AND WE CAME TO THE NOTION THAT UP TO $12 MILLION WILL COVER LATE-STAGE DEVELOPMENT ACTIVITIES NECESSARY FOR BLA FILING, BUT NOT INCLUDED IN THE CLIN2 AWARD.

AND LET ME SHOW YOU WHAT THE ACTIVITIES ARE. SO THOSE ACTIVITIES INCLUDE FILING A BLA, CONDUCTING A PRE-BLA MEETING WITH THE FDA. BY THE WAY, FOR SOME OF THOSE, THEY WILL NOT REQUIRE THEM TO PAY THE FEES THAT ARE REQUIRED FOR THAT, BUT MOST OF THEM WILL NEED TO DO THAT. AND THEN COMPILATION OF AN ELECTRONIC COMMON TECHNICAL DOCUMENT, WHICH IS THE FORMULA BY WHICH THE FDA REQUIRES.

PRODUCT MANUFACTURING ACTIVITIES NECESSARY TO SUBMIT A BLA. AND THEN COMMERCIAL DEVELOPMENT ACTIVITIES SUCH AS PHARMACOECONOMIC ANALYSIS, BUDGET MODIFICATIONS, BUDGET IMPACT MODIFICATIONS, MANAGED HEALTH-PAYER PERSPECTIVE. THEY HAVE TO HAVE ALL THOSE DISCUSSIONS ONGOING WHILE THEY ARE ACTUALLY PREPARING FOR THIS KEY STEP. DEVELOPMENT OF A SUPPLY CHAIN STRATEGY, KNOWING HOW THEY'RE GOING TO DISTRIBUTE THE DRUG, WHERE IS THE DRUG GOING TO BE

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DELIVERED, WHAT IS THE COST OF THAT. THIS ALL HAS TO BE PART OF THE PLANNING.

AND THEN INITIATION OF PRECOMMERCIALIZATION ACTIVITIES, SUCH AS PRODUCTION OF PAYOR'S COST-EFFECTIVENESS ANALYSIS REPORT THE INSTITUTE FOR CLINICAL AND ECONOMIC REVIEW REQUIRES, AND THERE IS A NICE GOOD FEE THAT GOES WITH THAT. AND THEN COMPILATION OF AN AMCP DOSSIER. THE AMCP IS THE ACADEMY OF MANAGED CARE PHARMACY DOSSIER. AND, AGAIN, WE ARE TALKING ABOUT MEDICARE, MEDICAID, ET CETERA. AND THEN THE LAST ITEM THAT WE ARE ALLOWING IS A COMPASSIONATE USE OF THE INVESTIGATIONAL THERAPY FOR PATIENTS IN THE PERIOD AFTER ENROLLMENT CLOSED AND MARKET APPROVAL IS AT AWARD STAGE OR IS AWARDED FDA APPROVAL AND AGREEMENT WITH THE DRUG PRODUCT SUPPLIER. AND I'M HAPPY TO DISCUSS THAT IN MORE DETAIL IF NECESSARY.

AS A SUMMARY OF WHAT I JUST MENTIONED IN THE LAST FEW SLIDES, I JUST WANT TO HIGHLIGHT THAT WE ARE WITHIN BUDGET. SO THE CLIN1 INCREASE WILL BE 6 MILLION TO $7 MILLION FOR THE NON-PROFIT AND 4 MILLION TO 5 MILLION FOR THE PROFIT ORGANIZATIONS.

CLIN2 WILL REMAIN UP TO 15 MILLION. AND THE CLIN4, IF APPROVED, IF YOU ALLOW IT TO MOVE FORWARD, THAT WILL BE UP TO 12 MILLION.

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SO CIRM REQUESTS KINDLY FROM THE SCIENCE SUBCOMMITTEE TO MOVE FORWARD WITH THE PROPOSED CLIN1 AND CLIN2 CONCEPT AMENDMENTS AND THE APPROVAL OF A CLIN4 CONCEPT TO MOVE TO THE ICOC FOR ULTIMATE APPROVAL. WITH THAT, I'M HAPPY TO ANSWER ANY QUESTIONS.

CHAIRMAN GOLDSTEIN: MARIA BONNEVILLE.

VICE CHAIR BONNEVILLE: I DON'T HAVE ANY QUESTIONS. BUT WHAT I WANTED TO DO IS THANK ABLA SO MUCH. THE CLIN2, JUST A CLARIFICATION OF THE ACTIVITIES THAT ARE ALLOWED, DOVETAILS SO NICELY WITH THE WORK THAT THE AAWG DID WITH THE ROADMAP. AND THANK YOU, ABLA, FOR BRINGING THAT ALL TOGETHER SO THAT WE CAN FURTHER THESE PROJECTS ALONG. SO I REALLY APPRECIATE IT.

DR. CREASEY: THANK YOU, MARIA B.

CHAIRMAN GOLDSTEIN: MONICA CARSON.

DR. CARSON: THANK YOU. THAT WAS A BEAUTIFUL PRESENTATION AND BEAUTIFULLY EXPLAINED. IN GENERAL, IT SOUNDS QUITE RATIONAL.

I JUST HAD A QUICK QUESTION ABOUT THE CLIN1 AWARDS. SINCE YOU HAD JUSTIFIED OR JUST HAD PUT IT IN THE CONTEXT OF A 20-PERCENT INCREASE, THE FACT THAT WE ARE GIVING ABOUT, WHAT, APPROXIMATELY 17 PERCENT FOR NON-PROFITS AND AN APPROXIMATE

25-PERCENT INCREASE FOR THE PROFITS, THAT MAY BE RATIONALE FOR THAT. I'M JUST CURIOUS ABOUT THE LOGIC OF --

DR. CREASEY: WE HAD A DISCUSSION WITH PAT LEVITT, AND I ROUNDED TO $7 MILLION. IT WAS 7.2 MILLION TO BE EQUIVALENT TO THE FOR-PROFIT. AND I ROUNDED DOWN INSTEAD OF UP, INSTEAD OF GOING TO 7.2 OR 7.5. AND SO HAVING TO CHANGE IT, WHATEVER WE END UP WITH, WE'D LIKE IT TO BE CONSISTENT BETWEEN THOSE TWO. SO THANKS FOR BRINGING THAT UP.

DR. CARSON: SO YOUR ACTUAL PROPOSAL WOULD BE MORE THAT THEY SHOULD BOTH BE 20 PERCENT?

DR. CREASEY: CORRECT. CORRECT.

DR. CARSON: SO THANK YOU.

DR. CREASEY: YOU'RE WELCOME.

DR. LEVITT: JUST TO CLARIFY. AS LONG AS IT WAS ROUNDED. ROUNDING IS FINE. I THINK MAKING IT EQUIVALENT, WE COULD EVEN GO A LITTLE HIGHER WOULD BE FINE.

DR. CARSON: OKAY, GREAT. THANK YOU, PAT.

CHAIRMAN GOLDSTEIN: CHRISTINE.

DR. MIASKOWSKI: THANK YOU. ABLA, THANKS FOR YOUR PRESENTATION. ONE OF THE COMMENTS I HAD AS I WAS LISTENING TO IT, I WISH THE NIH HAD THE WISDOM TO INCREASE THEIR BUDGETS, WHICH WE HAVEN'T SEEN IN

A LONG TIME. BUT I DO HAVE TWO QUESTIONS.

IN TERMS OF THE CLIN4 PROGRAM, ARE YOU PLANNING A PREAPPLICATION LIKE LETTER OF INTENT TO SCREEN APPLICANTS TO MEET THE MINIMUM CRITERIA?

DR. CREASEY: THE TRUTH, CHRISTINE, IS WE'VE BEEN THINKING ABOUT THE CURRENT GRANTEES THAT WE HAVE WHO ARE READY TO MOVE. AND IN ORDER TO HAVE THEM COMPLETE -- EITHER OVERLAP WITH THE CLIN2 AND COME TO APPLY FOR A CLIN4. REMEMBER CIRM IS IN THE ACCELERATION BUSINESS. AND SO IF AN APPLICANT COMES WITH A CLIN2 AND, LET'S SAY, THEY DO ACCOMPLISH A COUPLE OF THEIR MILESTONES AND THEY ARE READY FOR A CLIN4, WE'LL KEEP AN EYE ON THOSE SO AS TO ENCOURAGE THEM TO APPLY.

AND SO WE ACTUALLY ARE ACTIVELY WORKING THAT SO THAT WE ARE ACCOMMODATING THE GRANTEES THAT HAVE BEEN WITH US FOR NOW A NUMBER OF YEARS WHO ARE REACHING TO THAT STAGE, BUT IT WILL BE A SHAME IF WE DID NOT ALLOW THEM TO GET THAT STAGE AND NOT FIND ANY FUNDS TO ALLOW THEM TO GET TO THE BLA STAGE AND BE AVAILABLE TO PATIENTS.

DR. MIASKOWSKI: YEAH. I THINK IT'S A GREAT IDEA. AND IT SOUNDS LIKE IT'S GOING TO BE AN INVITATIONAL TYPE OF PROCESS.

DR. CREASEY: RIGHT. MORE LIKE IT, YEAH.

DR. MIASKOWSKI: THE OTHER POINT, I WAS INTERESTED IN ONE OF YOUR SLIDES WAS THE NOTION OF COLLECTING PATIENT-REPORTED OUTCOMES BECAUSE I THINK THAT IS INCREDIBLY IMPORTANT. AND YOU MADE THE POINT THAT THAT'S REALLY IMPORTANT FOR THE CLINICIANS. I MAKE THE POINT IT'S ALSO REALLY IMPORTANT FOR THE PATIENTS TO KNOW WHAT THEY'RE GETTING INTO AND THE FAMILY MEMBERS.

BUT THE QUESTION I HAD WAS IS CIRM IN ANY WAY CONSIDERING STANDARDIZING THESE PRO'S? I KNOW MANY OF THEM HAVE TO BE SPECIFIC TO THE DISEASE OR THE PROCESS THAT'S BEING TREATED. BUT IT WOULD BE INCREDIBLY IMPORTANT, I THINK, FOR US TO TRY TO GET SOME COMMON DATA ELEMENTS ACROSS OUR STUDIES THAT COULD BE METRICS FOR THE LARGER FIELD; FOR EXAMPLE, QUALITY OF LIFE. I THINK THAT SHOULD BE ENDEMIC IN ALL OF THE STUDIES THAT WE ENGAGE IN. AND THERE MAY BE OTHER ONES LIKE FUNCTIONAL OUTCOMES THAT ARE REALLY, REALLY IMPORTANT TO PATIENTS.

SO I DON'T KNOW IF YOU'VE HAD DISCUSSIONS OR ARE CONSIDERING THAT. IT SEEMS TO ME ALONG THE SAME LINES AS WHAT WE ARE DOING WITH THE DEI RUBRIC IN TERMS OF BEING UNDER CERTAIN DEMOGRAPHICS. I WONDER IF THAT COULD BE SOMETHING THAT WE COULD HAVE A CONVERSATION ABOUT BECAUSE I THINK IT WOULD SERVE

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THE FIELD BROADLY.

DR. CREASEY: TOTALLY AGREE, CHRISTINE. RIGHT ON THE MONEY. IN FACT, WE NEED TO COORDINATE ALSO THAT WITH THE AAWG, HOW THEY THINK ABOUT IT, AS WELL AS CREATE POTENTIALLY LIKE A RUBRIC THAT WILL ASSIST US IN MAKING SURE SOME OF THE ELEMENTS ARE GOING TO BE SLIGHTLY DIFFERENT FROM DISEASE ONE TO TWO TO THREE, BUT AT THE SAME TIME I THINK STANDARDIZATION WILL BE HELPFUL TO US. AND SO THAT'S A VERY GOOD SUGGESTION.

DR. MIASKOWSKI: YEAH. I THINK I SIT IN ON A LOT OF THE GRANT REVIEWS, AND THE DEI RUBRIC, FROM MY PERSPECTIVE, IS REALLY WORKING, AND WE ARE GETTING SOME METRICS FROM THAT WE'LL BE ABLE TO USE IN THE FUTURE. SO I WOULD REALLY ENCOURAGE YOU TO THINK ABOUT PATIENT-REPORTED OUTCOMES AS WELL.

DR. CREASEY: EXCELLENT. THANK YOU. IT WILL BE ON THE LIST.

CHAIRMAN GOLDSTEIN: ABLA, I HAVE A COUPLE OF QUESTIONS. ONE I THINK IS PROBABLY SELF-EVIDENT. BUT I'D LIKE TO CONFIRM MY UNDERSTANDING, THAT THESE CHANGES WOULD MAKE IT, IN PRINCIPLE, POSSIBLE TO DEVELOP A THERAPY ENTIRELY IN THE NONCOMMERCIAL SECTOR AND WITH NO INVOLVEMENT OF A COMMERCIAL PARTNER.

DR. CREASEY: I THINK MANY OF YOU -- I CAN ANSWER THAT, BUT MAYBE LET'S LISTEN TO SHYAM'S PROPOSAL FIRST AND THEN DECIDE TOGETHER ABOUT. YES. THE ANSWER IS YES BECAUSE SINCE WE ARE ELIMINATING CO-FUNDING REQUIREMENTS IN SOME CASES, SO I THINK THAT'S GOING TO BE POSSIBLE.

CHAIRMAN GOLDSTEIN: AND THAT MAY BE KEY TO DEVELOPING AFFORDABILITY IF FOR-PROFITS WERE IN THERE.

SECOND QUESTION IS ABOUT THE REQUIREMENT OF A CLIN2 TO GET A CLIN4. WHAT ABOUT THE CASE WHERE THERAPEUTIC DEVELOPMENT GETS ABANDONED BY A COMPANY OR ANOTHER ACADEMIC INSTITUTION THAT WAS SUPPORTED WITH NIH FUNDS OR PRIVATE FUNDS? WOULDN'T WE STILL WANT TO BE ABLE TO PICK IT UP WITH A CLIN4 IF IT LOOKED LIKE A MERITORIOUS APPROACH?

DR. CREASEY: ACTUALLY WE DISCUSSED THAT AT LENGTH. FOR EXAMPLE, FOR SOME INDICATIONS WHERE WE HAVE NO GRANTS AND THEY COME TO US AND ASK FOR A CLIN4, LET'S SAY, IN ANY OF THE PSYCHIATRIC DISEASES OR WHATEVER, WILL WE DO THAT? I THINK WE TALKED ABOUT POTENTIALLY MAKING IT LIKE AN EXCEPTION OR LIKE A VITAL RESEARCH OPPORTUNITY. BUT RIGHT NOW WE ARE TRYING TO KIND OF MOVE ALL THE PROGRAMS THAT WE HAVE, BUT WE'RE GOING TO BE OPEN, WITH YOUR

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PERMISSION AND BLESSING, THAT WE ACTUALLY ENTERTAIN SUCH A THING AT SOME POINT.

