BEFORE THE
SCIENCE SUBCOMMITTEE AND NEURO TASK FORCE ON
NEUROSCIENCE AND MEDICINE
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: JULY 11, 2024
9 A.M.

REPORTER: BETH C. DRAIN, CA CSR
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JULY 11, 2024; 9 A.M.

CHAIRMAN FISCHER-COLBRIE: OKAY. GREAT. WELL, WELCOME TO THE JOINT MEETING OF THE NEURO TASK FORCE AND THE SCIENCE SUBCOMMITTEE. AND WE'RE VERY PLEASED TO CONTINUE THE DISCUSSION RELATED TO THE STRATEGIC ALLOCATION FRAMEWORK AND THE OTHER AGENDA ITEMS. BUT WITH THAT IN MIND, FIRST, IF WE COULD HAVE A ROLL CALL. SCOTT, IF YOU COULD LEAD US IN A ROLL CALL.

MR. TOCHER: SURE.

MARIA BONNEVILLE.

VICE CHAIR BONNEVILLE: PRESENT.

MR. TOCHER: LEONDRA CLARK-HARVEY.

DR. CLARK-HARVEY: PRESENT.

MR. TOCHER: DEBORAH DEAS. MARK FISCHER-COLBRIE.

CHAIRMAN FISCHER-COLBRIE: PRESENT.

MR. TOCHER: FRED FISHER. ELENA FLOWERS. JUDY GASSON.

CHAIRPERSON GASSON: HERE.

MR. TOCHER: DAVID HIGGINS.

DR. HIGGINS: PRESENT.

MR. TOCHER: VITO IMBASCIANI.

CHAIRMAN IMBASCIANI: HERE.

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MR. TOCHER: PAT LEVITT.
DR. LEVITT: HERE.
MR. TOCHER: SHLOMO MELMED.
DR. MELMED: HERE.
MR. TOCHER: CAROLYN MELTZER.
DR. MELTZER: PRESENT.
MR. TOCHER: LAUREN MILLER-ROGEN. CHRIS MIASKOWSKI.
DR. MIASKOWSKI: PRESENT.
MR. TOCHER: MARV SOUTHARD.
DR. SOUTHARD: PRESENT.
MR. TOCHER: KAROL WATSON.
DR. WATSON: HERE.
MR. TOCHER: KEITH YAMAMOTO.
DR. YAMAMOTO: HERE.
MR. TOCHER: THANK YOU VERY MUCH, KEITH. GREAT. WE'RE READY TO GO. THANKS VERY MUCH, MARK.
CHAIRMAN FISCHER-COLBRIE: GREAT. WELL, BEFORE WE KICK OFF, FIRST OF ALL, I'D LIKE TO HAVE OUR NEWLY APPOINTED CEO, JON THOMAS, MAKE SOME INTRODUCTORY COMMENTS BEFORE WE CONTINUE WITH THE FORMAL AGENDA.
SO, J.T., I'M VERY EXCITED ABOUT YOUR APPOINTMENT, BUT WOULD LOVE TO HAVE YOU GIVE COMMENTS HERE.

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DR. THOMAS: THANK YOU VERY MUCH, MARK. THANK YOU, ALL MEMBERS OF THE BOARD. IT'S A PLEASURE TO BE HERE IN THE INITIAL MEETING IN THIS CAPACITY OF OUR VERY MAJOR LIFT HERE THAT WE'VE BEEN DOING NOW FOR SIX MONTHS. WE'RE ABOUT TWO-THIRDS OF THE WAY THROUGH. AND IT'S GETTING INTO NOW THE MEAT OF RECOMMENDATIONS TO DISCUSS WITH ALL OF YOU.

I WANT TO SAY WE HAVE THE PLEASURE OF BEING JOINED IN OUR OFFICES BY MR. JENSEN, WHO IS OVER ON THE OTHER SIDE OF THE ROOM AND IS KEENLY INTERESTED IN EVERYTHING WE'RE TALKING ABOUT HERE AS WELL HE SHOULD BE. IT'S REALLY GOOD STUFF.

SO WITH THAT, I WANT TO TURN IT OVER TO ROSA FOR HER REPORT ON WHERE WE STAND CURRENTLY IN THE PROCESS. SO, ROSA, THANK YOU VERY MUCH.

DR. CANET-AVILES: THANK YOU, J.T. AND THANK YOU, SARA, FOR RUNNING THE SLIDES. CAN YOU ALL HEAR ME?

MR. TOCHER: YES.

DR. CANET-AVILES: WONDERFUL. SO MR. CHAIRMAN OF THE SCIENCE SUBCOMMITTEE AND MADAM CO-CHAIR AND MR. CO-CHAIR OF THE NEURO TASK FORCE, ON BEHALF OF CIRM TODAY, I WILL BE PRESENTING THE NEXT STEPS IN THE ANALYSIS, THE RESULTS OF THE ANALYSIS FOR THE RECOMMENDATIONS AND THE

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RECOMMENDATIONS FOR DISCUSSION. NEXT SLIDE OF THE FIRST TWO GOALS IN OUR STRATEGIC ALLOCATION FRAMEWORK.

THANK YOU. SO TODAY, IN ORDER TO ENSURE AMPLE TIME FOR DISCUSSION, THE BACKGROUND AND THE STRATEGIC ALLOCATION FRAMEWORK OVERVIEW WILL NOT BE PRESENTED DURING TODAY'S MEETING. WE ADDED A REFERENCE TO WHEN THESE SECTIONS WERE PREVIOUSLY PRESENTED AT THE JUNE 27TH ICOC MEETING AND ALSO PRESENTED AT THE PREVIOUS SCIENCE SUBCOMMITTEE/NEURO TASK FORCE JOINT MEETING. SO IF YOU ARE INTERESTED OR YOU HAVEN'T HAD TIME TO ADDRESS THIS, YOU CAN REFER TO THAT LINK THAT WILL LEAD YOU DIRECTLY TO THE MOMENT IN THE VIDEO WHEN WE STARTED PRESENTING. NEXT SLIDE.

SO TODAY'S PRESENTATION WILL FOCUS ON GOALS 1 AND 2 THAT WERE INTRODUCED FOR THE FIRST TIME AT THE LAST NEURO TASK FORCE/SCIENCE SUBCOMMITTEE JOINT MEETING AND SUBSEQUENTLY AT THE ICOC OF JUNE.

THE PRESENTATION SHOULD TAKE ABOUT HALF OF OUR MEETING MAXIMUM. IF I CAN, I WILL TRY TO GO FASTER. AND THE OTHER HALF SHOULD BE FOR DISCUSSION. NEXT SLIDE.

I'M GOING TO TAKE A MOMENT HERE TO GO OVER

THE PROCESS HOW WE DEVELOPED THESE GOALS. THE GOALS WERE DEVELOPED THROUGH A SERIES OF STRATEGIC PLANNING DISCUSSIONS THAT WERE STRUCTURED AROUND ALIGNING WITH THE OVERARCHING STRATEGIC PLAN THAT WE HAVE HAD SINCE 2020 WHILE REMAINING ADAPTABLE TO EMERGING SCIENTIFIC, TECHNOLOGICAL, AND OTHER OPPORTUNITIES LIKE MARKET OPPORTUNITIES.

KEY ELEMENTS OF THE PROCESS WERE ALREADY TALKED ABOUT, LIKE WE THOUGHT ABOUT IMPACT POTENTIAL, PATIENT REACH, TECHNOLOGY, PROSPECTS FOR REGULATORY APPROVAL, BUT THEY ALSO INCLUDED THINGS LIKE STRATEGIC HORIZON MAPPING, SO EVALUATING THE CHALLENGES AND OPPORTUNITIES FOR CIRM'S PATH FORWARD IN THE NEXT MORE OR LESS NEXT DECADE. THE PRACTICALITY OF THESE IMPACT GOALS, THE IMPACT GOALS VERSUS THE CONSTRAINTS IN PRACTICALITY. FLEXIBILITY AS WELL, EMPHASIZING THE IMPORTANCE OF ADAPTING AND PLANNING TO ACCOMMODATE NEW OPPORTUNITIES AND CHALLENGES. BUT ALSO AN IMPORTANT PART WAS ADDRESSING A DIVERSE DISEASE SPECTRUM.