CHAIRMAN GOLDSTEIN: WHEN I WAS AT HARVARD, MANY REGULATIONS AND RULES WERE PRECEDED BY THE WORD "ORDINARILY." ORDINARILY A CLIN2 WOULD BE PROVIDED, BUT THERE'S ALWAYS ROOM FOR GETTING AROUND IT IN SOME REASONABLE WAY IF THERE'S A CONSENSUS. SO THAT MIGHT BE A WAY TO HANDLE THAT. QUITE EFFECTIVE THERE.

DR. CREASEY: YES. THANK YOU.

CHAIRMAN GOLDSTEIN: ANY OTHER QUESTIONS OR COMMENTS? ALL RIGHT. LET'S HAVE SOMEBODY MOVE FOR APPROVAL.

VICE CHAIR BONNEVILLE: SO MOVED.

CHAIRMAN GOLDSTEIN: MARIA, THANK YOU.

DR. GASSON: SECOND.

CHAIRMAN GOLDSTEIN: OKAY. JUDY SECONDED. GREAT. SCOTT, CALL THE ROLL PLEASE.

MR. TOCHER: AND I'LL JUST CHECK THAT THERE'S NO PUBLIC COMMENT.

MS. MANDAC: THERE IS ONE HAND RAISED.

CHAIRMAN GOLDSTEIN: GOOD. YEAH.

MR. TOCHER: SO THE 510 NUMBER.

VICE CHAIR BONNEVILLE: THEY'RE ON MUTE, SCOTT.

MS. ADELSON: HI THERE. THANK YOU VERY MUCH. THIS IS CELIA ADELSON WITH THE UCLA (UNINTELLIGIBLE). I JUST WANTED TO UNDERSCORE DR. GOLDSTEIN'S COMMENT. IT HAD OCCURRED TO ME THAT CIRM MAY WANT TO GIVE IT SOME FLEXIBILITY ON BOTH THE FIRST PART OF THE CLIN2 REQUIREMENT AND THEN ALSO THE CLIN2 REQUIREMENT AS WELL. I APPRECIATE ABLA'S COMMENTS ABOUT JUST BEING AIMED AT THE CURRENT PORTFOLIO, AND I REALLY UNDERSTAND THE REASONS FOR IT, BUT THAT ALSO INCLUDES A SELECTION BIAS. YOU DON'T KNOW ABOUT THE OTHER PROGRAMS THAT ARE OUT THERE THAT NEED THE FUNDING. SO I JUST WANTED TO MAKE THAT COMMENT.

CHAIRMAN GOLDSTEIN: THANK YOU. ABLA, ANYTHING THAT YOU'D LIKE TO RESPOND THERE? YOU DON'T NECESSARILY HAVE TO.

DR. CREASEY: I AGREE WITH THE POTENTIAL CONCEPT AWARD SHE MENTIONED AND HAPPY TO ENTERTAIN POTENTIAL -- LIKE WE SAID, WE THOUGHT IT WOULD BE IMPORTANT FOR FOLKS TO KNOW WHAT A CLIN4 IS ALL ABOUT, BUT AT THE SAME TIME FOR US TO ENTERTAIN POTENTIAL ELIGIBILITY AT SOME POINT. BUT RIGHT NOW WE ARE LEAVING IT FOR THE CURRENT PORTFOLIO. AND I UNDERSTAND THERE COULD BE SOME BIAS, BUT AT THE SAME TIME I THINK WE COMMEND ANYONE WHO HAS A PROGRAM

THAT'S REACHED THAT STAGE AND WOULD LIKE TO APPLY TO CIRM, THAT WE WILL DISCUSS IT WITH THIS COMMITTEE AND COME BACK TO THEM.

CHAIRMAN GOLDSTEIN: ANY OTHER PUBLIC COMMENT?

MR. TOCHER: DOESN'T LOOK LIKE IT. CAN YOU CONFIRM THAT, CLAUDETTE?

MS. MANDAC: NO OTHER COMMENTS.

CHAIRMAN GOLDSTEIN: GREAT. SO CALL THE ROLL.

MR. TOCHER: HAIFAA ABDULHAQ.

DR. ABDULHAQ: YES.

MR. TOCHER: MARIA BONNEVILLE.

VICE CHAIR BONNEVILLE: YES.

MR. TOCHER: MONICA CARSON.

DR. CARSON: YES.

MR. TOCHER: SHLOMO MELMED.

DR. MELMED: YES.

MR. TOCHER: MARK FISCHER-COLBRIE.

DR. FISCHER-COLBRIE: YES.

MR. TOCHER: ELENA FLOWERS.

DR. FLOWERS: YES.

MR. TOCHER: JUDY GASSON.

DR. GASSON: YES.

MR. TOCHER: LARRY GOLDSTEIN.

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CHAIRMAN GOLDSTEIN: YES.
MR. TOCHER: DAVID HIGGINS.
DR. HIGGINS: YES.
MR. TOCHER: VITO IMBASCIANI.
DR. IMBASCIANI: YES.
MR. TOCHER: PAT LEVITT.
DR. LEVITT: YES.
MR. TOCHER: AND CHRISTINE MIASKOWSKI.
DR. MIASKOWSKI: YES.
MR. TOCHER: GREAT. THANKS VERY MUCH. THE MOTION CARRIES.
CHAIRMAN GOLDSTEIN: OKAY. NEXT UP ARE SOME PROPOSED CHANGES TO CO-FUNDING REQUIREMENTS FROM INDUSTRY. SHYAM, TAKE IT AWAY.
DR. PATEL: I HOPE YOU CAN HEAR AND SEE MY SLIDES OKAY.
SO THIS IS A CONTINUATION OF A SET OF CO-FUNDING CHANGES THAT WERE INITIALLY PROPOSED BY THE IP AND INDUSTRY SUBCOMMITTEE. AND SO I'M GOING TO DESCRIBE THOSE TO YOU TODAY. AND THANK YOU FOR YOUR TIME.
SO THIS INITIALLY STARTED OFF AS A REQUEST FROM THE IP AND INDUSTRY SUBCOMMITTEE TO EVALUATE WHETHER OUR CO-FUNDING REQUIREMENTS FOR FOR-PROFIT ENTITIES ARE LIMITING THEIR ABILITY TO ACCESS CIRM

FUNDING AND TO PROGRESS THEIR PROJECTS WITH THE USE OF CIRM FUNDS. AND SO WHAT WE HAVE DONE IS WE TOOK THAT AND TOOK A HOLISTIC APPROACH TO ALL THE CO-FUNDING REQUIREMENTS. AND WHAT WE ARE PROPOSING TO YOU IS A CULMINATION OF ALL THAT ACTIVITY IN CLOSE GUIDANCE WITH THE IP SUBCOMMITTEE, PARTICULARLY DR. ABOUSALEM AS WELL AS CHAIRMAN JUELSGAARD.

AND SO IT IS GOING TO ADDRESS SEVERAL DIFFERENT CO-FUNDING ELEMENTS. AND I'LL DESCRIBE THOSE TO YOU IN THE NEXT FEW SLIDES.

SO, FIRST, TO KIND OF START OFF, I WANT TO DESCRIBE WHAT OUR CURRENT CO-FUNDING REQUIREMENTS ARE. AND AS PART OF THIS EXERCISE, WE WENT BACK AND REEVALUATED THE INTENT OF THE CO-FUNDING REQUIREMENTS. WHEN THE CLINICAL PROGRAM WAS FIRST BEING PROPOSED AS A CONCEPT PLAN, THIS IS BACK IN 2014 AND 2015 TIME FRAME, SO SINCE THEN, THE CO-FUNDING REQUIREMENTS HAVE STAYED LARGELY THE SAME WITH MINOR CHANGES HERE AND THERE, BUT THIS IS WHAT THEY ARE AT THE MOMENT.

SO FOR A NON-PROFIT ENTITY THAT APPLIES TO CIRM FOR FUNDING, THEY HAVE NO CO-FUNDING REQUIREMENT UP UNTIL THE POINT OF A CLIN2 SUBMISSION THAT IS POST A FIRST-IN-HUMAN CLINICAL TRIAL. ON

THE OTHER SIDE, FOR A FOR-PROFIT ENTITY, THE CO-FUNDING REQUIREMENT ESCALATES FROM TRAN TO CLIN1 TO CLIN2. AND I'LL GET INTO THE REASONS FOR WHY THESE CO-FUNDING REQUIREMENTS ARE THERE. BUT I DO WANT TO NOTE THE WAY THE CO-FUNDING IS CALCULATED IS THAT IT'S THE TOTAL PROJECT COSTS OF THAT PARTICULAR STAGE OF ACTIVITY, THE CIRM FUNDING AMOUNT, PLUS THE COMMITMENT FROM THE AWARDEE. THAT'S HOW IT'S CALCULATED.

SO WHAT WAS THE INTENT OF THESE CO-FUNDING REQUIREMENTS WHEN THEY WERE FIRST PROPOSED AS PART OF THE INITIAL CLIN2 CONCEPT PLAN? FOR THE FOR-PROFITS, IT WAS TO DEMONSTRATE THAT THEY HAVE A COMMITMENT TO THE PROPOSED PROJECT, THAT THEY ARE COMMITTED TO IT IN THE CURRENT STAGE, AND THEY'RE COMMITTED TO PROGRESSING THAT PROJECT FORWARD, AND THAT IT IS A PRIORITY FOR THEIR PIPELINE.

FOR THE NON-PROFITS, THERE IS THAT 40-PERCENT CO-FUNDING REQUIREMENT THAT I MENTIONED FOR LATE-STAGE CLINICAL TRIALS. AND THAT WAS INTENDED TO PROMOTE INDUSTRY PARTNERS FOR THOSE LATE-STAGE CLINICAL TRIALS BECAUSE YOU WOULD NEED, IN THE CURRENT TRADITIONAL SORT OF APPROVAL MODEL, THAT YOU WOULD NEED A PARTNER TO TAKE ON THAT PROJECT FOR LATE-STAGE DEVELOPMENT AND

COMMERCIALIZATION.

SO HAVING THAT -- IF IT'S A NON-PROFIT THAT'S SPONSORING THAT TRIAL, THEY HAVE A PARTNER IN PLACE TO TAKE THAT PROJECT FORWARD AND TO PROGRESS IT. SO THESE ARE GOING TO BE IMPORTANT -- THE INTENT IS GOING TO BE IMPORTANT AS I DESCRIBE THE CHANGES IN THE NEXT FEW SLIDES.

SO THIS SLIDE IS GOING TO OUTLINE WHY WE ARE PROPOSING THE CHANGES TO THE CO-FUNDING REQUIREMENTS, AND THEN IT'S GOING TO DESCRIBE THE CO-FUNDING REQUIREMENTS THEMSELVES. SO, FIRST, I'M GOING TO START OFF BY WHY ARE WE PROPOSING CHANGES.

SO FIRST OF ALL, WITH RESPECT TO THE CLINICAL -- THE NON-PROFITS. SO CURRENTLY FOR UNPARTNERED ACADEMIC PROGRAMS THAT HAVE PROMISING FIRST-IN-HUMAN DATA, THE REQUIREMENT TO HAVE 40-PERCENT CO-FUNDING FOR THAT NEXT STAGE CLINICAL TRIAL IS ACTUALLY STALLING PROGRESS OF THOSE PROGRAMS BECAUSE THEY HAVE TO FIND SOME WAY TO CREATE -- FIND SOME WAY TO SECURE THAT FUNDING. THIS IS PARTICULARLY RELEVANT FOR PROGRAMS IN THE RARE DISEASE SPACE OR ONES THAT CURRENTLY DON'T HAVE MUCH COMMERCIAL POTENTIAL. AND I THINK WE ALL KNOW OF MANY OF THOSE PROGRAMS. AND THERE ARE SEVERAL PROGRAMS IN OUR OWN PORTFOLIO THAT HAVE EXPERIENCED

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THIS SLOWING OR STALLING WHILE THEY'RE TRYING TO FIGURE OUT OTHER MECHANISMS TO FUND THEM. SO THAT'S THE FIRST PART.

THE SECOND PART IS THAT THE WAY OUR CURRENT CO-FUNDING REQUIREMENTS ARE DESCRIBED, IF A NON-PROFIT APPLICANT ALREADY HAS A FOR-PROFIT PARTNER, THAT FOR-PROFIT PARTNER IS NOT REQUIRED TO CO-FUND THE CIRM AWARD BECAUSE THE CURRENT CO-FUNDING REQUIREMENTS APPLY TO THE APPLICANT AND SUBSEQUENT AWARDEE AND NOT TO PARTNERS.

AND LASTLY, WHICH WAS THE ORIGINAL INTENT OF THESE CHANGES FROM THE IP SUBCOMMITTEE, WAS THAT FOR-PROFITS ARE OPERATING IN A VERY CHALLENGING ECONOMIC ENVIRONMENT. THIS HAS BEEN ONGOING FOR A FEW YEARS NOW. AND ON TOP OF THAT, THEY ARE AT A DISADVANTAGE, RELATIVELY SPEAKING, TO NON-PROFITS FOR CIRM AWARD LEVELS, AND SO IN THE PREVIOUS PRESENTATION, THESE AWARD AMOUNTS FOR CLIN1 AS WELL AS FOR FIRST-IN-HUMAN CLINICAL TRIALS. AND ALSO, UNLIKE NON-PROFITS, FOR-PROFITS CANNOT REQUEST CIRM FUNDING FOR INDIRECT COSTS. THEY CAN REQUEST FUNDING FOR DIRECT FACILITIES COSTS, BUT NOT INDIRECT COSTS, WHICH FOR A NON-PROFIT IS 20 PERCENT.

SO WITH THOSE THREE THINGS IN MIND, WE ARE

PROPOSING THE FOLLOWING TABLE OF CHANGES. AND I WILL GO THROUGH THEM ONE STEP AT A TIME.

SO FIRST AND FOREMOST, WE DIFFERENTIATED THE NON-PROFIT APPLICANTS TO CIRM INTO TWO CATEGORIES. FIRST IS A NON-PROFIT APPLICANT THAT DOES NOT HAVE A FOR-PROFIT PARTNER WITH A VESTED INTEREST IN COMMERCIALIZING THAT PROJECT. FOR THOSE ENTITIES THERE WILL BE NO CO-FUNDING REQUIREMENT UNDER THIS PROPOSAL AT ANY STAGE OF A CIRM AWARD, DISCOVERY, TRANSLATION, CLINICAL, CLIN2, FIRST-IN-HUMAN, AND THAT SHOULD ALSO, I BELIEVE, EXTEND TO CLIN4 AS WELL.

ON THE FLIP SIDE NOW, WITH RESPECT TO THE FOR-PROFIT ELEMENTS THAT ARE INVOLVED THERE, SO FOR A FOR-PROFIT APPLICANT OR WHERE YOU HAVE A NON-PROFIT APPLICANT THAT HAS AN ESTABLISHED FOR-PROFIT PARTNER THAT HAD A VESTED INTEREST IN COMMERCIALIZING THAT PROJECT, THE FOR-PROFIT WOULD BE SUBJECT TO EITHER THE CASH CO-FUNDING REQUIREMENT OR WOULD HAVE THE OPTION FOR A WARRANT-BASED CO-FUNDING REQUIREMENT. AND I'LL DESCRIBE WHAT THIS MEANS.