AS A GOVERNMENT AGENCY, ONE MAJOR CHALLENGE IS THE WIDE RANGE OF DISEASES FROM RARE TO COMMON. AND EACH OF THEM REQUIRES A SPECIFIC RESEARCH FOCUS AND RESOURCES.

HISTORICALLY OUR EFFORTS HAVE

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PREDOMINANTLY TARGETED RARE DISEASES, WHICH HAS ALLOWED US TO MAKE SIGNIFICANT STRIDES IN AREAS THAT OFTEN LACK ATTENTION AND FUNDING. BY CONCENTRATING ON THESE CONDITIONS, CIRM HAS CATALYZED ADVANCEMENTS IN THE TRANSLATION OF THIS FUNDING INTO CLINICAL APPLICATIONS EVEN FOR SOME DISEASES, LIKE SICKLE CELL, THAT ARE THRESHOLD, THE PREVALENT, RIGHT. WHEN LOOKING AT OUR HISTORY AND PORTFOLIO, ONE OF THE CONSIDERATIONS THAT CIRM HAS NOT MADE WAS HOW COULD CIRM MAKE AN IMPACT TO DISEASES THAT AFFECT MOST CALIFORNIANS.

SO BY EXTENDING OUR FOCUS TO INCLUDE PREVALENT DISEASES ALONGSIDE RARE ONES, WE HOPE THAT WE WILL NOT ONLY BROADEN OUR IMPACT, BUT ALSO DEMONSTRATE OUR COMMITMENT TO IMPROVING THE HEALTH OUTCOMES FOR ALL CALIFORNIANS.

IMPORTANTLY, THIS EXPANSION DOES NOT MEAN THAT CIRM WILL CEASE FUNDING IN RARE DISEASES. ON THE CONTRARY SINCE CIRM IS ACTIVELY DEVELOPING A STRATEGY UNDER DR. CREASEY'S LEADERSHIP TO OPTIMIZE OUR INVESTMENTS IN RARE DISEASES. AND THIS STRATEGIC APPROACH WILL INITIALLY BRING A HIGH LEVEL OVERVIEW OF WHAT THIS WILL BE ABOUT DURING THE NEXT MEETING SCHEDULED FOR AUGUST 16TH WHERE WE WILL BE TALKING ABOUT OR PRESENTING THE RECOMMENDATIONS FOR

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GOALS 3 AND 4 RESPECTIVELY.

SO I WANT TO ENSURE THAT WE ARE ALL ALIGNED AND UNDERSTAND THE DUAL FOCUS OF OUR STRATEGIC EXPANSION.

SO THROUGH THE DATA THAT WE'VE GATHERED AND THE STRATEGIC ALLOCATION FRAMEWORK EXERCISE, WE AIM TO INTEGRATE NEW SCIENTIFIC INSIGHTS WITH OUR PROVEN APPROACHES TO DISCOVERY AND TRANSLATION, ENSURING THAT EVERY CALIFORNIAN BENEFITS FROM THE ADVANCEMENTS IN STEM CELL AND GENETIC RESEARCH.

NOW, FOR PREVALENT DISEASES, IT'S VERY IMPORTANT TO SUPPORT EARLY STAGE RESEARCH WHERE TRADITIONAL VENTURE CAPITAL AND INDUSTRY FUNDING ARE MORE CAUTIOUS, BUT PARTICULARLY IN OUR CURRENT ECONOMIC CONDITIONS AS WELL. SO WE, AS A FUNDING AGENCY OF THE STATE OF CALIFORNIA, HAVE A RESPONSIBILITY TO EVALUATE THE TYPE OF ROLE THAT WE CAN PLAY IN THOSE EARLY STAGES. AND TODAY IS ONE OF THE DAYS THAT WE WILL BE DISCUSSING THIS BECAUSE IT APPLIES MORE TO THE DISCOVERY AREA OF CIRM'S FUNDING. NEXT SLIDE. THANK YOU.

SO TODAY'S PRESENTATION, THE GOAL OF TODAY IS TO BASICALLY REVIEW THE PRELIMINARY GOALS OF 1 AND 2 AND THE HIGH LEVEL QUESTIONS THAT WE POSED, THE DATA ANALYSIS, THE RECOMMENDATIONS, AND THEN

HAVE A DISCUSSION. SO LET'S GO INTO THE FIRST GOAL.

AS I WAS SAYING, IT IS IMPORTANT TO SUPPORT EARLY STAGE RESEARCH WHERE TRADITIONAL VENTURE CAPITAL AND INDUSTRY ARE MORE CAUTIOUS. AND IN ORDER TO DO THAT, THE FIRST GOAL, WHICH WAS OUR WORKING HYPOTHESIS, WAS DEFINED AS CATALYZING THE IDENTIFICATION AND VALIDATION OF AT LEAST X NOVEL TARGETS AND BIOMARKERS, ENSURING INTEGRATION INTO PRECLINICAL OR CLINICAL RESEARCH FOR DISEASES IN CALIFORNIA.

WE ADDED AN X. WE DIDN'T WANT TO DELINEATE THE NUMBER BECAUSE WE THOUGHT THAT THE BOARD MIGHT WANT TO HAVE A DISCUSSION AROUND THAT. WE DIDN'T WANT TO SAY THREE, FOUR, FIVE. WE CAN DISCUSS THIS DURING THE RECOMMENDATION, THE DISCUSSION TIME.

NOW, IN ORDER TO DELINEATE -- TO FIGURE OUT WHAT THE RECOMMENDATIONS COULD BE, WE ASKED THE FOLLOWING QUESTIONS AT A VERY HIGH LEVEL. WITHIN PORTFOLIO SCOPE AND DISEASE REPRESENTATION, WE ASKED OURSELVES WHICH DISEASES IN CALIFORNIA COULD BENEFIT MOST FROM IDENTIFICATION AND VALIDATION OF NOVEL TARGETS AND BIOMARKERS? AND WHAT DOES THE DISEASE BURDEN AND PREVALENCE DATA INDICATE ABOUT PRIORITY HEALTH OUTCOMES IN OUR STATE? WHICH OF THESE ARE

MORE AMENABLE TO DISCOVERY OF TARGETS/BIOMARKERS UTILIZING STEM CELL AND/OR GENETIC RESEARCH?

SO ALL OF THIS IS WHAT WE ARE TRYING TO DO TODAY IN A VERY SHORT MEETING IS PRESENT HOW THE DATA LED TO THE RECOMMENDATIONS THAT WE WILL PRESENT.

IN TERMS OF COLLABORATION, HOW CAN WE LEVERAGE AND INCENTIVIZE MULTIPLE STAKEHOLDER COLLABORATION TO ACCELERATE THE DISCOVERY AND VALIDATION OF NOVEL TARGETS AND BIOMARKERS?

AND INNOVATION AND TECHNOLOGY, WHAT NEW TECHNOLOGIES AND RESEARCH METHODS COULD ADVANCE THE DISCOVERY AND VALIDATION OF NOVEL TARGETS AND BIOMARKERS? NOW, THIS SLIDE IS VERY CONCISE. IT TOOK A LOT OF DAYS AND LONG DISCUSSIONS AT THE LEVEL OF THE LEADERSHIP TEAM AND DISCUSSING WITH THE SCIENCE TEAM LEADS AS WELL TO GET TO THESE SUCCINCT QUESTIONS. WE WANT TO STREAMLINE THIS APPROACH. SO THIS SEEMS SIMPLE, BUT WE HAD A LOT -- A LOT OF THOUGHT WENT INTO PUTTING TOGETHER THESE QUESTIONS.

THE NEXT GOAL IS ACCELERATE THE DEVELOPMENT AND UTILIZATION OF X TECHNOLOGIES THAT DEMONSTRATE IMPROVEMENT IN SAFETY, EFFICACY, AND QUALITY OF CELL AND GENE THERAPIES. AS WE ALL KNOW, IN ORDER TO ACHIEVE BROAD APPLICABILITY OF CELL AND

GENE THERAPIES FOR RARE AND PREVALENT DISEASES, THERE'S A NEED TO IMPLEMENT TECHNOLOGY PLATFORMS THAT CAN ENSURE THE SAFETY, EFFICACY, AND RELIABILITY OF MULTIPLE CELL AND GENE THERAPIES. AND THIS WAS THE FRAMING FOR THE DESIGN OF THE SECOND GOAL WITH A FOCUS ON BRIDGING THE GAP BETWEEN CUTTING-EDGE ACADEMIC RESEARCH IN CELL AND GENE THERAPIES AND INDUSTRY AND ITS COMMERCIALIZATION.

SO THE HIGH LEVEL QUESTIONS THAT WE AS A TEAM DEVELOPED WERE CURRENT DEVELOPMENT BOTTLENECKS. WHAT ARE THE CURRENT TRANSLATIONAL BOTTLENECKS FOR CELL AND GENE THERAPIES? WHAT IS THE INDUSTRY LANDSCAPE? WHAT IS INDUSTRY LACKING THAT WE COULD INVEST TO MAKE ACADEMIA AND INDUSTRY BY COLLABORATING ACCELERATE THAT? RIGHT.

INNOVATION AND TECHNOLOGY, WHAT INNOVATIVE TECHNOLOGIES AND RESEARCH METHODOLOGIES COULD BE UTILIZED OR DEVELOPED TO ADDRESS DEVELOPMENT/TRANSLATIONAL BOTTLENECKS?

INFRASTRUCTURE UTILIZATION, HOW WILL CLINICAL, MANUFACTURING, AND PATIENT SUPPORT INFRASTRUCTURES THAT WE ARE ALREADY IMPLEMENTING BE OPTIMIZED TO SUPPORT THESE OBJECTIVES? ALL OUR PROGRAMS ARE WORKING IN COGWHEEL. EVERYTHING IS INTERACTIVE. SO WE NEED TO FIGURE OUT HOW ARE WE

GOING TO LEVERAGE INTERNALLY.

AND THEN ALSO EXTERNALLY, FOSTERING COLLABORATION. HOW CAN CIRM FOSTER COLLABORATION BETWEEN ACADEMIC AND INDUSTRY STAKEHOLDERS TO ADVANCE DEVELOPMENT AND UTILIZATION OF THE NOVEL TECHNOLOGIES? NEXT SLIDE.

NOW, THIS SLIDE IS GOING OVER THE DATA SOURCES. OUR ANALYSIS AND RECOMMENDATIONS HAVE BEEN GUIDED BY A VERY ROBUST, COMPREHENSIVE DATASET. THE APPROACH HAS BEEN BOTH COMPREHENSIVE AND METICULOUS, ALSO TRYING NOT TO GO DOWN THE RABBIT HOLE BECAUSE THERE'S ALWAYS A LOT OF DATA. ANYWHERE YOU LOOK, YOU HAVE TO BE PRECISE. AND THAT'S WHY THE QUESTIONS WERE VERY IMPORTANT. AND WE ENSURED THAT EVERY STRATEGIC COLLABORATION WAS BACKED BY SOLID DATA AND REAL-WORLD INSIGHT.

SO THIS PAGE SHOWS THE MAIN RESOURCES OF DATA THAT WE HAVE CONSULTED INTERNALLY AND EXTERNALLY. SO WE CONSULTED DATA FROM THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH REPORTS, THE CDC, AND THE CANCER REGISTRY REPORTS. THESE DATA HERE INCLUDED SEVERAL YEARS LEADING UP TO 2023 AND EARLY 2024 AND COVERED BOTH PREPANDEMIC AND PANDEMIC PERIODS. THIS TIME FRAME ALLOWED FOR A COMPREHENSIVE ANALYSIS THAT ACCOUNTS FOR POTENTIAL

ABERRATIONS CAUSED BY UNUSUAL EVENTS SUCH AS COVID-19, FOR EXAMPLE. WE TRIED TO TAKE A SNAPSHOT WITH A MULTIYEAR APPROACH TO UNDERSTAND BROADER TRENDS IN HEALTH DATA IN CALIFORNIA, WHICH ALLOWS US TO ALIGN OUR STRATEGIES WITH THE CURRENT HEALTH LANDSCAPE OF CALIFORNIA.

THE SECOND TYPE OF DATA WAS OUR INTERNAL PORTFOLIO DATA ANALYSIS. BY EXAMINING OUR OWN HISTORICAL DATA, WE GAIN INSIGHTS INTO THE OUTCOMES AND EFFECTIVENESS OF PAST PROJECTS, WHICH IS INVALUABLE FOR FUTURE PROJECT SELECTION AND FUNDING DISTRIBUTION ALLOCATION AND FOCUS.

A VERY IMPORTANT PART OF OUR DATA WAS INDEPENDENT RESEARCH BY PROJECT LEADS AND SCIENCE OFFICERS. WE HAVE A VERY DEDICATED TEAM OF PROJECT LEADS AND SCIENCE OFFICERS THAT UNDERTOOK A DEEP DIVE INTO THE DIFFERENT ASPECTS OF OUR PORTFOLIO AND LANDSCAPE ANALYSIS CAPTURED THROUGH DATABASES AS WELL AS THROUGH PEER REVIEW PAPERS AND RESEARCH ARTICLES. SOME OF THE DATA THAT WE GATHERED IS NOT FOUND IN A REPORT OR A DATABASE. YOU HAVE TO GO THROUGH ARTICLES AND ALSO THROUGH YOUR EXPERTISE. SO THAT WAS ESSENTIALLY EXTRACTED BY THE SCIENCE TEAM AT CIRM.

THE FOCUS SIDE OF THE PORTFOLIO ANALYSIS

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WAS ALSO ON CELL AND GENE THERAPY AMENABILITY, BIOMARKER NEEDS, STEM CELL MODEL READINESS AND NEEDS, AS WELL AS TECHNOLOGY AND BOTTLENECKS, GAPS. BUT FOR TODAY'S DISCUSSION, THE FOCUS WILL NOT BE CELL AND GENE THERAPY AMENABILITY. I WANT TO MAKE SURE THAT IS CLEAR BECAUSE THIS IS COMING TO THE AUGUST MEETING. TODAY'S FOCUS IS, AGAIN, TO FIGURE OUT THE NEED FOR FURTHER DISCOVERY, BOTTLENECKS, AND TECHNOLOGIES THAT WILL HELP US ADVANCE RESEARCH FOR BOTH RARE AND PREVALENT DISEASES.

ANOTHER PART OF THE DATA THAT WE HAVE WAS IQVIA'S CALIFORNIA DISEASE LANDSCAPE ANALYSIS OF DISEASE STATES AFFECTING THE CALIFORNIA PATIENT POPULATION. SO WE KIND OF LIKE WENT THROUGH TWO APPROACHES TO THE CALIFORNIA PATIENT POPULATION, AND IQVIA WAS ONE OF THEM. UTILIZING ANONYMIZED PATIENT CLAIMS DATA FROM OVER 1.5 BILLION PATIENT INTERACTIONS OVER THE PAST YEAR MATCHED TO ICD-10 MEDICAL CODES. THE ANALYSIS THAT IQVIA PROVIDED BRINGS A DEEP UNDERSTANDING OF DISEASE PREVALENCE AND MANAGEMENT TRENDS ACROSS CALIFORNIA. THE INSIGHTS, WE ALSO GATHERED INSIGHTS FROM SUBJECT MATTER EXPERTS AND HARVESTING ECONOMICS DATA WHICH FURTHER REFINED OUR UNDERSTANDING OF WHERE STRATEGIC INVESTMENT CAN BE MOST IMPACTFUL. THEY ALSO

GATHERED NIH FUNDING AND INDUSTRY LANDSCAPE DATA.