ESSENTIALLY WHAT IT IS IS FLEXIBILITY TO EITHER COMMIT CASH TO CIRM OR TO COMMIT WARRANTS TO CIRM. AND THAT WAS THE ORIGINAL PROPOSAL FROM THE

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IP AND INDUSTRY SUBCOMMITTEE WAS TO CREATE THIS WARRANT-BASED CO-FUNDING REQUIREMENT AS AN ALTERNATIVE TO THE CASH-BASED CO-FUNDING REQUIREMENT FOR COMPANIES THAT APPLY TO CIRM.

SO I'M GOING TO QUICKLY ADDRESS THE NON-PROFIT SIDE, AND THEN THE REST OF THE PRESENTATION IS GOING TO FOCUS ON WHAT THAT WARRANT-BASED CO-FUNDING REQUIREMENT LOOKS LIKE AND HOW WE DESIGNED IT.

SO FIRST AND FOREMOST, AS I ITERATED PREVIOUSLY, THAT 40-PERCENT CO-FUNDING REQUIREMENT IS NOT ACTIVE AS AN INCENTIVE FOR INDUSTRY PARTNERS. THIS IS NOT INCENTIVIZING INDUSTRY PARTNERS TO PARTNER WITH ANY OF THE NON-PROFIT PROGRAMS AT THAT STAGE BY ITSELF. AND WHAT IT INSTEAD IS DOING IS SLOWING THE CLINICAL PROGRESS WHILE THOSE AWARDEES OR THOSE APPLICANTS THAT HAVE PROMISING FIRST-IN-HUMAN CLINICAL DATA WANT TO PROGRESS THAT PROJECT IN A NON-PROFIT SETTING HAVE TO FIND OTHER SOURCES OF FUNDING LIKE NIH, FOUNDATION, AND SO ON. AND AS YOU'VE ALREADY NOTED, NIH FUNDING IS OFTEN NOT SUFFICIENT FOR THESE TYPES OF ACTIVITIES AT THAT LATE STAGE OF DEVELOPMENT.

NOW, ON THE FLIP SIDE, IF THAT NON-PROFIT ALREADY HAS A PARTNER, THE CO-FUNDING REQUIREMENT

WOULD APPLY AS STATED IN THE PREVIOUS SLIDE TO THE FOR-PROFIT PARTNER.

AND I DO WANT TO QUICKLY REITERATE THAT THESE CLIN2 AWARDS THAT WILL BE GOING TO THE NON-PROFITS WITHOUT A CO-FUNDING REQUIREMENT WOULD STILL HAVE OUR REVENUE SHARING REQUIREMENT AND A LOAN CONVERSION REQUIREMENT ATTACHED TO THEM AS ALL OUR AWARDS DO. SO I JUST WANT TO QUICKLY OUTLINE THAT. IN THE INSTANCE OF A $15 MILLION CLIN2 AWARD TO A NON-PROFIT FOR A PHASE 2 OR LATER TRIAL, IF THAT DATA IS USED FOR REGULATORY FILING, THEY WOULD BE SUBJECT TO A 1.5 -- THE COMMERCIALIZING ENTITY, WHOEVER THAT MAY BE, WOULD BE SUBJECT TO A 1.5-PERCENT ROYALTY ON THAT REVENUE. THIS CAN BE UP TO $135 MILLION OR TEN YEARS. THAT IS OUR STANDARD REVENUE SHARING REQUIREMENT ATTACHED TO ALL OF OUR AWARDS.

ALTERNATIVELY, IF THE AWARDEE OR ITS PARTNER DECIDES TO CONVERT THAT AWARD TO A LOAN, CIRM WOULD AT A MINIMUM HAVE A RETURN OF THE PRINCIPAL AMOUNT, 15 MILLION, AND POTENTIALLY MORE DEPENDING ON WHAT STAGE THEY ELECT. SO THE SORT OF RETURN TO THE STATE AND TO CIRM IS STILL PRESERVED EVEN IF WE REMOVE THE CO-FUNDING REQUIREMENT BECAUSE THOSE ARE SEPARATE INSTANCES.

SO THE REST OF THIS PRESENTATION IS GOING TO FOCUS ON WARRANTS, AND I'M GOING TO GET INTO THE WEEDS A LITTLE BIT. SO I APPRECIATE IT IF YOU HANG WITH ME FOR A LITTLE BIT HERE.

SO THE WARRANT-BASED CO-FUNDING REQUIREMENT. SO HOW DOES THIS WORK? SO A FOR-PROFIT AWARDEE WOULD COMMIT WARRANTS. THESE ARE THE RIGHT TO PURCHASE EQUITY IN A COMPANY INSTEAD OF CAPITAL. AND I'LL DESCRIBE THE WARRANTS IN THE NEXT FEW SLIDES. THE AWARDEE WOULD RETAIN CAPITAL FOR OPERATIONAL NEEDS AND VALUE CREATION IN THIS INSTANCE BY NOT HAVING TO COMMIT THAT CO-FUNDING AMOUNT.

AND IN ORDER TO MAKE ALL THIS WORK, WHAT WE HAD TO DO WAS THAT WE HAD TO CREATE THIS MECHANISM, AND IT APPLIES IN CERTAIN INSTANCES WHERE CIRM WOULD ACTUALLY COMMIT A HIGHER AWARD AMOUNT UP TO THE AWARD CAP TO MAINTAIN OVERALL FINANCES OF THE CIRM-FUNDED PROJECT. BECAUSE, AS I MENTIONED PREVIOUSLY, THE CO-FUNDING PLUS CIRM FUNDING IS IN TOTALITY ADDRESSING THE TOTAL PROJECT COSTS. IF WE REMOVE THE CO-FUNDING REQUIREMENT, THERE WOULD STILL BE A CASH GAP FOR THOSE PROJECTS. AND SO IN SOME INSTANCES WHERE THE CIRM AWARD CAN FILL THAT GAP IS WHERE THE WARRANT-BASED MECHANISM MAKES THE MOST

SENSE. YOU CAN SEE THAT IN THIS PARTICULAR TABLE.

SO FIRST OF ALL, TO WALK YOU THROUGH AN EXAMPLE REALLY QUICKLY, LET'S TAKE, FOR INSTANCE, A TRANSLATIONAL 1 PROJECT THAT HAS A TOTAL PROJECT COST OF $4 MILLION. SO THE ACTIVITIES TO GET TO A PRE-IND MEETING COST $4 MILLION IN THIS INSTANCE. THE CIRM AWARD LIMIT FOR THIS IS $4 MILLION. SO AT THE MOMENT, A FOR-PROFIT APPLICANT COULD AT MOST REQUEST $3.2 MILLON AND WOULD HAVE TO PUT UP $800,000 OF ITS OWN MONEY TO CO-FUND THAT PROJECT.

UNDER THE WARRANT-BASED CO-FUNDING REQUIREMENT, THIS PARTICULAR SITUATION, THE APPLICANT CAN CHOOSE THE WARRANT-BASED CO-FUNDING INSTEAD OF CASH BASE. IN THAT INSTANCE, THE CIRM AWARDEE CAN REQUEST UP TO $4 MILLION. AND BECAUSE $800,000 OF THAT WOULD HAVE BEEN ATTRIBUTED TO THE CO-FUNDING AMOUNT, THAT IS THE AMOUNT OF WARRANT COVERAGE THEY'RE GOING TO HAVE TO GIVE TO CIRM. I'LL DESCRIBE WHAT THAT MEANS IN THE NEXT SLIDE.

NOW, AS I MENTIONED, THERE'S A CONSTRAINT HERE OF THE AWARD CAP, AND THAT'S DESCRIBED IN THE NEXT ROW. SO IN INSTANCES WHERE THE PROJECT COST IS SIGNIFICANTLY HIGHER THAN THE CIRM AWARD CAP, THE WARRANT-BASED CO-FUNDING IS ACTUALLY NOT GOING TO BE THAT USEFUL, IF AT ALL. SO IN THIS INSTANCE, LET'S

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SAY WE HAVE A $5 MILLION TOTAL PROJECT COST AND THE CIRM AWARD AMOUNT IS $4 MILLION. IN THIS INSTANCE, THEY'VE ALREADY HIT THE CAP OF $4 MILLION AND HAVE TO PUT UP $1 MILLION OF THEIR OWN MONEY TO ADDRESS CO-FUNDING COSTS. SO THE WARRANT-BASED CO-FUNDING REQUIREMENT IS NOT GOING TO BE HELPFUL BECAUSE THAT $1 MILLION CASH GAP STILL EXISTS. AND IN THAT INSTANCE THE AWARDEE WOULD BENEFIT FROM JUST TAKING THE CASH-BASED CO-FUNDING REQUIREMENT INSTEAD OF THE WARRANT-BASED.

THE LAST ONE I'M GOING TO SKIP, BUT IT JUST DESCRIBES THE SAME SITUATION, BUT FOR A CLIN2 AWARD WHERE THE WARRANT-BASED CO-FUNDING REQUIREMENT APPLIED TO THAT.

SO WHY WARRANTS? AND SO CIRM HAS A HISTORY WITH WARRANTS IN THE PAST. SO THE PRIOR LOAN PROGRAM THAT CIRM HAD LAUNCHED, AND THERE WERE SEVERAL LOANS THAT WERE GIVEN OUT THAT HAD WARRANTS ATTACHED TO IT. SIMILARLY, THERE WAS AN ATP3 PROGRAM THAT WOULD HAVE ALSO HAD WARRANTS ATTACHED TO THAT. SO WHAT ARE WARRANTS?

SO WARRANTS BASICALLY ARE ISSUED BY THE COMPANY TO THE HOLDER. AND THIS GIVES THE HOLDER THE RIGHT TO PURCHASE SHARES OF COMPANY STOCK. AND THE WARRANTS ARE EXERCISED BY THE HOLDER AT A SET

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EXERCISE PRICE WITHIN A SET AMOUNT OF TIME TO CONVERT THOSE WARRANTS TO SHARES OF COMPANY STOCK.

AND PREVIOUSLY AS LAID OUT WAS THAT, AS PART OF THE LOAN PROGRAM, A COMPANY HAD ISSUED WARRANTS TO CIRM AND CIRM HELD THE WARRANTS UNTIL IT MADE A DECISION TO EXERCISE THEM. WHEN THEY EXERCISE THE WARRANTS, IT ASSIGNED THE STOCK SHARES TO A CIRM FUND THAT WAS HELD IN THE SAN FRANCISCO FOUNDATION. IT'S ESSENTIALLY AN ACCOUNT TO AGGREGATE AND HOLD CIRM ASSETS. AND THE FOUNDATION WAS THEN INSTRUCTED TO LIQUIDATE THE SHARES, BASICALLY SELL THE STOCK SHARES IN THE MARKET AND THEN TRANSFER THE PROCEEDS FROM THE FUND BACK TO CIRM. SO THIS WAS SOMETHING THAT WAS DONE IN THE PAST, AND CIRM HAD A PRECEDENT FOR THIS PARTICULAR MECHANISM GOING FORWARD.

SO THREE THINGS TO OUTLINE HERE. THEY'RE ISSUED. THE WARRANTS ARE ISSUED TO CIRM AND CIRM HOLDS THOSE WARRANTS. THEN CIRM EXERCISES THOSE WARRANTS TO CONVERT THE WARRANTS INTO SHARES OF COMPANY STOCK WHICH ARE HELD BY THE FUND AT THE SAN FRANCISCO FOUNDATION. AND THEN THEY'RE INSTRUCTED TO LIQUIDATE THE SHARES AND PASS THE MONEY BACK TO CIRM. THAT WAS A PREVIOUS INSTANCE OF HOW THIS WORKED.

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SO UNDER THE CURRENT WARRANT-BASED CO-FUNDING REQUIREMENT PROPOSAL, THE APPLICANT WOULD ELECT THE WARRANT-BASED CO-FUNDING REQUIREMENT AT THE TIME OF THE APPLICATION. THEY WOULD HAVE VARIOUS SOURCES OF INFORMATION TO INFORM THIS DECISION, INCLUDING A TERM SHEET, AN FAQ, AND OTHER REFERENCE MATERIALS. AND THE APPLICANT MAY COMBINE WARRANT-BASED AND CASH-BASED CO-FUNDING WHICH UNDER CERTAIN CIRCUMSTANCES COULD MAKE SENSE.

THE WARRANTS MUST BE ISSUED AT AWARD START. AND THAT IS A REQUIREMENT FOR US BECAUSE CIRM IS COMMITTING ITS MONEY UP FRONT. AND THERE WILL BE NO MECHANISM FOR BUYING BACK THE WARRANTS. SO THE AWARDEE WILL NOT HAVE A MECHANISM TO BUY BACK THE WARRANTS AT ANY PERIOD, EITHER DURING THE AWARD OR AFTER THE AWARD. CIRM WILL HOLD THOSE WARRANTS UNTIL TIME TO DO SOMETHING WITH IT.

SO IN DESIGNING THIS, WE HAD TO CREATE A SET OF TERMS THAT WOULD DERIVE ENOUGH VALUE FOR CIRM FOR, IN ESSENCE, PUTTING OUT ADDITIONAL FUNDING UP TO THE AWARD CAP AND AT THE SAME TIME BEING FAIR TO THE AWARDEES, AND, LASTLY, TO MAKE SURE THAT ALL THE AWARDEES CAN ISSUE THOSE WARRANTS AT AWARD START.

SO THIS TABLE DESCRIBES ALL THAT, AND I'M GOING TO OUTLINE A FEW OF THESE POINTS. AND I CAN

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GO INTO MORE DETAIL IN THE NEXT ONE.

SO ONE THING THAT IS CONSISTENT, THE ECONOMICS OF THE WARRANT IS THAT THE EXERCISE PRICE IS $.01. SO THIS MEANS THERE'S GOING TO BE A NOMINAL COST TO CIRM TO EXERCISE THOSE WARRANTS. AND THAT REALLY IS KEY TO MAKING SURE THAT THE WARRANTS, THE VALUE OF THESE WARRANTS IS SIMILAR TO THE VALUE OF THE INVESTMENT GOING INTO THAT COMPANY AT THAT STAGE. THE WARRANT TERM IS GOING TO BE TEN YEARS. SO WE HAVE TEN YEARS TO DECIDE WHAT TO DO WITH THOSE WARRANTS.

AND THEN IN ORDER TO ENABLE ALL OF THE DIFFERENT TYPES OF COMPANIES THAT APPLY TO CIRM, TO BE ABLE TO ISSUE WARRANTS AT AWARD START FOR VARYING THE SECURITY TYPE AS WELL AS THE NUMBER OF SHARES TO A SPECIFIC COMPANY. SO VERY EARLY-STAGE COMPANIES WOULD GIVE US COMMON STOCK WARRANTS AT A SET FORMULA THOUGH WE RESERVE THE RIGHT TO CONVERT THOSE TO A DIFFERENT SORT OF WARRANT UNDER PREFERRED STOCK AT THE NEXT FINANCING. AND THIS IS FAIRLY COMMON FOR THOSE EARLY-STAGE COMPANIES WHEN THEY'RE GETTING INVESTORS BRINGING IN MONEY AS WELL TO KIND OF DETERMINE THE VALUATION WHEN THERE IS AN ACTIVITY DOWN THE ROAD FOR A FINANCIAL INVESTOR.