ANOTHER SOURCE OF FUNDING WAS THE GLOBALDATA DATABASE THAT HAS PROVIDED US WITH A BROADER INDUSTRY PERSPECTIVE. AND THAT INFORMATION IS CRUCIAL TO ENSURE THAT OUR STRATEGY IS NOT ONLY RESPONSIVE TO CURRENT NEEDS, BUT ALSO ANTICIPATORY OF FUTURE SCIENTIFIC AND MARKET NEEDS AND SHIFTS. AND ULTIMATELY WE ALREADY HEARD AT THE LAST NEURO TASK FORCE/SCIENCE SUBCOMMITTEE THAT WE PRESENTED THE SURVEY OF 670 NEUROSCIENTISTS ACROSS THE U.S. MOSTLY THAT LED TO SOME PRELIMINARY RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE OVERALL GOALS AND RECOMMENDATIONS THAT WE ARE PRESENTING TODAY.

SO TOGETHER THESE DATA SOURCES CREATE A COMPREHENSIVE PICTURE THAT GUIDES THE STRATEGIC ALLOCATION FRAMEWORK. AND AN IMPORTANT POINT TO HIGHLIGHT IS THAT THE DATA THAT WE WILL BE SHOWING HERE IS A SNAPSHOT REPRESENTATIVE OF ALL THE DATA GATHERED THROUGH THESE DATA SOURCES WHICH COULD NOT BE POSSIBLE TO SHOW IN A 1.5 HOUR OR EVEN TWO-HOUR MEETING. SO NEXT SLIDE, SARA.

THIS SLIDE IS VERY IMPORTANT. THIS IS THE PEOPLE THAT HAVE BEEN BEHIND THIS PRESENTATION. AS I PRESENTED ON BEHALF OF CIRM AT THE BEGINNING BACK IN MARCH DURING THE INITIAL STRATEGIC ALLOCATION

FRAMEWORK PRESENTATION, WE PROVIDED AN OVERVIEW OF HOW THE LEADERSHIP TEAM AT CIRM HAD BEEN DEVELOPING THE GOALS, THE QUESTIONS, AND DATA NEEDED IN ORDER TO MAKE THE RECOMMENDATIONS. WE WERE STILL DRAFTING THINGS, BUT THERE WAS A PROCESS THAT WAS LED THROUGH THE LEADERSHIP TEAM. BUT THERE IS ANOTHER VERY, VERY ESSENTIAL GROUP OF PEOPLE WHO HAVE BEEN WORKING VERY HARD OVER THE PAST 2.5, 3 MONTHS GATHERING AND ANALYZING A LOT OF DATA. AND THOSE PEOPLE ARE SHOWN HERE.

OUR DEDICATED TEAM OF PROJECT LEADS AND SCIENCE OFFICERS UNDERTOOK A DEEP DIVE INTO THE DIFFERENT ASPECTS OF OUR PORTFOLIO AND LANDSCAPE ANALYSIS, WHICH IS CAPTURED THROUGH DATABASES. BUT, AS I WAS SAYING EARLIER ON, MUCH OF THE DATA AS WELL IS IN PEER REVIEW PAPERS AND RESEARCH ARTICLES, WHICH IS NOT FOUND IN REPORTS, AND NEEDS TO BE EXTRACTED THROUGH LITERATURE AND EXPERT KNOWLEDGE. SO I WANT TO THANK ALL OF THEM BECAUSE, WITHOUT THEM, THIS COULD NOT HAVE BEEN POSSIBLE.

AND NOW, I WOULD LIKE TO MAKE A POINT TO ACKNOWLEDGE THREE KEY PEOPLE. DR. SARA TAYLOR AND THOMAS TRINH WITHOUT WHOM THE COORDINATION OF TEAM MEMBERS ANALYSIS AND PUTTING TOGETHER THIS PRESENTATION COULD NOT HAVE BEEN POSSIBLE. AND ALSO

SPECIALLY DR. SHYAM PATEL, WHO, BESIDES BEING A MEMBER OF THE LEADERSHIP TEAM, LED AND COORDINATED THE GLOBALDATA AND IQVIA EXTERNAL ANALYSIS EFFORTS AND COORDINATED ALSO WITH SARA AND THOMAS. SO I WANT TO THANK THEM. ALL THESE CONTRIBUTIONS WERE ENGAGED IN CONJUNCTION WITH OUR REGULAR DUTIES, UNDERSCORING THE DEDICATION AND HARD WORK OF OUR TEAM. SO WE ARE PROFOUNDLY GRATEFUL FOR THEIR COMMITMENT AND EXCELLENCE.

SO NOW LET'S GO TO THE FIRST SLIDE THAT SHOWS THE DATA. THE NEXT FOUR SLIDES PRESENT A SUMMARIZED SNAPSHOT OF OUR COMPREHENSIVE DATA CRUCIAL FOR GUIDING THE STRATEGIC ALLOCATION FRAMEWORK. I WOULD LIKE TO EMPHASIZE THAT THE TABLES DISTILL KEY ELEMENTS FROM OUR BROADER DATASET THAT HAS BEEN EXTENSIVELY GATHERED TO INFORM OUR DECISION-MAKING PROCESS. WHILE THIS SUMMARY PROVIDES VALUABLE INSIGHTS INTO OUR STRATEGIC CONSIDERATIONS, PLEASE NOTE THAT IT REPRESENTS, AGAIN, A SNAPSHOT OF IN-DEPTH ANALYSIS THAT WE HAVE CONDUCTED.

AS I MENTIONED, IN ORDER TO ASSESS OUR STRATEGIC FOCUS, WE FIRST TURNED OUR ATTENTION TO THE MOST COMMON DISEASES AFFECTING CALIFORNIANS. OUR ANALYSIS REVEALED A CRITICAL GAP IN OUR

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PORTFOLIO, LACK OF BALANCED INVESTMENT IN CONDITIONS THAT ARE NOT ONLY WIDESPREAD, BUT ALSO CARRY SIGNIFICANT SOCIOECONOMIC AND DISEASE BURDENS FOR THE STATE'S POPULATION.

THIS HIGH LEVEL SUMMARY TABLE HIGHLIGHTS DISEASE-BASED PATIENT COUNTS INDICATING THE SCALE OF IMPACT FOR EACH CONDITION. THE SUMMARY IS NOT MEANT TO SHOW THE DISEASES THAT WE ARE PROPOSING. THIS IS IMPORTANT TO FUND, BUT AN IDEA OF WHAT THE DISEASES THAT ARE AFFECTING MOST CALIFORNIANS NEED IN ORDER TO ADVANCE AND ACCELERATE THE DEVELOPMENT OF THERAPIES. AGAIN, THIS IS NOT WHAT WE ARE TRYING TO FUND. IT'S JUST TO GIVE US AN IDEA OF HOW CAN WE INVEST IN EARLIER RESEARCH THAT WILL HAVE AN IMPACT FOR PREVALENT DISEASES IN CALIFORNIA, NOT ONLY EARLY RESEARCH, BUT, AS YOU WILL SEE, TECHNOLOGY PLATFORMS AS WELL. SO HOPEFULLY THIS IS CLEAR.

FOR INSTANCE, THERE ARE OVER 4.4 MILLION CALIFORNIANS LIVING WITH HYPERTENSION. IT IS MOSTLY A COMORBIDITY OF OTHER DISEASES. AND NEARLY 3 MILLION LIVING WITH TYPE 2 DIABETES. THESE NUMBERS ARE NOT JUST STATISTICS. THEY REPRESENT A SUBSTANTIAL PORTION OF OUR COMMUNITY WHOSE QUALITY OF LIFE COULD POTENTIALLY BE DRAMATICALLY IMPROVED THROUGH FOCUSED EFFORTS. HOWEVER, IN ORDER TO

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UNDERSTAND WHETHER CIRM'S EFFORTS SHOULD BE PRIORITIZED THERE, WE ALSO LOOKED AT OTHER FACTORS THAT COMBINED CAN HELP US EVALUATE THE IMPACT AND FEASIBILITY OF OUR PROPOSED RECOMMENDATIONS.