AND THE PRIVATE AND PUBLIC COMPANY SIDE,

THESE ARE GOING TO BE PREFERRED STOCK OR COMMON STOCK WHICH IS THE EXACT SAME TYPE OF EQUITY THAT THOSE INVESTORS ARE GETTING AT THAT STAGE OF THE COMPANY. AND THERE'S NO OPTIONALITY FOR EACH BECAUSE WE ARE ALREADY GETTING THE SAME VALUE THE INVESTOR IS GETTING AT THAT STAGE.

SO LASTLY, I WANT TO TOUCH ON WARRANT ELIGIBILITY REQUIREMENTS FOR COMPANIES APPLYING TO CIRM AND WHAT ADDITIONAL REQUIREMENTS THAT MAY APPLY TO THE WARRANT-BASED MECHANISM. SO AT THE MOMENT ANY FOR-PROFIT APPLICANT WHO APPLIES TO CIRM HAS TO DEMONSTRATE THAT IT HAS AT LEAST SIX MONTHS OF CASH TO MAINTAIN SOLVENCY FROM THE APPLICATION SUBMISSION DATE. AND IT ALSO MUST DEMONSTRATE TO CIRM AT THE TIME OF APPLICATION THAT IT HAS THE ABILITY TO COMMIT THE CO-FUNDING AS WELL AS CONTINGENCY FUNDING. SO HOW IS IT GOING TO BRING IN THE MONEY TO CO-FUND THE PROJECT AND TO HAVE FUNDS SET ASIDE FOR CONTINGENCIES. SO ALL OF THAT IS REQUIRED AT THE APPLICATION STAGE.

DURING THE COURSE OF THE AWARD, THE AWARDEE THAT HAS A CO-FUNDING REQUIREMENT IS REQUIRED TO INDICATE THE AMOUNT OF MONEY SPENT ON CO-FUNDING AND ALSO TO DEMONSTRATE THAT IT HAD THE ABILITY TO CO-FUND THAT NEXT MILESTONE. THERE'S

CONTINUOUS CHECKS THAT HAPPEN OVER THE COURSE OF THE AWARD.

SO THE WARRANT-BASED CO-FUNDING OPTION CREATES A COUPLE OF ADDITIONAL REQUIREMENTS ON THE ELIGIBILITY SIDE AND THE AWARD REPORTING SIDE THAT I'M GOING TO QUICKLY OUTLINE HERE.

SO FIRST, THE VERY, VERY EARLY-STAGE COMPANIES THAT HAVE INSTITUTIONAL FUNDING, THEY WOULD BE REQUIRED TO PROVIDE US THEIR FUND-RAISING PLAN AT THE TIME THEY APPLY TO CIRM. BUT THE PRIVATE COMPANIES THAT HAVE HAD INSTITUTIONAL FINANCING, BASICALLY VENTURE CAPITAL OR BIOPHARMA PARTNERING, THEY HAVE TO TELL US THEIR FUND-RAISING HISTORY TO DATE. AND WE ALSO WANT TO SEE FROM THEIR INVESTOR THAT THEY SUPPORT THIS CIRM PROJECT.

THERE WOULD BE NO AWARD PERIOD REPORTING REQUIREMENTS FOR THE LATER-STAGE COMPANIES. BUT FOR THE VERY EARLY-STAGE COMPANIES, THEY WOULD HAVE TO TELL US IF THERE'S A FINANCING EVENT THAT ALLOWS US TO CONVERT -- EXERCISE OUR OPTION TO CONVERT THE WARRANTS, AS I PREVIOUSLY MENTIONED, FROM COMMON STOCK TO PREFERRED STOCK.

AND LASTLY, WE'LL ALSO UTILIZE OUR INDUSTRY ALLIANCE PROGRAM TO HELP THESE COMPANIES WHERE NEEDED IN THEIR FUND-RAISING PLANS.

SO THE LAST SLIDE OF THIS PRESENTATION, I WANT TO OUTLINE HOW WE'RE GOING TO MANAGE THIS PORTFOLIO OF WARRANTS IF THIS MECHANISM IS APPROVED BY THE SCIENCE SUBCOMMITTEE AND THE ICOC.

SO FIRST AND FOREMOST, THERE'S GOING TO BE THE ISSUANCE OF THE WARRANTS, AND THERE'S ONGOING ROUTINE COMPLIANCE MONITORING. THIS IS GOING TO BE MANAGED BY THE CIRM TEAM WITH SUPPORT FROM AN OUTSIDE COUNSEL.

SECONDLY, AS I OUTLINED PREVIOUSLY, THERE'S TWO WAYS THAT THESE WARRANTS CAN CREATE VALUE FOR CIRM. THE FIRST IS WE CAN SELL THE WARRANTS. AND SECONDLY, AND PROBABLY THE MORE LIKELY ONE, IS THAT WE EXERCISE THESE WARRANTS AT AN APPROPRIATE EVENT. SO THIS IS GOING TO BE MANAGED BY THE CIRM TEAM, AND IT'S GOING TO BE FACILITATED BY THE CIRM FUND AT A CALIFORNIA COMMUNITY FOUNDATION. THIS IS A SIMILAR PROCESS TO THE ONE I PREVIOUSLY DESCRIBED THAT HAPPENED THE LAST TIME THAT CIRM HAD WARRANTS.

SO THE WAY THIS WOULD WORK IS THE AWARDEE HAS TO ISSUE WARRANTS TO CIRM AT AWARD START. CIRM HOLDS THE WARRANTS UNTIL IT DECIDES TO EXERCISE THEM OR UNTIL CERTAIN AUTOMATIC EXERCISES ARE TRIGGERED, PARTICULARLY IN THE CASE OF THE COMPANY HAVING A

CHANGE IN CONTROL OR GETS ACQUIRED OR IT MERGES OR IT GOES PUBLIC, SO IT ISSUES AN IPO, OR THAT THE WARRANT IS EXPIRING.

IN THOSE INSTANCES THE WARRANTS WILL BE EXERCISED, AND THE COMPANY STOCK SHARES ARE GOING TO BE ASSIGNED TO THE CIRM ACCOUNT HELD AT THE CALIFORNIA COMMUNITY FOUNDATION. AND THEN FROM CIRM'S INSTRUCTIONS, THE COMMUNITY FOUNDATION WILL SELL THOSE SHARES OF STOCK AND THEN WILL TRANSFER THE CASH PROCEEDS BACK TO CIRM.

SO WITH THAT, I'M GOING TO END MY PRESENTATION. I'M HAPPY TO TAKE ANY QUESTIONS FROM THE COMMITTEE.

CHAIRMAN GOLDSTEIN: MARK.

DR. FISCHER-COLBRIE: YEAH. I HAVE SEVERAL QUESTIONS. FIRST OF ALL, I VERY MUCH APPLAUD THE NEED AND DESIRE TO FIGURE OUT MODIFICATIONS TO BE ABLE TO PROVIDE FUNDING IN CRITICAL JUNCTURES FOR COMPANIES IN GENERAL. AND SECOND, WITH THE BACKDROP OF THE VERY COMPLICATED AND EXTREMELY DIFFICULT FINANCING ENVIRONMENT IN BIOTECH, THAT MAKES A LOT OF SENSE.

SO I APPLAUD THE INITIATIVE. I HAVE A SLEW OF QUESTIONS AROUND HOW THE WARRANTS CAN ACTUALLY HELP TO EFFECT THAT BECAUSE, AS YOU'RE

QUITE FAMILIAR, WARRANTS THAT GO WITH LOANS, THE LOAN OFFERING IS THE PREDOMINANT FINANCIAL MECHANISM FOR PROTECTION FROM OUTSIDE AND HAS QUITE A FEW CLAUSES ASSOCIATED WITH THAT FOR PROTECTION, INCLUDING REPAYMENT PROVISIONS AND A WHOLE HOST OF PROTECTION ELEMENTS.

AND THEN IF WARRANTS ARE GIVEN, IT'S ALSO SWEETENER AROUND PREFERRED STOCK, PREFERRED STOCK HAS A WHOLE BUNCH OF BELLS AND WHISTLES AND VALUATION MODELS AND OTHER FEATURES THAT REALLY SWEETEN THE POT, IF YOU WILL, AND WARRANTS ARE SORT OF A NICE OVERLAYER, GRAVY ON TOP OF THAT. AND IF WE ARE IN A SITUATION OF WE ARE DOING WARRANTS, THEN IT'S ACTUALLY PRETTY EASY TO HAVE THAT VALUE OF THE WARRANTS WASH THAT. SO I'M NOT SURE HOW WE'RE GOING TO DEAL WITH THAT PARTICULAR ISSUE.

THE OTHER SITUATION I NOTED THAT, WHEREAS THERE'S A BULLET POINT FOR POTENTIAL CONVERSION OF WARRANTS IN THE PREFERRED STOCK, HONESTLY, AS WAS SAID LATER IN THE PRESENTATION, THERE'S A COMMENT AROUND WARRANTS GETTING SWITCHED TO COMMON STOCK. THERE'S RADICAL DIFFERENCES, AS YOU'RE FAMILIAR WITH, WITH WHAT THAT MEANS IN TERMS OF RETURNS.

SO MY SENSE IS THERE'S A WHOLE LIST OF QUESTIONS HERE THAT I THINK WE NEED TO GET

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ADDITIONAL EXPERTS IN FUNDING AREAS TO MAKE SURE THAT WE'VE GOT THIS BUTTONED UP. THAT'S KIND OF WHERE I'M LEANING TO. BUT I WANTED TO GET YOUR FEEDBACK AND COMMENTS ON THAT TO SEE IF I'M MISSING SOMETHING.

DR. PATEL: THANK YOU, MARK. SO THIS WAS VETTED BY THE IP AND INDUSTRY SUBCOMMITTEE OF THE PROPOSAL AS A WHOLE. IN TERMS OF THE WARRANT TERMS, THESE WERE DEVELOPED IN CONJUNCTION WITH OUTSIDE COUNSEL. WE'VE GOT ACCOUNTING IMPLICATIONS FEEDBACK FROM EY, ERNST & YOUNG, AS WELL AS TAX IMPLICATIONS FROM OUR OUTSIDE COUNSEL AS THEY APPLY TO THE COMPANIES.

NOW, IN TERMS OF THE PROTECTIONS FOR CIRM, I DO WANT TO NOTE THAT OUR GRANTS AS A WHOLE ARE AT-RISK INVESTMENTS IN THESE COMPANIES. SO THOSE AMOUNTS ARE AT RISK ANYWAY.

WITH RESPECT TO WE DID CONSIDER WHETHER IT WOULD BE MORE APPROPRIATE TO CREATE A LOAN MECHANISM AS OPPOSED TO A WARRANT MECHANISM FOR THAT CO-FUNDING REQUIREMENT, THEN GETTING THAT AS AN AWARD, THAT PROPORTION OF THE CO-FUNDING AS A LOAN. AND THERE ARE A LOT OF REASONS WHY THAT PROBABLY WILL NOT BE THAT BENEFICIAL TO THE COMPANIES, PARTICULARLY BECAUSE IN THE PREVIOUS LOAN PROGRAM

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THAT CIRM HAD WAS IN AND OF ITSELF NOT ATTRACTIVE TO COMPANIES BECAUSE OF THE TERMS THAT WERE ASSOCIATED WITH THAT. AND SO IT WAS NOT UTILIZED THAT HIGHLY BY THE COMPANIES.

SO HERE THE INTENT WAS TO CREATE A MECHANISM THAT WOULD BE FAIR, PROVIDE A RETURN TO CIRM, BUT ALSO BE SOMETHING THAT WOULD HELP THE COMPANIES BE ABLE TO SECURE CIRM FUNDING AND PROGRESS THOSE PROJECTS THAT THEY'RE DEVELOPING.

WITH RESPECT TO THE COMMON AND PREFERRED SHARES, SO JUST TO CLARIFY, FOR THE REALLY EARLY-STAGE COMPANIES THAT HAVE NOT HAD A PREFERRED STOCK ISSUANCE AT THE TIME THAT THEY APPLY TO CIRM, WE NEED TO CREATE A MECHANISM THAT ALLOWED THEM TO ISSUE WARRANTS TO CIRM AT THE START OF THE AWARD. AND SO THOSE ARE GOING TO BE COMMON STOCK WARRANTS TO CIRM ALONG THAT PRICING FORMULA.

NOW, IN THE EVENT WHEN THAT COMPANY DOES SECURE PREFERRED SHARE FINANCING, CIRM HAS THE OPTION, IF THE ECONOMICS ARE BETTER FOR US, TO CONVERT FROM THAT COMMON STOCK WARRANT TO THE PREFERRED STOCK WARRANT BASED ON THE PRICING OF THE PREFERRED SHARES.

NOW, SO THEN WE WOULD HAVE THE OPTION TO DO THAT. IN THE END WE HOPE THESE WARRANTS ARE

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EXERCISED; AND EVENTUALLY IF THERE IS AN EVENT THAT IS GOING TO BE EITHER A LIQUIDATING EVENT OR AN IPO, YOU ARE CORRECT, THAT THE PREFERRED SHARES COULD BE CONVERTED. AND THERE'S A CONVERSION PREFERENCE THERE. AND SO THE CONVERSION PREFERENCE WOULD APPLY FOR THE PRIVATE COMPANIES IN THE INSTANCES WHERE WE HAVE TAKEN THOSE COMMON STOCK WARRANTS AND CONVERTED TO PREFERRED SHARES. SO THERE WILL BE A DETERMINATION WHETHER IT MAKES SENSE FOR US TO CONVERT THOSE EARLY-STAGE COMPANIES FROM COMMON STOCK WARRANT TO A PREFERRED STOCK WARRANT.

DR. FISCHER-COLBRIE: THANK YOU FOR THOSE CLARIFICATIONS. IN ALL, I THINK YOU'VE DONE A GOOD JOB ON GETTING THE HOMEWORK DONE RELATED TO LEGAL AND ACCOUNTING AND TAX IMPLICATIONS.

HAVE YOU HAD AN OPPORTUNITY TO TALK TO PEOPLE WHO ARE DOING CURRENT ROUNDS OF FUNDING TO UNDERSTAND THE PARAMETERS AND VALUATION PERSPECTIVES? THERE'S QUITE A FEW DIFFERENT ELEMENTS HERE. AND, AGAIN, WARRANTS ARE TYPICALLY A SWEETENER ON ATTRACTION AS OPPOSED TO A PRIMARY FUNDING MECHANISM. SO HAVE WE TALKED TO FOLKS WHO HAVE BEEN DOING DEALS AND WALKING THROUGH THE ISSUES AND OPPORTUNITIES ASSOCIATED WITH THAT?

DR. PATEL: YES. SO WE SOUGHT FEEDBACK

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FROM OUR -- SO ON THE POINT OF THE DEMAND, WE SOUGHT FEEDBACK FROM OUR AWARDEES AS WELL AS WE SOUGHT FEEDBACK FROM OUR INVESTMENT PARTNERS ON THE INDUSTRY ALLIANCE. THESE ARE VENTURE CAPITAL FRIENDS THAT WE WORK WITH. IN THOSE INSTANCES, WE OUTLINED THE TERMS. AND ONE OF THE THINGS THAT IS PROVIDED IN THEM IS THAT THEY'RE PREFUNDED WARRANTS. SO THESE ARE GOING TO BE -- AND THAT'S THE EXERCISE PRICE OF A PENNY. SO THAT'S WHERE THE VALUE REALLY COMES FROM IS THAT WE ARE NOT PAYING ADDITIONAL TO EXERCISE THESE WARRANTS WHEN IT COMES TIME TO DO THAT. AND THOSE WERE THINGS THAT WE DISCUSSED AS WELL AS THE PREFERRED SHARE WARRANTS FOR THOSE PRIVATE COMPANIES.

AND BOTH OF THOSE, THE FEEDBACK FROM THE INVESTORS WAS THAT SEEMS APPROPRIATE GIVEN THE SORT OF VALUE THAT WE ARE PROVIDING TO THE COMPANY INVESTING.

DR. FISCHER-COLBRIE: AND DID THEY POINT TO THE FACT THE COMPANIES NEED TO FUND THE VALUE OF WARRANTS AT 409A VALUATION? DID THAT COME UP IN THE DISCUSSION? BECAUSE A LOT OF TIMES THEY'RE PRESET. IF IT'S A PREFERRED WARRANT, FOR EXAMPLE, IT CAN'T PRESET THAT.

DR. PATEL: YES, WE DID. WE WALKED

THROUGH THAT WITH BOTH ERNST & YOUNG ON THE ACCOUNTING SIDE AS WELL AS WITH THE OUTSIDE COUNSEL ON THE LEGAL SIDE AS TO WHAT THOSE IMPLICATIONS WOULD BE FOR THE COMPANIES. AND THEY HAD SEVERAL OPTIONS TO ACCOUNT FOR THAT. AND IT WAS NOT GOING TO BE, FROM OUR PERSPECTIVE, A MAJOR CONCERN FOR THOSE COMPANIES TO BE ABLE TO DO THAT.

CHAIRMAN GOLDSTEIN: SATISFIED, MARK?

DR. FISCHER-COLBRIE: OKAY. I THINK THERE'S SOME QUESTIONS, BUT I'LL LET OTHER PEOPLE JUMP IN.

CHAIRMAN GOLDSTEIN: SHLOMO.

DR. MELMED: THANK YOU. I THINK THAT, SHYAM, YOUR OUTLINE IS GREAT, VERY ELEGANT. THANK YOU.

IT'S CLEAR THAT THE WARRANT OPTION REALLY ALLOWS CIRM TO ENJOY THE BENEFITS IF THE PRODUCT IS SUCCESSFUL. BUT THE CONCERN, I THINK, THAT WE WOULD HAVE AS A PUBLIC AGENCY REPRESENTING THE CITIZENS IS ARE WE, IN FACT, DIMINISHING THE RISK WHICH THE FOR-PROFIT IS TAKING? AND THE ELEMENT OF RISK IS REALLY THE DRIVER OF THE FOR-PROFIT WORLD. AND BY REMOVING THAT ELEMENT OF RISK, ARE WE, IN FACT, DOING OURSELVES A DISSERVICE AS A PUBLIC AGENCY WHEN WE EXPECT THE FOR-PROFITS TO ASSUME SOME DEGREE OF

RISK?

DR. PATEL: YEAH. I APPRECIATE THAT QUESTION. SO I'LL SPEAK TO THIS FROM MY OWN EXPERIENCE OF BEING SORT OF HERE IN THE PAST AND RUNNING THAT. SO THERE ARE RISKS FOR ANY PROJECT THAT A SMALL COMPANY, THE TYPES OF COMPANIES THAT APPLY TO CIRM, ARE TAKING ON. SO HERE THERE'S A FEW. FIRST OF ALL IS THAT ALL OF THE OVERHEAD COSTS FOR THAT PROJECT, INDIRECT COSTS, ARE BEING BORNE BY THE COMPANY BECAUSE WE ARE NOT PAYING FOR THOSE. SECONDLY, THERE IS THE RISK OF OPPORTUNITY COST TO THIS PROJECT. THEY'RE COMMITTING THEIR RESOURCES, THEIR PERSONNEL, THEIR TIME TO THIS PROJECT.

DR. MELMED: NOW WE ARE NOT. NOW WE ARE TELLING THEM THAT THEY'RE NOT ENTITLED TO COMMIT.

DR. PATEL: SORRY.

DR. MELMED: WE ARE TELLING THEM THAT THEY DON'T HAVE TO COMMIT. THEY'RE ONLY COMMITTING ONCE.

DR. PATEL: THEY'RE COMMITTING ONCE, BUT THE OPPORTUNITY COSTS COME FROM THE FACT THAT THESE COMPANIES HAVE LIMITED STAFF, THEY HAVE LIMITED RESOURCES, AND THEY'RE COMMITTING THOSE TO THE PROJECT AS OPPOSED TO ANY OTHER PROJECTS. AND THEY ARE PUTTING THEIR OWN SKIN IN THE GAME FOR THE PROJECT BECAUSE THEY COULD BE SUPPORTING SOME OTHER

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PROJECT. AND SO THAT OPPORTUNITY COST DOES EXIST WITH THE LIMITED SORT OF PERSONNEL RESOURCES AND ABILITIES THAT THEY HAVE AS A SMALL COMPANY.

DR. MELMED: OKAY. I THINK IT'S VERY IMPORTANT THAT WE ARTICULATE VERY CLEARLY, IT MIGHT BE IN A SEPARATE PARAGRAPH, THAT WE DO EXPECT THE COMPANIES TO ASSUME RISK AND RISK WILL BE ASSUMED BY AND DELINEATE WHAT YOU JUST SAID NOW IN YOUR ANSWER BECAUSE THAT'S GOING TO BE A CONCERN BY THE PUBLIC. THANK YOU. I CAN'T QUANTIFY. I'M NOT AN EXPERT IN QUANTIFYING RISK, BUT I HOPE WHAT YOU SAID WILL BE SUFFICIENT TO SATISFY THE PEOPLE WHO UNDERSTAND RISK.

CHAIRMAN GOLDSTEIN: VITO.

DR. IMBASCIANI: THANK YOU. A COMMENT AND A QUESTION. FIRST OF ALL, I WANT TO COMPLIMENT SHYAM. THAT WAS A BRILLIANT PRESENTATION, VERY COMPLICATED SUBJECT. YOU DID A GREAT JOB, AND YOU PRESENTED WITH A LOT OF CLARITY.

SO THIS IS A QUESTION. MAYBE IT GOES TO THE LAWYER. I'M NOT SURE. IT GOES BACK TO LAW SCHOOL 101 AND TORTS. I'M JUST CURIOUS ABOUT THE LEGAL BASIS FOR OUR CLAIM TO A WARRANT. ARE ALL CIRM GRANTS CONTRACTS AND THEY HAVE THE FORCE OF CONTRACT?

MR. AGUIRRE-SACASA: YES.

DR. IMBASCIANI: SO IT'S NOT JUST A CONGRATULATIONS. HERE YOU ARE. THEY ACTUALLY SIGN A CONTRACT WITH US?

MR. AGUIRRE-SACASA: CORRECT.

DR. IMBASCIANI: OKAY. AND THAT GIVES US THE LEGAL CLAIM IF IT EVER COMES TO THAT.

MR. AGUIRRE-SACASA: YES, SIR.

DR. IMBASCIANI: OKAY.

CHAIRMAN GOLDSTEIN: OTHER QUESTIONS FROM THE COMMITTEE? PUBLIC COMMENT? OOPS, SORRY. SHLOMO.

DR. MELMED: YEAH. QUESTION WE ASKED, I THINK, A COUPLE OF YEARS AGO IN A DIFFERENT CONTEXT. WHO'S GOING TO MAKE THE DECISION ON SELLING THE WARRANTS? IS IT GOING TO BE THIS BOARD OR THE FOUNDATION? ARE WE GOING TO MAKE THAT DECISION? AND HOW WILL WE KNOW THAT IT'S TIME TO SELL? WHO'S GOING TO MAKE THE BUSINESS DECISION?

DR. PATEL: SO THERE ARE A COUPLE ELEMENTS. FIRST IS EXERCISING THE WARRANTS AND CONVERT IT INTO THE COMPANY SHARES OF STOCK. AND SO THAT WOULD BE A CIRM EXECUTIVE DECISION TO DO THAT. SO --

DR. MELMED: WHEN YOU SAY EXECUTIVE, A

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BOARD DECISION OR A STAFF DECISION?

DR. PATEL: STAFF DECISION TO DO THAT. AND SO NOW WE COME DOWN -- IT PARTICULARLY WOULD APPLY IF WE HAVE PUBLIC COMPANY WARRANTS. FOR THE PRIVATE COMPANIES, MOST OF THE TIME THE EXERCISE OF THOSE WARRANTS WOULD BE TRIGGERED BY A CHANGE IN THE COMPANY, EITHER THROUGH A CHANGE OF CONTROL OR AN IPO. AND SO THAT'S THE FIRST PART, TO EXERCISE THE WARRANTS INTO COMPANY SHARES OF STOCK.

THEN THE SHARES OF STOCK ARE ASSIGNED TO THE CIRM FUND. THOSE SHARES ARE GOING TO BE SOLD BY THE FOUNDATION, BUT THOSE ARE GOING TO BE DICTATED BY THE INSTRUCTIONS FROM CIRM.

DR. MELMED: WHEN YOU SAY FROM CIRM, FROM THE BOARD OR FROM THE STAFF?

DR. PATEL: AGAIN, THAT WOULD BE FROM THE STAFF.

DR. MELMED: CLEARLY THE DECISION TO SELL PUBLIC SHARES SHOULD BE A BOARD DECISION. I'M NOT SURE THAT IT SHOULD BE A STAFF DECISION. I'M NOT -- WE HAVE FIDUCIARY RESPONSIBILITY. I'M NOT SURE THAT WE SHOULD BE ASSIGNING STAFF THE DECISION ON SELLING OR BUYING STOCK.

VICE CHAIR BONNEVILLE: WELL, NO. I THINK FROM A PRACTICAL STANDPOINT, IN THE PAST THE BOARD

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HAS GIVEN THE CEO THE AUTHORITY TO MAKE THIS DECISION. FROM A PRACTICAL STANDPOINT, IT TAKES TEN DAYS TO GET EVERYBODY ON A CALL TO THEN COORDINATE A DECISION ABOUT EXERCISING OR SELLING STOCK, WHICH COULD CHANGE THINGS VERY DRASTICALLY WITHIN TEN DAYS. SO IN THE PAST THE BOARD HAS GIVEN THE AUTHORITY TO THE CEO TO MAKE THAT DECISION AND WORK WITH THE INTERNAL TEAM, THE LAWYERS AND BUSINESS DEVELOPMENT AND OTHER FOLKS, TO BE ABLE TO MOVE FORWARD IN THAT DIRECTION. THAT'S TO THE PAST. IF THERE'S DECISION THAT'S CHANGED, THAT'S FINE. I JUST WANTED TO GIVE YOU SOME CONTEXT.

DR. MELMED: THE QUESTION IS WHETHER THE BOARD IS COMFORTABLE IN ABROGATING THAT OBLIGATION. I MEAN IT COULD BE TENS OF MILLIONS OF DOLLARS IN THAT DECISION FOR CIRM OR MORE. COULD BE HUNDREDS OF MILLIONS. I DON'T KNOW WHETHER WE AS A BOARD WHO HAVE FIDUCIARY RESPONSIBILITY FOR CIRM CAN ABROGATE THAT AMOUNT OF RESPONSIBILITY. THAT'S A LEGAL QUESTION AND ALSO A MORAL QUESTION.

VICE CHAIR BONNEVILLE: FROM A LEGAL STANDPOINT, IT COULD GO EITHER WAY. SO THAT'S A DECISION THAT THE BOARD NEEDS TO MAKE IS WHETHER OR NOT THEY WANT TO HAVE THAT AS PART OF THE WAY IT WORKS OR IF THEY WANT TO, AGAIN, GIVE THE CEO THE

AUTHORITY TO DO IT. SO I DEFER TO THE BOARD ON THAT MATTER.

DR. MELMED: THANK YOU.

CHAIRMAN GOLDSTEIN: CAN I JUST INSERT A RELATED QUESTION HERE AND THEN WE'LL GO TO MARK.

ORDINARILY IF SOME EMPLOYEE OF THE COMPANY OR INVESTOR TAKES STOCK OPTIONS, THEY'RE PROHIBITED FROM SELLING THOSE OPTIONS FOR SEVERAL MONTHS POST-IPO. WOULD WE HAVE THAT RESTRICTION, OR WOULD WE BE ABLE TO SELL AT THE MOMENT OF THE IPO IF THE STOCK PRICE IS SUFFICIENTLY HIGH?

DR. PATEL: IT DEPENDS ON THE IPO TERMS AND HOW THAT MIGHT APPLY TO OTHER HOLDERS OF STOCK.

CHAIRMAN GOLDSTEIN: MARK.

DR. FISCHER-COLBRIE: LARRY, WITH RESPECT TO THAT, THAT'S USUALLY ARRANGED BY THE BANKS AT THE TIME OF THE IPO. AND WHAT HAPPENS IS THEY WILL REQUEST A PROHIBITION ON SALES FOR AT LEAST SIX MONTHS POST-IPO AND THEY'LL CERTAINLY REQUEST THAT. SO FYI.

JUST A QUICK QUESTION. I'M WALKING THROUGH THE WARRANT COVERAGE. IF WE GO TO THE EXAMPLE OF, I THINK THERE WAS A REFERENCE ON ONE OF THE CHARTS FOR $2.4 MILLION IN WARRANTS. COULD YOU JUST WALK ME THROUGH HOW WE ARE THINKING ABOUT THAT

2.4 MILLION IN TERMS OF SHARE CONVERSION? I WASN'T REALLY TRACKING HOW THAT GETS CALCULATED. WHAT DOES THAT MEAN IN TERMS OF NUMBER OF SHARES?

DR. PATEL: GOOD POINT. SO THE WAY WE ARE DOING THAT -- AND I'LL DESCRIBE IT FOR ALL THREE INSTANCES OF THE DIFFERENT COMPANIES. SO IF WE ARE TRYING TO GET COVERAGE FOR 2.4 MILLION, AND I'M GOING TO KEEP IT SIMPLE AND SAY A MILLION DOLLARS JUST TO KEEP THE MATH SIMPLE SO I DON'T MESS IT UP.

DR. FISCHER-COLBRIE: SURE.