FOR EXAMPLE, WE LOOKED INTO STEM CELL MODELING AND WHETHER EFFECTIVE STEM CELL MODELS EXIST FOR EACH DISEASE, WHICH IS PIVOTAL FOR ADVANCING CIRM-FUNDED RESEARCH INTO DISEASE MECHANISMS IF THAT IS WHAT WE PROPOSE. SO FOR CONDITIONS LIKE TYPE 1 AND 2 DIABETES OR OSTEOARTHRITIS, LIVER FIBROSIS, ALZHEIMER'S DISEASE-RELATED DEMENTIAS, AND CARDIOVASCULAR DISEASE, WE HAVE STEM CELL MODELS THAT ARE VALIDATED AND COULD BE LEVERAGED FOR DISCOVERY OF DISEASE MECHANISMS, NOVEL TARGETS, BIOMARKERS, AND LEVERAGE OF THE CONSORTIA EXTERNAL DATA THROUGH COLLABORATIVE EFFORTS TO ACCELERATE RESEARCH IN A FOCUSED WAY. FOR OTHERS WE DIDN'T HAVE THAT.

ANOTHER ELEMENT THAT WE SUMMARIZED IN THE TABLE IS THE BIOMARKER NEEDS TO ENHANCE EARLY DETECTION AS WELL AS TREATMENT EFFECTIVENESS. THIS IS PARTICULARLY CRUCIAL FOR CONDITIONS LIKE ASTHMA, STROKE, ALZHEIMER'S DISEASE-RELATED DEMENTIAS, LIVER FIBROSIS, AND OTHERS WHERE HIGH BIOMARKER NEEDS ALIGN WITH OUR OBJECTIVES TO REFINE DIAGNOSTIC AND

THERAPEUTIC STRATEGIES.

THE ECONOMIC BURDEN OF THESE DISEASES WAS ALSO EVALUATED. AND THESE FIGURES NOT ONLY HIGHLIGHT THE FINANCIAL IMPACTS, BUT ALSO UNDERSCORE WHERE OUR RESEARCH INVESTMENTS CAN HELP REDUCE COST OVER TIME. NOW, THIS IS A GLOBAL ECONOMIC BURDEN. SO IN SOME CASES, LIKE HYPERTENSION, PER-PATIENT IS LESS THAN THE OVERALL -- IT MIGHT BE LARGER THAN ANOTHER LIKE MULTIPLE SCLEROSIS. SO THAT'S JUST SOMETHING TO CONSIDER.

FINALLY, WE CONSIDERED NIH 2023 SPENDING AND COMPETITIVE INDUSTRY LANDSCAPE, WHICH IS NOT SHOWN HERE BECAUSE IT WAS A LOT MORE COMPLEX TO ADD. THE NIH SPENDING SHOWN HERE IS FOR ALL THE MODALITIES AND ALL PIPELINE DEVELOPMENT AREAS FROM DISCOVERY TO CLINICAL AND INFRASTRUCTURE. THIS IS TO SAY THAT WE ARE PROBABLY NOT COMPARING APPLES TO APPLES, BUT IT GIVES US AN INDICATION OF ALIGNMENT AT A VERY HIGH LEVEL WITH SOME OF THE GAPS AND NEEDS THAT MIGHT BE THERE. NEXT SLIDE.

THIS IS THE SECOND SLIDE SUMMARY TABLE REPRESENTING THE MOST COMMON CANCERS AFFECTING CALIFORNIANS. THIS IS NOT TO DRAW ATTENTION TO CANCER. WE COULD NOT JUST DRAW ALL THE DATA INTO ONE SLIDE ALONE. AS A REFERENCE FOR SCALE, IF YOU

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GO TO THE PREVIOUS SLIDE, SARA, TYPE 1 DIABETES AFFECTED 290,000 PATIENTS LAST YEAR. SO NOW IF YOU GO BACK TO THIS ONE, WE HAVE THE DIFFERENT CANCERS THAT ARE AROUND THE LEVEL OF PATIENT COUNT LIKE TYPE 1 DIABETES. SO IF WE FOLLOW AT SCALE, IT COULD BE A SMALLER BAR.

THIS TABLE SHOWS THE CANCERS AFFECTING MOST CALIFORNIANS, SHOWING STEM CELL AMENABILITY. ALL OF THEM ARE AMENABLE. ALL OF THEM HAVE MODELS. AND BIOMARKER NEED AND SOCIOECONOMIC DISEASE BURDEN. NOT SHOWN HERE IS THE CIRM CANCER PORTFOLIO WHICH IS VERY LARGE. CIRM HAS INVESTED IN ABOUT 130 AWARDS AND MORE THAN HALF A BILLION DOLLARS IN CANCER RESEARCH WITH A BROAD RANGE OF SUBCATEGORIES. AND THE LARGEST INVESTMENT IS ALSO THE LOW HANGING FRUIT IN CELL AND GENE THERAPIES, WHICH IS LEUKEMIA/LYMPHOMA FOLLOWED BY BRAIN CANCER.

THE NIH, AS A REFERENCE, SPENT IN CANCER FOR THE DISEASE IS SHOWN HERE AS WELL, AND WE FOUND THAT SOME OF THE CANCERS, SUCH AS MELANOMA, ARE FUNDED AT THE LOWER LEVEL COMPARED WITH -- AND WE COULDN'T FIND THE NUMBERS, BUT IT WAS A SMALL NUMBER FOR MELANOMA.

NOW, JUST AS AN IDEA, NCI, THE NATIONAL CANCER INSTITUTE, HAD AN APPROPRIATION BY 2020 FOR

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BUDGET OF 7.2 BILLION IN BUDGET.

SO INTRODUCING THE NEXT SLIDE, WE ALSO EVALUATED WHERE THE INDUSTRY IS CONCENTRATING ITS INVESTMENTS, PARTICULARLY IN THE CONTEXT OF CELL AND GENE THERAPIES. ALTHOUGH THE DETAILED LANDSCAPE OF INDUSTRY INVESTMENTS IS COMPLEX AND NOT FEASIBLE TO BE DISPLAYED IN JUST ONE SLIDE, WE PERFORMED AN EXTENSIVE ANALYSIS THAT HAS ALLOWED US TO IDENTIFY KEY GAPS AND BOTTLENECKS WHERE CIRM CAN EFFECTIVELY INTERVENE TO FACILITATE THE ADVANCEMENT OF CELL AND GENE THERAPIES. AND BY UNDERSTANDING THESE AREAS, WE ENSURE OUR INVESTMENTS WILL NOT JUST BE FILLING CURRENT NEEDS, BUT ALSO STRATEGICALLY POSITIONED TO ADDRESS FUTURE CHALLENGES IN THE HEALTHCARE ECOSYSTEM.

SO THIS SLIDE PRESENTS A SUMMARY TABLE OF TECHNOLOGY GAPS IN THE FIELD OF REGENERATIVE MEDICINE FOR THE MOST COMMON DISEASES AFFECTING CALIFORNIANS. THAT, AGAIN, DOESN'T MEAN THAT WE WANT TO FOCUS ON THOSE DISEASES. WE ARE JUST TRYING TO EXTRACT WHAT ARE THE TECHNOLOGY GAPS AND BOTTLENECKS THAT THESE DISEASES PRESENT THAT WE CAN THEN FIGURE OUT A WAY TO HAVE A FOCUSED APPROACH IN TERMS OF IN THIS CASE TECHNOLOGICAL PLATFORMS. THE SELECTED CANCERS ARE ON THE BOTTOM. WE PULLED THEM

ALTOGETHER, AND THEY INCLUDE THE ONES THAT WE PREVIOUSLY SHOWED IN THE PAST SLIDE.

SO BY UNDERSTANDING THESE AREAS, WE ENSURE THAT OUR INVESTMENTS ARE JUST NOT FILLING CURRENT NEEDS, BUT WE WILL BE POSITIONED TO ADDRESS FUTURE CHALLENGES. EACH CRITERION IS MARKED WITH A CHECKMARK, AND IT MEANS THAT THERE IS A GAP IN THAT TECHNOLOGY FOR THAT DISEASE.

AND IN GREEN BACKGROUND, THE TWO COLUMNS ARE TECHNOLOGY GAPS THAT ARE COMMON TO MANY DISEASES AFFECTING CALIFORNIANS. THESE AREAS COULD BE SOME OF THE ONES THAT WE COULD PROPOSE AS SPECIFIC FOCUS, SOME LIKE DELIVERY/SPECIFICITY OF METHODS AND EFFECTIVENESS OF DELIVERY OF THE CELLS TO TARGET AREA OR SYSTEMS IN THE BODY OR SCALABLE MANUFACTURING. THE NEXT ONE, NEXT SLIDE.