DR. PATEL: SO FOR $1 MILLION, LET'S SAY THE EXAMPLE FIRST OF A PUBLIC COMPANY. FOR THE PUBLIC COMPANY, WHAT WE'LL NEED TO FIGURE OUT IS HOW MANY SHARES WE'RE GOING TO GET FOR THAT MILLION DOLLARS AND WHAT WE ARE USING AS THE MARKET PRICE OF THEIR COMMON STOCK. SO IT'S GOING TO BE AN AVERAGE CLOSING PRICE OVER THE LAST TEN DAYS. AND BASED ON THAT, WE WOULD TAKE THE AMOUNT OF CIRM FUNDING THAT COULD BE ATTRIBUTED TO CO-FUNDING, SO THAT'S A MILLION DOLLARS, DIVIDED BY THE SHARE PRICE TO GIVE US THE NUMBER OF SHARES. THAT WOULD THE WARRANTS.

FOR THE PRIVATE COMPANY THAT HAS HAD AN INSTITUTIONAL FINANCING ROUND, WE WILL TAKE THE PREFERRED STOCK PRICE OF THE MOST RECENT ROUND. AND SO THAT WOULD BE A CALCULATION FOR THE DENOMINATOR

OF THAT EQUATION THAT I PREVIOUSLY MENTIONED.

FOR THE VERY EARLY-STAGE COMPANIES THAT HAVE NOT HAD A PREFERRED SHARE FINANCING TO DATE, WE WILL IN INSTANCES WHERE POSSIBLE USE A FORMULA OF A $1 OF CIRM CO-FUNDING DIVIDED BY $1 OF COMMON STOCK TO GET THAT PARTICULAR FORMULA. BUT WE DO RESERVE THE RIGHT TO MAKE MODIFICATIONS TO THAT FORMULA BASED ON THE CAP STRUCTURE OF THAT COMPANY.

NOW, WHEN THAT WOULD CONVERT TO A PREFERRED STOCK WARRANT, THAT WOULD BE THE PRICE OF THE PREFERRED STOCK SHARES. SO IN THAT INSTANCE, WHEN WE HAVE THAT OPTIONALITY TO GO FROM THAT COMMON STOCK GOING TO PREFERRED STOCK WARRANT, WE WOULD BE LOOKING AT WHAT IS THE ADDITIONAL SHARES THAT CIRM WOULD BE GETTING AS WELL AS WHETHER IT'S MORE PREFERABLE TO HAVE PREFERRED STOCK OR COMMON STOCK WARRANTS AT THAT TIME. I HOPE THAT'S HELPFUL.

DR. FISCHER-COLBRIE: YES. THANK YOU. THAT'S VERY HELPFUL IN TERMS OF THE MATH. JUST ONE BIG CAVEAT. A LOT OF COMPANIES TODAY, WHATEVER THEY DID ON THEIR LAST ROUND OF FUNDING SERIES A OR SERIES B ARE OFTEN SEEING DRAMATICALLY LOWER VALUES IF THEY'RE TRYING TO BE IN THE MARKET TODAY. SO THERE WOULD BE -- THAT WOULD BE AN EXTREMELY GENEROUS AMOUNT RELATED TO THAT CONVERSION

CALCULATION.

DR. PATEL: NOTED. WE DID THINK ABOUT OTHER WAYS IN TERMS OF USING (UNINTELLIGIBLE) AND WHATNOT, BUT THIS WAS MEANT TO BE A MORE CONSISTENT WAY ACROSS ALL OF THE AWARDEES.

CHAIRMAN GOLDSTEIN: OKAY. IF THERE ARE NO FURTHER QUESTIONS, PUBLIC COMMENT PLEASE.

MR. TOCHER: I'M NOT SEEING ANY, LARRY. CLAUDETTE.

MS. MANDAC: CONFIRMING THERE ARE NO HANDS RAISED.

CHAIRMAN GOLDSTEIN: GREAT. WOULD SOMEBODY LIKE TO MOVE APPROVAL TO RECOMMEND TO THE ICOC THAT THEY CONSIDER THIS?

DR. MIASKOWSKI: SO MOVED.

CHAIRMAN GOLDSTEIN: THERE WE GO.

DR. HIGGINS: I'LL SECOND.

CHAIRMAN GOLDSTEIN: OKAY. THANK YOU. SCOTT, PLEASE CALL THE ROLL.

MR. TOCHER: HAIFAA ABDULHAQ.

DR. ABDULHAQ: YES.

MR. TOCHER: MARIA BONNEVILLE.

VICE CHAIR BONNEVILLE: YES.

MR. TOCHER: MONICA CARSON.

DR. CARSON: YES.

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MR. TOCHER: SHLOMO MELMED.
DR. MELMED: YES.
MR. TOCHER: MARK FISCHER-COLBRIE.
DR. FISCHER-COLBRIE: NO.
MR. TOCHER: ELENA FLOWERS.
DR. FLOWERS: MAY I ABSTAIN?
MR. TOCHER: SURE. JUDY GASSON.
DR. GASSON: YES.
MR. TOCHER: LARRY GOLDSTEIN.
CHAIRMAN GOLDSTEIN: YES.
MR. TOCHER: DAVID HIGGINS.
DR. HIGGINS: YES.
MR. TOCHER: VITO IMBASCIANI.
DR. IMBASCIANI: YES.
MR. TOCHER: PAT LEVITT.
DR. LEVITT: YES.
MR. TOCHER: CHRISTINE MIASKOWSKI.
DR. MIASKOWSKI: YES.
MR. TOCHER: GREAT. THANKS VERY MUCH, LARRY. THE MOTION CARRIES.
CHAIRMAN GOLDSTEIN: OKAY. FINAL PROPOSAL IN FRONT OF US TODAY COMES FROM GEOFF LOMAX REGARDING THE COMMUNITY CARE CENTERS AND A CONCEPT PLAN.
DR. LOMAX: THANK YOU, CHAIRS. GEOFF

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LOMAX REPRESENTING THE MEDICAL AFFAIRS AND POLICY TEAM. I'M GOING TO BE A LITTLE BIT SENSITIVE TO TIME AND TRY TO MOVE THIS FASTER THAN I WOULD, BUT FEEL FREE TO STOP ME IF YOU HAVE QUESTIONS. SO I'M GOING TO DESCRIBE THE COMMUNITY CARE CENTERS OF EXCELLENCE CONCEPT PLAN. AND AS A REMINDER, FOR COMPLETENESS, YOU DO HAVE A MEMO AND A DRAFT PLAN NOTICED AS PART OF THIS MEETING SO WE HAVE A COMPLETE RECORD.

A REMINDER, THIS IS A PLAN THAT'S BEEN UNDER DEVELOPMENT SINCE THE LATER PART OF 2022. WE HAD A NEEDS ASSESSMENT PHASE THAT INCLUDED A SERIES OF LISTENING SESSIONS AND STATEWIDE PUBLIC WORKSHOP. AND IN ADDITION TO THOSE MEETINGS, WE WERE HAVING ONGOING CONSULTATION WITH THE ACCESS AND AFFORDABILITY WORKING GROUP WHO ARE ALSO PROVIDING FEEDBACK AND RECOMMENDATIONS TO THE NEEDS ASSESSMENT PROCESS AS WE WERE MOVING THROUGH THAT PHASE. AND AS A REMINDER, THE MEMO DESCRIBING THIS ITEM INCLUDES A LINK TO ITEMS -- THE DOCUMENTATION THAT WE CREATED AS PART OF THAT NEEDS ASSESSMENT PHASE. THAT REALLY SERVED TO INFORM THE DRAFT CONCEPT WHICH YOU NOW HAVE BEFORE YOU.

IT WAS PRESENTED TO THE ACCESS AND AFFORDABILITY WORKING GROUP THREE WEEKS AGO, AND WE

HAVE INCORPORATED SOME ADDITIONAL FEEDBACK FROM THEM. AND I'LL SUMMARIZE THAT FOR YOU TODAY. THE AIM WOULD BE TO MOVE THE CONCEPT PLAN TO THE BOARD AT THE NEXT DECEMBER BOARD MEETING SO WE COULD ENTER THE APPLICATION PHASE EARLY NEXT YEAR.

ALSO WANTED TO REMIND YOU THE COMMUNITY CARE CENTERS OF EXCELLENCE ARE OUR INFRASTRUCTURE PROGRAM. THEY'RE DESCRIBED IN PROPOSITION 14 AS AN INFRASTRUCTURE HUB FOR EXPANDING ACCESS TO CLINICAL TRIALS AND REGENERATIVE MEDICINE TREATMENTS IN ADDITION TO CIRM EDUCATION AND TRAINING PROGRAMS. AND I JUST WANT TO -- IT'S NOT IN THE SLIDE, BUT I DID WANT TO REMIND YOU OF THE LANGUAGE IN PROPOSITION 14 WHICH INCLUDES ESTABLISHING GEOGRAPHICALLY DIVERSE CENTERS OF EXCELLENCE TO CONDUCT CLINICAL TRIALS AND/OR TO SEEK TO MAKE THE RESULTING TREATMENTS AND CURES BROADLY AVAILABLE TO CALIFORNIA PATIENTS. SO THAT'S THE MANDATE VIS-A-VIS THE PROPOSITION.

ONE OF THE SORT OF COMMON QUESTIONS WE HAD ALONG THE PROCESS: WHAT DO THESE CENTERS LOOK LIKE? THESE CENTERS OFTEN, WHEN YOU SAY COMMUNITY CARE CENTERS, I THINK ONE ENVISIONS BUILDINGS. THEY'RE REALLY PEOPLE. THIS IS FROM OUR ALPHA CLINICS MEETING. AND REALLY WHAT WE ARE SUPPORTING ARE

TEAMS TO GO OUT AND SUPPORT THE CLINICAL RESEARCH AND SUBSEQUENT TREATMENT OF PATIENTS.

AND SO WHAT DO THESE TEAMS LOOK LIKE? THIS IS SORT OF A TYPICAL TEAM AT A CENTER THAT WOULD BE TREATING PATIENTS. AS WE ARE AWARE, CELL AND GENE THERAPY CLINICAL RESEARCH HAS A RANGE OF VERY SPECIALIZED NEEDS, STARTING WITH WORKING DIRECTLY WITH A SPONSOR, EDUCATING AND NAVIGATING THE PATIENTS, CONSIDERING ISSUES RELATED TO COVERAGE ANALYSIS AND THE FINANCING OF THE TRIAL, THE MANAGEMENT OF PRODUCTS, WHICH COULD BE QUITE UNIQUE AND INCLUDE MANUFACTURING, AND THEN, OF COURSE, THE DATA MANAGEMENT.

SO IF ONE WERE TO LOOK AT WHAT THESE TEAMS LOOK LIKE, THERE ARE INDIVIDUALS THAT MANAGE PATIENT REGISTRIES SO WE CAN IDENTIFY PATIENTS AND DEVELOP THOSE COHORTS. THE RESEARCH NURSES ARE SPECIALIZED AND HAVE A SPECIALIZED SET OF SKILLS BECAUSE THIS INVOLVES NOT JUST BEDSIDE MANNER, BUT DATA COLLECTION. THE LABORATORY AND PHARMACY PIECE MAY INCLUDE, AGAIN, POTENTIALLY THE MANUFACTURING OF PRODUCTS, BUT THE HANDLING MAY BE QUITE SPECIALIZED. PATIENT NAVIGATORS WHO CAN EXPLAIN AND HELP CONSENT THOSE PATIENTS, AND THEN THE RESEARCH COORDINATORS AND THE CLINICIANS. SO THIS IS SORT OF THE PROFILE

OF AN ALPHA CLINIC TEAM. AND IMAGINE THAT FOR SOME OF THESE CENTERS SUCH TEAMS WOULD BE SUBSTANTIALLY SIMILAR.

MOVING TO SORT OF HOW WE ENVISION THIS FITTING THE BROAD SET OF CIRM INFRASTRUCTURE, IN THIS GRAPHIC WE REALLY WANT TO SORT OF CREATE THE IDEA THAT WE'VE GOT THE PATIENTS IN THE MIDDLE OF A WRAPAROUND SUPPORT NETWORK THAT, AGAIN, INCLUDES THE ALPHA CLINICS NETWORK, WHICH AT THIS TIME INCLUDES TEN MEDICAL CENTERS, NINE AWARDS, THE VAST MAJORITY OF CIRM-FUNDED CLINICAL TRIALS, WHICH IS 96 THAT ARE SUPPORTED WITHIN THAT NETWORK. SO THESE ARE THE ACTIVE AND ONGOING ELEMENTS OF OUR CLINICAL TRIALS PROGRAMS THAT ARE RIPE FOR FURTHER EXPANSION AND PARTNERSHIP.

THE FIRST STAGE OF THAT EXPANSION WILL BE EARLY NEXT YEAR AS WE ANTICIPATE THE ROLLOUT OF THE PATIENT SUPPORT PROGRAM. AS A REMINDER, THAT PROGRAM AIMS TO COMPLEMENT THE CHARGE OF PROPOSITION 14 ON THE ACCESS SIDE, SPECIFICALLY TO IMPROVE OR TO ADDRESS FINANCIAL AND LOGISTICAL BARRIERS RELATED TO PARTICIPATION IN TRIALS. SO HELPING PATIENTS IDENTIFY TRIALS, GETTING THEM CONNECTED TO CLINICAL SITES, AND, FOR CERTAIN PATIENTS THAT WOULD BE ELIGIBLE, SUPPORT THE COSTS THEY MIGHT INCUR,

PARTICULARLY OUT-OF-POCKET COSTS, TO PARTICIPATE IN THOSE TRIALS.

AND THE FINAL PIECE ARE THE COMMUNITY CARE CENTERS. AND WHAT YOU HAVE BEFORE YOU TODAY IS THE DRAFT CONCEPT PLAN FOR THAT PROGRAM.

MAYBE TO SORT OF BRING THIS INTO A FLOW DIAGRAM. AND, AGAIN, THIS IS AS WE WENT THOROUGH THE NEEDS ASSESSMENT AND HAD DISCUSSIONS OUT IN THE COMMUNITY, WE HAD ENVISIONED AND THE PLAN IS DESIGNED TO ACCOMMODATE THIS. THE CONCEPT PLAN IS THAT THERE BE A CAPACITY TO PERFORM COMMUNITY-CENTERED ENGAGEMENTS. SO THE PATIENT WOULD BE ABLE TO INTERACT WITHIN THEIR COMMUNITY TO UNDERSTAND OR LEARN ABOUT THESE TRIALS AND POTENTIALLY GET CONNECTED TO A COMMUNITY CARE CENTER, WHICH WOULD THEN HAVE THE ABILITY TO NAVIGATE THE PATIENT TO, IN THIS PARTICULAR SCENARIO, TO AN ALPHA CLINIC WHERE PATIENT TREATMENT COULD OCCUR. AND THEN IDEALLY A MAJORITY OF THE FOLLOW-UP AND HOPEFULLY EVEN THE PRETREATMENT CLINICAL ACTIVITY COULD OCCUR IN A COMMUNITY SETTING IF THE PATIENT LIVED DISTANT FROM AN ALPHA CLINIC. AND, AGAIN, THE PATIENT SUPPORT PROGRAM REALLY ESTABLISHES AN OVERLAY THERE TO PROVIDE ADDITIONAL SUPPORT TO THE PATIENT.