IN THIS SLIDE WE IDENTIFY THE MAJOR KNOWLEDGE GAPS THAT CURRENTLY LIMIT OUR ABILITY TO EFFECTIVELY TREAT A RANGE OF DISEASES WITH REGENERATIVE MEDICINE TECHNIQUES. AND FOR EACH DISEASE LISTED, A CHECKMARK IDENTIFIES, AGAIN, SPECIFIC AREAS WHERE THE UNDERSTANDING IS INSUFFICIENT AND REPRESENTS A BOTTLENECK IN OUR ABILITY TO DEVELOP EFFECTIVE THERAPIES. SO IN GENERAL, WE CAN SEE THREE VERY COMMON KNOWLEDGE GAPS

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FOR ALL THESE DISEASES THAT ARE COMMON TO CALIFORNIANS.

DISEASE HETEROGENEITY IS ONE OF THEM, BASICALLY THE VARIABILITY WITHIN THE DISEASE CATEGORY THAT CAN AFFECT TREATMENT RESPONSE AND EFFICACY. SECOND ONE IS DISEASE MECHANISM. AND THE THIRD ONE IS IMMUNE RESPONSE.

SO AS A REMINDER, THIS WAS A SNAPSHOT OF A LOT OF DATA LEADING TO RECOMMENDATIONS THAT WILL BE INTRODUCED IN THE NEXT FEW SLIDES.

SO LET'S GO NOW INTO THE RECOMMENDATIONS. HOW ARE WE WITH TIME? IT'S 9:30. I SHOULD BE FINISHED IN THE NEXT 15 MINUTES. IF I CAN, I'LL GO VERY FAST.

SO WE'VE ALL SEEN THIS GOAL. LET'S GO TO THE NEXT SLIDE. BASED ON THE DATA WITH REGARDS TO THE FIRST GOAL, OUR FIRST RECOMMENDATION IS TO INCREASE RESEARCH TO UNCOVER CROSS-DISEASE MECHANISMS AND INTERACTIONS, AIMING FOR BREAKTHROUGHS IN IDENTIFYING NEW DISEASE MECHANISMS, TARGETS, AND BIOMARKERS, LEVERAGING DATA ACROSS DISEASES AND WITH OTHER CONSORTIA WHICH THIS COULD BE APPLICABLE TO BOTH PREVALENT AND RARE DISEASES.

THE OBJECTIVE HERE COULD BE TO ENHANCE RESEARCH TO EXPLORE CROSS-DISEASE MECHANISMS,

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SYSTEMS AND INTERACTIONS, AIMING FOR BREAKTHROUGHS IN NEW DISEASE MECHANISMS, TARGETS, AND BIOMARKERS. AND WE WOULD UTILIZE CROSS-DISEASE DATA AND COLLABORATE WITH VARIOUS -- CROSS-FUNDED RESEARCHERS IN CALIFORNIA BY CIRM AND OTHERS, ALSO WITH OTHER CONSORTIA AND PROJECTS TO MAXIMIZE OUR RESEARCH OUTCOMES. CLICK NEXT.

SO THE RECOMMENDATION IS TO SUPPORT COMPREHENSIVE DISCOVERY RESEARCH THROUGH STRUCTURED INITIATIVES SUCH AS THE ONE THAT WE DEVELOPED OVER THE PAST YEAR THAT WE HAVE PILOTED WITH THE REMIND PROGRAM, BUT THAT WE COULD EXTEND TO OUR DISCOVERY RESEARCH. AND THE APPROACH COULD BE TO ENCOURAGE COLLABORATIVE, MULTIDISCIPLINARY INNOVATION, LEVERAGING STEM CELL AND GENETIC RESEARCH ACROSS DIVERSE DISCIPLINES AND DISEASE INDICATIONS. NEXT SLIDE.

IN ORDER TO ACHIEVE THE CROSS-DISEASE DATA AND COLLABORATION -- YOU CAN CLICK THE NEXT. THANK YOU, SARA -- WE ARE PROPOSING A SECOND RECOMMENDATION THAT COULD MATERIALIZE IN THE FORM OF ESTABLISHING A DATA COORDINATING AND MANAGEMENT CENTER, A DCMC. THE OBJECTIVE HERE COULD BE TO STREAMLINE THE DATA MANAGEMENT TO ENHANCE EACH UTILITY ACROSS DISEASE DATA AND ALSO TO LEVERAGE

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OTHER DATA. AND THE APPROACH COULD BE TO FUND AND DEVELOP A CENTRAL HUB FOR DATA COORDINATION, FACILITATING BETTER INTEGRATION WITH CONSORTIA AND WITHIN CIRM-FUNDED RESEARCH.

THIS SECOND RECOMMENDATION HAS AN EMPHASIS ON VALIDATION AND REPRODUCIBILITY OF RESEARCH RESULTS, WHICH IS, WE THINK, INDEED A PIVOTAL NEED TO MOVE RESEARCH THAT WILL ULTIMATELY LEAD TO SUCCESSFUL THERAPIES. AND THIS WAS A RECOMMENDATION FROM OUR NEW CO-CHAIRS OF THE NEURO TASK FORCE, DR. PAT LEVITT AND DR. CAROLYN MELTZER, WHO WHEN WE WERE DISCUSSING SOME OF THIS, THEY BROUGHT THIS UP. AND WE WOULD LIKE TO THANK THEM. ALSO, WE WOULD LIKE TO WELCOME THEM AS NEW CO-CHAIRS.

NEXT SLIDE IS THE SECOND GOAL. AND WE CAN GO NOW INTO THE NEXT SLIDE, AND YOU CAN CLICK IT AS WELL SO THAT WE CAN JUST PRESENT. SO BROAD APPLICABILITY OF CELL AND GENE THERAPIES FOR RARE AND PREVALENT DISEASES WILL REQUIRE, AS WE ALREADY SAID, IMPLEMENTATION OF NEW TECHNOLOGIES AND TECHNOLOGY PLATFORMS THAT CAN ENSURE THE SAFETY, EFFICACY, AND RELIABILITY OF MULTIPLE CELL AND GENE THERAPIES.

CURRENTLY OUR CIRM PROGRAMS FOCUS THROUGH DIFFERENT PROGRAMS ON SUPPORTING TECHNOLOGIES IN THE

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CONTEXT OF SPECIFIC THERAPEUTIC AREA CANDIDATE PROJECTS OR ALSO OFFERS LIMITED FUNDING FOR EARLY STAGE DISCOVERY AND TOOL DEVELOPMENT. AND THIS CURRENT APPROACH HAS NOT EFFECTIVELY ENCOURAGED MULTIPLE STAKEHOLDER COLLABORATIONS BETWEEN ACADEMIA AND INDUSTRY OR OTHERS, WHICH WE THINK, FROM WHAT WE'VE SEEN, IS CRUCIAL FOR THE TRANSLATABILITY AND DEVELOPMENT AND SUCCESS OF THESE TECHNOLOGIES.

THE PROPOSED RECOMMENDATION HERE COULD AIM TO REFINE CIRM'S STRATEGIC APPROACH BY ADDRESSING SPECIFIC LIMITATIONS THAT WE HAVE IDENTIFIED. SO THE PROPOSAL WOULD BE TO INVEST IN MULTIDISCIPLINARY TECHNOLOGY PLATFORM-FOCUSED INITIATIVES WITH THE OBJECTIVE TO EXPEDITE THE DEVELOPMENT AND APPLICATION OF THESE TECHNOLOGIES THAT ENHANCE THE SAFETY, EFFICACY, OR QUALITY OF CELL AND GENE THERAPIES. AND THE APPROACH COULD BE TO ENCOURAGE MULTIDISCIPLINARY, MULTISTAKEHOLDER ACADEMIA/INDUSTRY COLLABORATIONS TO DEVELOP PLATFORM TECHNOLOGIES THAT BROADLY IMPACT PRECLINICAL AND DEVELOPMENT OF MULTIPLE THERAPIES FOR MULTIPLE DISEASES.