I THINK WE JUST -- EARLIER ON I THINK THE DISCUSSION OF PATIENT-REPORTED OUTCOMES WAS REALLY EXCITING. I THINK IN TERMS OF THAT WAS A TOPIC WITHIN THE NEEDS ASSESSMENT FROM THE ACCESS AND AFFORDABILITY WORKING GROUP, THE IDEA THAT WE DO NEED ROBUST PATIENT-REPORTED OUTCOMES, NOT JUST IN TERMS OF CLINICAL EFFICACY, BUT THOSE OUTCOMES CAN ALSO DRIVE THE ABILITY TO REIMBURSE THESE PRODUCTS BECAUSE ON THE REIMBURSEMENT SIDE THAT EVIDENCE IS ALSO CRITICAL. WE COULD REALLY SEE THE COMMUNITY CARE CENTERS PERFORMING A VERY UNIQUE ROLE IN DEVELOPING ROBUST DATA IN THAT CONTEXT. SO JUST TO CONNECT IT UP TO PRIOR DISCUSSIONS.

SO LET ME NOW JUMP INTO A COUPLE OF THE KEY ASPECTS OF THE CONCEPT PLAN ITSELF. THIS IS NOW SORT OF ELIGIBILITY. I WANT TO SORT OF FOCUS ON SORT OF A THREE-PART TEST IN TERMS OF THE APPLICANT BEING ELIGIBLE, A THREE-PART TEST ON THE CLINICAL SIDE. PART 1 WOULD BE A CAPACITY TO SUPPORT HUMAN SUBJECTS PROTOCOLS IN A HEALTH RESEARCH CONTEXT. JUST TO BE CLEAR, HUMAN SUBJECTS EQUALS IRB OVERSIGHT. IT'S THAT FUNDAMENTAL REGULATORY PART THAT CIRM EXPECTS TO EXIST IN ANY RESEARCH WE ARE CONDUCTING THAT INVOLVES INTERACTIONS WITH PEOPLE.

IN ADDITION, THE CENTER WOULD HAVE TO HAVE

THE CAPACITY, BE IN THE PROCESS OF DEVELOPING CAPACITY TO SUPPORT CLINICAL RESEARCH PROTOCOLS INVOLVING CELL, GENE, OR REGENERATIVE MEDICINE TREATMENTS. AND FINALLY, WE WANTED TO HAVE SOME PROTECTIONS IN THERE. WE DO NOT WANT TO BE FUNDING SITES THAT WOULD BE ADMINISTERING UNAUTHORIZED STEM CELL TREATMENTS. AND I'LL TOUCH ON IN A LATER SLIDE SORT OF MORE SPECIFICALLY HOW WE'VE TRIED TO ADDRESS THAT.

THIS PROGRAM, YOU ALSO HAVE TO HAVE THE CAPACITY TO SUPPORT CAREER DEVELOPMENT ACTIVITIES. THAT'S EDUCATION, TRAINING OF PHYSICIANS, NURSES, RESEARCH COORDINATORS, COMMUNITY HEALTH WORKERS, OR OTHER HEALTH PROFESSIONALS. ACTUALLY WE ARE FOCUSING ON CAREER DEVELOPMENT AS WE VIEW THESE SITES AS EXCELLENT LOCATIONS FOR PLACING CIRM TRAINEES THAT HAVE ALREADY PARTICIPATED IN CIRM PROGRAMS OR ARE PARTICIPATING IN CIRM PROGRAMS. AND, AGAIN, I'LL TOUCH ON THAT ON THE FOLLOWING SLIDE.

AND IN THIS CASE WE ARE ALSO LOOKING FOR A THIRD PART, THAT THEY'VE GOT A TRACK RECORD OF CONDUCTING OR COORDINATING WITH COMMUNITY-BASED ORGANIZATIONS TO CONDUCT HEALTH EDUCATION ACTIVITIES IN THE COMMUNITY. AND, AGAIN, THIS IS SOMETHING

THAT, BASED ON THE NEEDS ASSESSMENT AND INTERACTIONS WE HAVE HAD WITH CENTERS THAT PARTICIPATED IN THE NEEDS ASSESSMENT, THESE ARE FAIRLY COMMON ACTIVITIES. AND THE AIM OF THIS PROGRAM WOULD BE TO FURTHER RESOURCE THOSE ACTIVITIES TOWARDS THE AIMS OF THE CIRM MISSION.

SO I'M GOING TO NOW SORT OF DESCRIBE HOW WE THEN SUPPORT THOSE ACTIVITIES. SO SORT OF BREAK THEM OUT. THERE'S A LITTLE BIT OF NUANCE HERE. FIRST OF ALL, IN TERMS OF CLINICAL OPERATIONS, WHAT WE LEARNED IS THERE ARE A NUMBER OF SITES WITHIN CALIFORNIA THAT ARE CLEARLY CAPABLE OF SUPPORTING REGENERATIVE MEDICINE CLINICAL TRIALS. AND BY SUPPORTING, THEY ARE ENGAGING PATIENTS, THEY ARE EDUCATING PATIENTS, AND THEY ARE BOTH DOING PRESCREENING AND FOLLOWING UP WITH PATIENTS IN CLINICAL TRIALS. BUT THE ACTUAL INVESTIGATIONAL PRODUCT, THAT INTERVENTION IS OCCURRING AT A PARTNER SITE. AND SO THAT'S A MODEL THAT ALREADY EXISTS, AND THERE ARE A NUMBER OF SITES THAT WE INTERACTED WITH THAT APPEAR VERY INTERESTED IN DEVELOPING THAT MODEL OF SUPPORT, BUT DON'T VIEW THEMSELVES AS NECESSARILY AIMING TO MANAGE THE ACTUAL INVESTIGATIONAL PRODUCT.

THE OTHER SIDE OF THAT COIN IS THERE ARE

SITES OUT THERE THAT ARE REALLY ON THE CUSP OF BEING ABLE TO DELIVER THESE PRODUCTS. AND SO WHAT WE'VE TRIED TO DO ON THE PROPOSAL ON THE CLINICAL SIDE IS TO HAVE TWO FUNDING OPPORTUNITIES, ONE FOR A SUPPORT SITE AND ONE FOR A SUPPORT AND DELIVERY SITE. THE IDEA ON THE DELIVERY SITE IS THAT OVER THE AWARD PERIOD, THEY WOULD THEN DEVELOP THE CAPACITY TO MANAGE THOSE INVESTIGATIONAL PRODUCTS.

IN TERMS OF CAREER DEVELOPMENT, AGAIN, THE AIM HERE IS TO ADAPT, APPLY, OR OTHERWISE UTILIZE CIRM EDUCATION AND TRAINING RESOURCES. THEY WOULD SERVE AS A PLACEMENT SITE FOR SCHOLARS AND TRAINEES, AND THEY WOULD REALLY INTEGRATE REGENERATIVE MEDICINE INTO OTHER NAVIGATION AND COMMUNITY HEALTH WORKER CERTIFICATION PROGRAMS. THESE ARE IMPORTANT PROGRAMS BECAUSE THEY'RE ELIGIBLE FOR -- IT ALLOWS US TO TAP INTO AN EXISTING WORKFORCE THAT ALREADY HAS A ROBUST TOUCHPOINT WITH PATIENTS. AND THESE ACTIVITIES ARE ALSO REIMBURSED THROUGH VARIOUS HEALTH FINANCING MECHANISMS. SO WE VIEW IT AS AN EXCELLENT OPPORTUNITY TO UTILIZE IN THIS PROGRAM.

ONE OF THE THINGS TO POINT OUT, BECAUSE THIS WILL BE A BOARD MEETING, BECAUSE ONE OF THE QUESTIONS THAT CAME UP IS IT SEEMS CHALLENGING. HOW DO WE CONNECT CIRM APPLICANTS TO A LOT OF THESE CIRM

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EDUCATION PROGRAMS? AND AT THE BOARD MEETING, THERE'S GOING TO BE A PRESENTATION FROM THE DISCOVERY TEAM IN TERMS OF A VERY ROBUST SYSTEM THEY'RE DEVELOPING AROUND EDUCATION PORTALS AND A WHOLE SYSTEM TO CONSOLIDATE AND CONNECT PEOPLE WITH OUR EDUCATION PROGRAMS. SO THIS PIECE IS INTENDED TO REALLY DOVETAIL WITH THAT WORK. AND, AGAIN, YOU'LL HEAR MORE ABOUT IT IN THE DECEMBER BOARD MEETING.

AND FINALLY, THERE WILL BE SPECIFIED BUDGET ITEMS FOR A BUDGET COMMITMENT FOR OUTREACH AND ENGAGEMENT AND PARTNERSHIPS WITH COMMUNITY-BASED ORGANIZATIONS. THAT'S WHAT WE ARE PROPOSING THERE.

GOING TO JUST DO A QUICK COMPARE AND CONTRAST BECAUSE, AGAIN, THESE ARE QUESTIONS WE GOT FROM SOME OF THE OTHER WORKING GROUPS. COMPARING, ON THE CLINICAL SIDE, THE ELIGIBILITY FOR AN ALPHA CLINIC WAS THAT THEY ALREADY HAVE DEMONSTRATED CAPACITY TO HANDLE CLIN2 PROGRAMS AND MANAGE AND DELIVER AND TREAT PATIENTS WITH INVESTIGATIONAL PRODUCTS.

FOR A COMMUNITY CARE CENTER, AT A MINIMUM THEY NEED TO BE ABLE TO SUPPORT THOSE TRIALS. AND, AGAIN, CERTAIN CENTERS ARE IN THE PROCESS OR WOULD LIKE TO BE IN THE PROCESS OF DEVELOPING THE CAPACITY

TO CONDUCT THOSE TRIALS AS WELL. SO WE HAVE AN OPPORTUNITY FOR BOTH THOSE CONTINGENCIES.

ALPHA CLINICS HAVE REALLY CREATED A NUMBER OF VERY EFFECTIVE TRAINING PROGRAMS, EVERYTHING FROM CLINICAL FELLOWS TO RESEARCH COORDINATORS, NURSE TRAINING. IN THE CONTEXT OF THE COMMUNITY CARE CENTERS, WE REALLY AIM TO APPLY THOSE PROGRAMS AND ALSO SERVE AS A PLACEMENT SITE FOR THOSE TRAINEES.

AND THEN, AGAIN, THE ALPHA CLINICS DO HAVE STRONG ENGAGEMENT AND NAVIGATION CAPACITIES. THEIR CTSA'S ARE OFTEN BEING LEVERAGED TO MEET WITH PATIENTS. IN TERMS OF THE COMMUNITY CARE CENTERS, WE WOULD OBVIOUSLY WANT TO REPLICATE THOSE ACTIVITIES, BUT ALSO ALLOW THEM TO MOVE DOWN THROUGH MORE COMMUNITY-BASED ORGANIZATIONS, FAITH-BASED ORGANIZATIONS, A SET OF ORGANIZATIONS THAT HAVE A RICHER OR DEEPER TOUCHPOINT WITH THE COMMUNITY.

AND REALLY THAT COMES DOWN TO THE RATIONALE. THERE IS ONE OF THE MOST -- THE TERM WE HEARD MOST FREQUENTLY IN TERMS OF A NEEDS ASSESSMENT WAS TRUST. AND THAT IN ORDER TO DEVELOP THOSE SORT OF TRUST-BUILDING SCENARIOS, THERE NEEDS TO BE A BROADER REACH THAN WE CURRENTLY HAVE WITH OUR EXISTING CLINICAL TRIAL AWARDS.

A COUPLE OF CONSIDERATIONS, AND I FLAG

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THESE BECAUSE, AGAIN, THEY WERE EITHER RAISED BY OTHER WORKING GROUPS, AND THEY COME UP AS QUESTIONS ALREADY. SO WANT TO SORT OF COVER THEM FOR YOUR BENEFIT. IN TERMS OF ETHICS POLICY, AGAIN, HOW DO WE KNOW WE GET THE ETHICS RIGHT IS REALLY THE QUESTION HERE. AND, AGAIN, WE ARE STARTING WITH THE CONTEXT THAT APPLICANTS MUST HAVE EXPERIENCE IMPLEMENTING HUMAN SUBJECTS PROTOCOLS, THAT THEY'RE FORMALLY IN THE -- THE FORMAL HUMAN SUBJECT PROTECTION PROGRAM IS IN PLACE OR THAT THEY'VE HAD EXPERIENCE IMPLEMENTING SUCH PROGRAMS, WHICH WOULD INCLUDE INSTITUTIONAL REVIEW BOARDS.

UNAUTHORIZED STEM CELL TREATMENTS, WE HAVE THE BENEFIT OF CALIFORNIA LAW THAT REQUIRES NOTIFICATION OF ANYONE RECEIVING A TREATMENT FROM A PROVIDER. IF THAT TREATMENT IS DESCRIBED AS A STEM CELL THERAPY AND HAS NOT BEEN AUTHORIZED BY THE FOOD AND DRUG ADMINISTRATION, THEN A NOTIFICATION MUST BE PROVIDED. IF THE SITE IS PROVIDING TREATMENTS THAT REQUIRE THAT NOTIFICATION, THEY WOULD NOT BE ELIGIBLE TO APPLY FOR THIS PROGRAM.

AND THEN FINALLY, IN TERMS OF RESEARCH ETHICS TRAINING, WE HAVE HAD A LOT OF DISCUSSION WITH GROUPS THAT HAVE DEVELOPED COMMUNITY ENGAGEMENT PROGRAMS IN SUPPORT OF, SAY, RARE DISEASE AND

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CLINICAL TRIALS. AND WHAT WE'VE LEARNED IS THERE IS A NUMBER OF ETHICS TRAINING PROGRAMS THAT HAVE BEEN ADAPTED TO TRAIN THOSE INDIVIDUALS PERFORMING THAT TYPE OF ENGAGEMENT ON THE RESEARCH ETHICS FRAMEWORK AND GET THEM ACTUALLY CERTIFIED, HAVE THEM GET CERTIFICATIONS THAT WOULD BE EQUIVALENT TO, SAY, SOMEONE DOING PATIENT RECRUITMENT OR PATIENT ENROLLMENT IN A CLINICAL TRIAL. SO WE PROVIDE THE SUPPORT WITHIN THIS PROGRAM TO HAVE THOSE PEOPLE TRAINED UP SO EVERYONE IS OPERATING AT A BASE LEVEL IN TERMS OF RESEARCH ETHICS.