THIS COULD REQUIRE A PILOT INITIATIVE, AN INFRASTRUCTURE TECHNOLOGY PLATFORM PROGRAM THAT COULD BRIDGE THE GAP BETWEEN RESEARCH AND

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COMMERCIALIZATION BY FOSTERING PARTNERSHIPS BETWEEN THESE ACADEMIC RESEARCHERS AND INDUSTRY RESEARCHERS AND PROFESSIONALS. AND THE APPROACH COULD BE TO SUPPORT MULTIPLE STAKEHOLDER TECHNOLOGY INCUBATION PROGRAMS TO ACHIEVE, DEFINE TECHNOLOGY READINESS LEVELS, THEREBY FACILITATING RAPID APPLICATION IN CELL AND GENE THERAPY DEVELOPMENT.

THIS COULD BE A NEW PROGRAM. THIS IS NOT EVEN A CONCEPT YET. THIS IS THE IDEA. THE RECOMMENDATION FOR DISCUSSING AND PRESSURE TESTING, I JUST WANT TO MAKE THIS CLEAR BECAUSE WE HAVE SOME IDEAS, BUT IT'S NOT FULLY COOKED BY ANY MEANS. NEXT SLIDE.

THIS IS ONLY TO SHOW THE PROPOSED CHANGES FROM WHAT WE HAVE RIGHT NOW FOR GOAL 1 TO WHAT WE COULD BE PROPOSING AND THAT COULD MEAN. SO RIGHT NOW DOES NOT MEAN THAT WE'RE NOT DOING IT WELL, BUT WE CAN DO IT BETTER. RIGHT? SO WE DO A LOT OF FOUNDATIONAL RESEARCH THROUGH THE DISC-0. IT DOES NOT HAVE DISEASE MECHANISTIC FOCUS. IT'S FOCUSED ON SMALL COLLABORATIONS OF ONE OR TWO INVESTIGATORS. THERE'S NO MULTIDISCIPLINARITY. WE DO NOT LEVERAGE EXTERNAL OR EVEN RESOURCES AMONGST US. WE DON'T LEVERAGE DIFFERENT RESEARCHERS THAT WE ARE FUNDING.

SO THE PROPOSED PLAN OR INITIATIVE GOING

THROUGH DISC4, DISC5, SO EXTENDING THE WHOLE NEW PILOT CONCEPT, PROGRAM THAT WE HAVE STARTED TO INCLUDE NOW ALL DISEASE AREAS COULD ALLOW US TO DO THAT THROUGH LARGE COLLABORATIVE PROJECTS FOCUSED ON DISEASE MECHANISMS, LEVERAGING RESOURCES BETWEEN THE DIFFERENT DISEASES THAT CIRM FUNDS, AND ALSO FOCUSING NOW THAT IF WE HAVE POWER WITH THE DATA, WE CAN THEN TRY TO FIGURE OUT WHAT ARE PARTNERSHIPS AND EXTERNAL RESOURCES WE CAN WORK WITH.

AND DISC5 COULD BE MORE SMALL. NOT EVERYBODY HAS A LARGE COLLABORATIVE PROJECT. SOME PEOPLE NEED FUNDING FOR EXPLORATORY PROJECTS, MORE RISKY, BUT POTENTIALLY MORE REWARDING, FOCUSED ON DISEASE MECHANISMS.

NOW, TO DO ALL THAT, WE ALSO NEED DATA SHARING, BUT ALSO COORDINATION AND MANAGEMENT OF THAT DATA. AND THE DCMC IS NOT AN ISOLATED THING. IT'S BASICALLY THE NEXT STEP IN A DATA INFRASTRUCTURE PROGRAM THAT WE HAVE BEEN PUTTING TOGETHER SINCE WE STARTED THE SECOND PHASE OF CIRM, THE CIRM 3.0. SO WE STARTED WITH DATA SHARING AND MANAGEMENT PLANS. SO RIGHT NOW, SAME AS WITH NIH AND ALIGNED WITH NIH, WE HAVE REQUIREMENTS TO DETAIL DATA SHARING PLANS AND ALL THE METADATA. WE HAVE NOW, AS YOU VOTED THROUGH THE GOVERNANCE

SUBCOMMITTEE, A CONTRACT TO EXTEND WITH RANCHO BIOSCIENCES. THEY ARE DEVELOPING THIS DATA DASHBOARD. AND THE NEXT PHASE COULD BE HAVING A DATA COORDINATION AND MANAGEMENT CENTER WITH A KNOWLEDGE PLATFORM THAT COULD ENABLE AND ENCOURAGE DATA REUSE AND INTEGRATION WITH EXTERNAL RESOURCES.

THE NEXT SLIDE SHOWS HOW WE COULD TRANSITION FOR THE SECOND GOAL RECOMMENDATIONS FROM THE BROAD APPROACH THAT WE HAVE NOW WHERE CERTAIN TECHNOLOGY ASPECTS WERE ADDRESSED THROUGH DIFFERENT PROGRAMS, DISC2, TRAN1, 2, 3, 4, CLIN1 WITHOUT DISCONTINUING FOCUS. WE COULD GO NOW TO A MORE TARGETED STRATEGY. AND THIS NEW DIRECTION LEVERAGES MULTIDISCIPLINARY COLLABORATIONS AND INDUSTRY PARTNERSHIPS TO ENHANCE SPECIFICITY AND EFFECTIVENESS IN OUR PROJECTS, ACCELERATE THE DEVELOPMENT AND VALIDATION OF TECHNOLOGIES THAT WILL SPECIFICALLY ADVANCE SAFETY, EFFICACY, AND QUALITY OF CELL AND GENE THERAPIES. NEXT SLIDE.

NOW WE ARE GETTING -- I THINK WE WILL MAKE IT IN HALF OF THE MEETING. SO WE DID WELL.

DISCUSSION AND NEXT STEPS. THE TIMELINE THAT WE HAVE, THIS SLIDE SHOWS THAT TODAY WE WILL BE REVIEWING AND DISCUSSING THESE POTENTIAL RECOMMENDATIONS AND ANSWERING QUESTIONS. THE NEXT

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TIME THAT WE WOULD HEAR ABOUT THESE GOALS 1 AND 2 COULD BE AT THE AUGUST NEURO TASK FORCE/SCIENCE SUBCOMMITTEE JOINT MEETING WHERE WE WILL BE INTRODUCING GOALS 3 AND 4. THAT'S GOING TO BE A VERY LONG MEETING. IT NEEDS TO BE BECAUSE IT'S A VERY PACKED MEETING. BUT WE WILL ALSO BE PRESENTING ANY UPDATES ON WHAT WE HAVE DISCUSSED TODAY.

SO I DON'T WANT TO TAKE MORE TIME. WE WILL SEND THESE SLIDES. SO THE NEXT SLIDE IS JUST SHOWING THE TIMELINE AND WHERE THINGS ARE. ON AUGUST 7TH WE WILL HAVE A MEETING WITH THE ACCESSIBILITY AND AFFORDABILITY WORKING GROUP TO GO OVER GOAL NO. 5. AND THEN AT THE 16TH MEETING, WE WILL HAVE GOALS 3 AND 4 WHICH ARE THROUGH CELL AND GENE THERAPY FOCUSED GOALS. AND I THINK THAT'S IT FROM OUR END IN TERMS OF THE PRESENTATION. THANK YOU VERY MUCH FOR LISTENING AND APPRECIATE IT.

CHAIRMAN FISCHER-COLBRIE: GREAT. THANK YOU, ROSA, FOR AN EXCELLENT PRESENTATION. AND I WOULD LIKE TO CONSIDER AND DISCUSS HERE, BUT LET'S OPEN IT UP FOR QUESTIONS AND COMMENTS BY THE GROUP. I SEE PAT LEVITT.