SO SOME ADDITIONAL PROGRAM CONSIDERATIONS. I ALLUDED TO THIS EARLIER. JUST TO BE A BIT MORE SPECIFIC, WE TRIED TO IDENTIFY WAYS WE CAN BUILD SUSTAINABILITY INTO THESE PROGRAMS. AND, AGAIN, I MENTIONED COMMUNITY HEALTH WORKER CERTIFICATION PROGRAMS. AND NOW THERE ARE PATIENT NAVIGATION CERTIFICATION PROGRAMS. THOSE CERTIFICATIONS ARE VERY IMPORTANT BECAUSE THERE ARE NOW MECHANISMS, EITHER STATE OR NATIONAL PROGRAMS, THAT ALLOW FOR THE REIMBURSEMENT OF THOSE SERVICES. SO WE VIEW THIS PROGRAM AS AN OPPORTUNITY TO CREATE A REGENERATIVE MEDICINE MODULE THAT COULD THEN BE APPLIED IN THESE CERTIFICATION PROGRAMS AND GO ON TO SUPPORT THE ONGOING -- THIS WORK ON AN ONGOING BASIS

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INDEPENDENT OF CIRM FUNDING AND SIMPLY BECOME REIMBURSABLE.

I NOTED, AGAIN, THAT THIS IS COORDINATION WITH CIRM EDUCATION PROGRAMS. I WON'T SAY A LOT HERE, BUT AS I INDICATED, THERE WILL BE SUBSTANTIAL BACKGROUND AT THE DECEMBER MEETING.

AND I THINK STILL ANOTHER CHALLENGE, AND THIS CAME FROM THE ACCESS AND AFFORDABILITY WORKING GROUP. I THINK THE QUOTE IS FOR MANY OF OUR TRIALS, WE ARE STILL LOOKING FOR A NEEDLE IN A HAYSTACK IN TERMS OF SOME OF THESE MORE RARE DISEASE INDICATIONS. SO WE HAVE BEGUN TO INTERACT WITH GROUPS THAT HAVE SUCCESSFULLY WORKED WITH RARE DISEASES COHORTS AND DISEASE ADVOCACY GROUPS. AND THE PLAN WOULD BE MOVING FORWARD, ONCE WE ISSUE THE APPLICATION, TO HOLD A SERIES OF WEBINARS TO CONNECT APPLICANTS TO THESE GROUPS TO CONSIDER WAYS THEY CAN PARTNER AND COLLABORATE TO REACH THE PATIENT POPULATIONS OF INTEREST.

SO FINALLY, I WILL GET TO THE NUMBERS. WE ARE REQUESTING A BUDGET ALLOCATION OF 60.2 MILLION. AND THE BUDGET IS DESIGNED TO SUPPORT, AGAIN, THE CORE OPERATIONS, WHICH I DESCRIBED PREVIOUSLY. THAT COULD BE A SUPPORT OR SUPPORT AND DELIVERY SITE. COMMUNITY PARTNERSHIPS ARE CALLED OUT SEPARATELY.

IT'S A SEPARATE BUDGET LINE ITEM. AND, AGAIN, THAT WAS REINFORCED BY THE ACCESS AND AFFORDABILITY WORKING GROUP, THAT WE REALLY WANT TO GUARANTEE THOSE FUNDS ARE THERE AND THAT THEY DON'T GET LOST OVER THE AWARD PERIOD AND DON'T FLOW INTO THE COMMUNITY. SO WE REALLY SEPARATE THAT OUT AS A SEPARATE LINE ITEM.

AND ONE THING I HAVEN'T MENTIONED, AGAIN, THIS IS VIS-A-VIS PROPOSITION 14, THERE ARE FUNDS AVAILABLE FOR BUILDING RENOVATION, EQUIPMENT, AND FACILITIES. SO THERE WOULD BE A FACILITIES COMPONENT PROPOSED FOR THIS PROGRAM.

AS WE MODELED IT OUT, BASED ON THE 60.2 MILLION, WE CAN ENVISION THAT COULD DISTRIBUTE WHERE WE'D HAVE THREE SUPPORT AND DELIVERY AWARDS ON THE ORDER OF ABOUT 10 MILLION PER AWARD AND 4 SUPPORT SITES AWARDS ON THE ORDER OF ABOUT 7.5 MILLION PER AWARD.

SO WITH THAT, I WILL -- I'VE STILL GOT A BIT OF TIME. SO I'LL SEE IF THERE'S ANY QUESTIONS. OBVIOUSLY, WE ARE REQUESTING RECOMMENDATION FROM YOU ALL TO APPROVE THE CONCEPT PLAN FOR ICOC CONSIDERATION. THANK YOU FOR YOUR TIME AND CONSIDERATION.

CHAIRMAN GOLDSTEIN: THANKS, GEOFF. THAT

WAS REALLY TERRIFIC. GOOD JOB.

QUESTIONS? PAT.

DR. LEVITT: SO THAT'S REALLY A TON TO UNPACK. AND I DON'T -- FROM MY PERSPECTIVE, I'M REALLY KIND OF QUEASY ABOUT DOING THIS IN FIVE MINUTES. ONE OF THE THINGS I'M REALLY CONCERNED ABOUT IS THE ENTRY POINT BECAUSE ALL THIS IS SO CRITICALLY IMPORTANT. I DON'T REALLY HAVE THE DATA ABOUT THE COMMUNITY CARE CENTERS, LIKE WHAT IS THE -- WHAT ARE THE NUMBERS ABOUT THOSE THAT SEEM TO BE ABLE TO ACTUALLY CARRY OUT HUMAN SUBJECTS STUDIES. BECAUSE IT'S ONE THING TO PROVIDE HEALTHCARE. IT'S ANOTHER TO ACTUALLY RUN A CLINICAL TRIAL. SO THAT'S ONE ISSUE.

THE SECOND IS THAT COMMUNITY ENGAGEMENT, FROM MY PERSPECTIVE, REALLY HAS TO BE CRYSTALLIZED AND REALLY WELL ARTICULATED IN TERMS OF WHAT CIRM EXPECTS TO SEE BECAUSE SEVERAL OF US HAVE BEEN ENGAGED AND ACTIVE IN OUR OWN CTSI'S. AND THOSE NUMBERS SOMETIMES ARE JUST HOLLOW, THAT THEY'RE NOT MEANINGFUL, REALLY MEANINGFUL COMMUNITY ENGAGEMENTS WHERE THERE'S ACTUAL ACTIVITY THAT OCCURS THAT DEMONSTRATES THE TRANSLATION OF ENGAGEMENT TO PARTICIPATION. AND THAT'S GOING TO DEFINE -- WHATEVER THE ENGAGEMENT MECHANISM IS, IT'S GOING TO

DEFINE THE SUCCESS OF THIS PROGRAM.

SO THE CONCEPT, I THINK, IS GREAT, BUT I THINK THERE'S SOME REALLY IMPORTANT COMPONENTS THAT CIRM HAS TO ARTICULATE SO THAT THE AWARDS THAT WILL BE GIVEN OUT ARE GOING TO BE GIVEN TO ORGANIZATIONS THAT UNDERSTAND WHAT THEIR RESPONSIBILITIES ARE IN DEMONSTRATING SUCCESS. SO I'LL STOP THERE BECAUSE THERE'S A WHOPPING THREE MINUTES LEFT TO DISCUSS.

DR. LOMAX: MAYBE BRIEFLY, WHEN YOU SAY COMMUNITY CARE CENTER, I THINK WHAT COMES INTO -- WHAT ONE IMAGINES IS, I THINK AS YOU ALLUDED TO, IN FACT THE CENTERS THAT REALLY ENGAGE IN THIS PROCESS, I THINK, ARE MORE ON THE ORDER OF REGIONAL HOSPITALS, BUT THEY'RE WELL AWAY FROM THE ALPHA CLINICS. SO, FOR EXAMPLE, WITHOUT NAMING IT, ONE OF THE CENTERS IS IN THE SORT OF -- MUCH FURTHER EAST OF THE COAST. AND THEY'RE WORKING WITH CANCER PATIENTS TO ENROLL THEM IN ALPHA CLINIC CLINICAL TRIALS ALREADY. IT'S THAT LEVEL OF CAPACITY THAT I THINK, WHEN ONE LOOKS AT WHAT'S IT GOING TO TAKE TO APPLY FOR THIS PROGRAM, THOSE ARE THE SORT OF TYPES OF APPLICANTS. NOW, WE INCENTIVIZE, THEN, PARTNERSHIPS WITH MAYBE MORE COMMUNITY-BASED PROVIDERS. BUT AT A BASELINE, THAT'S THE SCALE OF CAPACITY THAT AN APPLICANT WOULD NEED TO BRING TO

THIS PROGRAM.

DR. LEVITT: SO THE REFERRAL FROM COMMUNITY-BASED PROVIDERS IS REALLY IMPORTANT. I THINK THAT'S IMPORTANT. THAT'S HOW THEY GET REFERRED TO A REGIONAL CENTER. AND WE KNOW -- I'M NOT AN EXPERT IN THIS, BUT I READ THE JOURNALS, PUBLICATION AFTER PUBLICATION, DATA AFTER DATA, ABOUT THE CHALLENGES, PARTICULARLY FOR UNDERREPRESENTED GROUPS, OF EVEN BEING CONSIDERED TO GET A REFERRAL, THAT THERE'S MAJOR PROBLEMS THAT WE HAVE GOING FROM COMMUNITY TO THESE REGIONAL CENTERS, WHICH IS WHY I SAY IT'S NOT IMPOSSIBLE TO DO. I JUST THINK THERE HAS TO BE SOME LEVEL OF UNDERSTANDING THAT THESE MAJOR PROBLEMS EXIST. AND IF WE ARE TALKING ABOUT ACCESS AND AFFORDABILITY, WE HAVE TO -- THAT THOSE WHO ARE GOING TO APPLY FOR THIS NEED TO HAVE A REAL PLAN THAT'S GOING TO CHANGE THE DYNAMIC.

DR. MELMED: LARRY, SORRY. I HAVE TO GET OFF. I HOPE THE QUORUM IS STILL INTACT.

MR. TOCHER: IT IS. WE ARE JUST AT QUORUM WITH YOUR ABSENCE.

DR. LEVITT: I HAVE A MEETING AT NOON AS WELL TO MY EXECUTIVE LEADERSHIP GROUP HERE IN THE HOSPITAL. BUT I THINK THIS IS, TO ME, THE MOST

COMPLICATED COMPONENT THAT WAS PRESENTED TODAY. AND I LOVE THE CONCEPT, BUT I THINK -- I HAVE TO HAVE SOME MORE TIME TO UNDERSTAND THE DETAILS OF HOW THIS IS GOING TO BE DONE.

CHAIRMAN GOLDSTEIN: SO, PAT AND GEOFF, IN VIEW OF THE TIME, CAN I MAKE THE FOLLOWING SUGGESTION, WHICH IS I THINK WE SHOULD GO AHEAD AND SEND THIS TO THE ICOC BECAUSE THERE'S ADDITIONAL EXPERTISE AT THE ICOC LEVEL ON SOME OF THESE ISSUES. AND COULD I ASK PAT AND GEOFF TO WORK TOGETHER PRIOR TO THAT MEETING TO TRY TO ADDRESS SOME OF PAT'S ISSUES EXPLICITLY? WOULD THAT BE --

VICE CHAIR BONNEVILLE: LARRY, IT'S SCHEDULED RIGHT NOW TO GO TO THE DECEMBER 14 MEETING. SO IT WOULD HAVE TO GO TO THE JANUARY MEETING INSTEAD, ALLOWING FOR MORE TIME TO WORK THESE THINGS OUT. SO I LEAVE IT TO SCOTT TOCHER, GEOFF, AND PAT TO SORT OF DETERMINE THAT.

DR. LEVITT: I AGREE. I'M HAPPY TO SEE IT GO TO THE ICOC, BUT IS IT GOING TO GO WITH APPROVAL OF THE SCIENCE SUBCOMMITTEE? OR IS IT JUST GOING TO GO THERE? I MEAN I DON'T KNOW THE APPROPRIATE PROTOCOL. BUT RIGHT NOW I COULDN'T VOTE YES ON IT. I WOULD ABSTAIN.

DR. LOMAX: CAN I JUST ADD THAT IN TERMS

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OF THE TIMELINE CHECK, UP UNTIL NOW WE ARE ON OUR TIMELINE, AND WE BUILT SOME SLACK INTO THAT TIMELINE. AND SO I THINK, TO THE EXTENT THIS COMMITTEE ISN'T FULLY SATISFIED AND THERE'S MODIFICATIONS THAT WOULD BE MADE, I WOULD PREFER TO SEND THAT TO THE BOARD WITH THAT ENDORSEMENT RATHER THAN NOT HAVING IT. SO A DELAY OF ONE MONTH IS COMPLETELY -- WE CAN ACCOMMODATE THAT BECAUSE, AGAIN, WE ARE ON TRACK WITH THIS PROJECT.

VICE CHAIR BONNEVILLE: I AGREE WITH GEOFF. I THINK THIS SHOULD HOLD UNTIL THE JANUARY MEETING AND PERHAPS GET THE SCIENCE SUBCOMMITTEE BACK IN JANUARY TO DISCUSS THE SUBJECT WITH MORE INFORMATION THAT PAT'S REQUESTED.

CHAIRMAN GOLDSTEIN: PAT, ARE YOU COMFORTABLE WITH THAT?

DR. LEVITT: YEAH. I'M FINE WITH THAT. SORRY TO THROW A WRENCH IN THIS, BUT I JUST THINK THIS IS ONE OF THE MOST IMPORTANT THINGS THAT WE ARE DOING. AND WE SPENT A TON OF TIME WITH STAFF GOING OUT TO VARIOUS LOCATIONS IN THE STATE. AND I THINK WE SHOULD HONOR ALL THE TIME THAT WAS PUT IN TO MAKE SURE WE GET THIS RIGHT.

VICE CHAIR BONNEVILLE: I AGREE.

DR. LEVITT: OKAY.

CHAIRMAN GOLDSTEIN: SO WE'LL DEFER TO JANUARY. AND IN THE MEANTIME, PAT, GET TOGETHER WITH GEOFF AND WORK SOME OF THIS OUT PLEASE.

DR. LEVITT: ABSOLUTELY. I'VE GOT LOTS OF FREE TIME.

CHAIRMAN GOLDSTEIN: I KNOW. CLAUDETTE AND LANA, SORRY, BUT YOU'RE GOING TO HAVE TO SCHEDULE ANOTHER SCIENCE SUBCOMMITTEE MEETING TO DEAL WITH THESE ISSUES.

MARIA, YOUR HAND IS -- THAT'S YOUR TREE, NOT YOUR HAND. LET'S SEE. SCOTT, ANYTHING ELSE WE NEED TO DO IN ORDER TO ADJOURN?

MR. TOCHER: ABSOLUTELY NOT. YOU'VE HAD A FULL DAY, SO YOU CAN JUST CLOSE THE MEETING AND THANK EVERYONE.

CHAIRMAN GOLDSTEIN: OKAY. SEE YOU AGAIN SOON, EVERYBODY.

(THE MEETING WAS THEN CONCLUDED AT 12:03 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 VIRTUAL PROCEEDINGS BEFORE THE SCIENCE SUBCOMMITTEE OF THE INDEPENDENT CITIZEN'S OVERSIGHT COMMITTEE OF THE CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE IN THE MATTER OF ITS REGULAR MEETING HELD ON NOVEMBER 30, 2023, 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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