DR. LEVITT: YEAH. SO, ROSA, I MEAN I'VE HEARD THIS BEFORE, AND IT'S BREATHTAKING EACH TIME I HEAR IT. THERE'S A TON OF WORK THAT WAS DONE BY THE

TEAM. CONGRATULATIONS ON PUTTING THIS SLIDE UP THAT LISTS ALL OF THE AMAZING TEAM MEMBERS THAT WORKED IN A REALLY INTEGRATED WAY TO GENERATE THIS. AND FOR THOSE OF US WHO DO DATA ANALYSES WOULD KNOW THAT THAT WAS AN INCREDIBLY HEAVY LIFT.

SO I HAVE TWO THINGS TO BRING UP. THE FIRST IS IN THE ACADEMIA/INDUSTRY PARTNERSHIPS, ONE OF THE THINGS THAT WE'VE TALKED ABOUT PREVIOUSLY -- MARK HAS A FONDNESS FOR WHEN I MENTION THIS -- ONE OF THE MAJOR BOTTLENECKS IS REPRODUCIBILITY FROM EXPERIMENT STUDIES THAT REPORT FROM ACADEMIA THAT THEN GET TRANSFERRED AND TRANSLATED TO INDUSTRY THAT CAN'T REPRODUCE THE DATA. THEY CAN'T REPRODUCE THE EXPERIMENTS. IT HAPPENS FAR MORE ON OFTEN THAN THEY CAN REPRODUCE, AND THAT'S A HUGE BOTTLENECK. IT'S BEEN WRITTEN ABOUT. I THINK, MARK, YOU'VE WRITTEN ABOUT IT. AND IT'S A HUGE BOTTLENECK.

SO I'M WONDERING WHETHER THE ACADEMIA/INDUSTRY PARTNERSHIPS, WHICH ARE NOT MENTIONED IN THE DISC4 AND DISC5, MIGHT BE CONSIDERED THERE AS A WAY OF GETTING INDUSTRY TO WORK WITH ACADEMIA ON BOARD FOR THESE VERY TARGETED, FOCUSED DISC GRANTS ON DISEASE MECHANISMS SO THAT WE SKIP THE STEP IN WHICH INDUSTRY THEN SPENDS TWO

YEARS TRYING TO REPRODUCE SOMETHING THAT THEY CAN'T REPRODUCE AND THEN THEY GIVE UP. UNDERSTANDABLY, THEY GIVE UP. SO THAT'S ONE COMMENT TO CONSIDER, THAT THOSE PARTNERSHIPS MAY BE REALLY IMPORTANT FOR ADDRESSING THIS REPRODUCIBILITY BOTTLENECK. AND OTHERS MAY FEEL THE SAME WAY.

THE OTHER IS THE EFFORT FOR NEW STREAMLINING DATA MANAGEMENT WHERE YOU HAVE THIS INTEGRATED BETWEEN THOSE WHO ARE CIRM-FUNDED AND THE EXTERNAL SOURCES. I ASSUME EARLY ON THERE'S GOING TO BE WRITTEN -- THERE WILL BE MOU'S TO MAKE SURE THAT WE GET THE EXTERNAL AGREEMENTS THAT THEY'RE GOING TO PARTICIPATE IN THIS.

BUT ONE THING I WAS THINKING ABOUT FOR THE FIRST TIME, BECAUSE I'VE HEARD THIS BEFORE AND HADN'T THOUGHT ABOUT IT, IS WHETHER WE WOULD CONSIDER DATA SCIENCE GRANTS THAT WOULD BE LINKED TO UTILIZING THAT PLATFORM WITH ENORMOUS AMOUNTS OF DATA RATHER THAN LEAVING IT TO THE SCIENTISTS TO THEN GO IN AND DO THE -- OR FIGURE OUT HOW THEY'RE GOING TO COLLABORATE WITH THE DATA SCIENTISTS. WHY NOT HAVE DATA SCIENCE-FOCUSED GRANTS THAT WOULD UTILIZE WHERE -- THE CHALLENGE WOULD BE TO UTILIZE THAT PLATFORM TO THEN REALLY ANALYZE THE DATA IN WAYS THAT WE ARE NOT DOING NOW TO REALLY TAKE

ADVANTAGE OF THAT.

AND SO THAT WOULD NOT MAKE A HUGE DENT IN THE PORTFOLIO, BUT WOULD BRING DATA SCIENTISTS INTO THE FOLD TO GREATER LEVERAGE ON WHAT WE'RE TRYING TO DO. I THINK IT'S A GREAT EFFORT TO INTEGRATE IN THIS WAY. YOU'VE BEEN TALKING ABOUT IT FOR -- WE'VE BEEN TALKING ABOUT IT FOR SEVERAL YEARS AT LEAST SINCE I'VE BEEN ON THE BOARD. SO MAYBE THINK ABOUT THAT AS ANOTHER POSSIBLE MECHANISM FOR FUNDING. I'LL STOP THERE.

DR. CANET-AVILES: FANTASTIC POINTS AS ALWAYS, PAT. CAROLYN, YOU HAVE YOUR HAND RAISED. DO YOU MIND IF I ANSWER THESE?

SO I THINK THE REPRODUCIBILITY BOTTLENECK, AND I COULD SEE MY COLLEAGUE SHYAM, HE WAS DOING LIKE THIS WITH HIS HEAD, ON THE INDUSTRY AND ACADEMIA. I ACTUALLY AND I'M IMAGINING YOU'RE ALSO AGREEING, SHYAM, I THINK THAT THIS IS A VERY GOOD IDEA THAT YOU ARE PROPOSING BECAUSE -- AND IT REMINDED ME OF THE AMP PARTNERSHIPS, THE ACCELERATED MEDICINE PARTNERSHIPS, AT THE NIH THAT WE WERE DEVELOPING IN DIFFERENT DISEASES. SO THAT IS SOMETHING -- AND IN OUR CASE WE COULD HAVE THE FREEDOM TO BRING IN INDUSTRY, ANYBODY THAT WANTS TO COME BECAUSE WE ARE OFFERING FUNDING. IT'S NOT LIKE

WE ARE GATHERING PEOPLE TOGETHER AND ASKING THEM FOR THE FUNDING.

SO I THINK THAT'S A GOOD IDEA, AND IT COULD BE A REQUIREMENT THAT WE COULD ADD IN THE PROGRAM ELIGIBILITY, THAT THERE HAS TO BE A -- MULTIDISCIPLINARY HAS TO COME ALSO, THE INDUSTRY PARTNER, THAT WILL PROVIDE -- FROM ONE SIDE WE WILL HAVE THE ACADEMIC, BUT THEN THE INDUSTRY PARTNER IS GOING TO COME WITH FOCUS ON REFINING AND HOW THIS COULD MOVE THE NEEDLE AND ALSO MAKING SURE THAT WE CAN MAKE IT REPRODUCIBLE. SO YEAH, DEFINITELY.

DR. LEVITT: AND THEY CAN BE INVOLVED IN STUDY DESIGN ISSUES THAT --

DR. CANET-AVILES: YEAH.

DR. LEVITT: -- THAT SEEM TO BE A MAJOR CHALLENGE.

DR. CANET-AVILES: YES.

DR. LEVITT: -- WHY REPRODUCIBILITY IS SO DIFFICULT. BECAUSE THE STUDY DESIGNS WORK WELL IN ACADEMIA, BUT NOT NECESSARILY WORK WHEN YOU TRY TO SCALE. SO THAT'S ONE THING, YEAH.

DR. CANET-AVILES: AND THE FEASIBILITY PROBABLY TO KNOW WHETHER THE RESULT WILL BE APPLICABLE IF THEY HAVE THIS DISEASE AREA IN THEIR FOCUS.

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IN TERMS OF EXTERNAL DATA, THE DATA SCIENCE GRANTS TO UTILIZE DATA, I THINK THAT'S -- THAT COULD BE PART OF WHAT -- I HADN'T THOUGHT ABOUT IT, BUT THIS IS SOMETHING THAT COULD COME, IF WE THINK IN A MODULAR WAY, WE FIRST HAVE THE DATA COORDINATING MANAGEMENT CENTER, AND THEN WE HAVE A SPECIFIC COLLABORATIVE SCIENCE GRANT. BUT FOR THAT THE BOTTLENECK IS THE DATA AND THE POWER OF THE DATA. IF WE LOOK AT, SAY, PARKINSON'S, WE DON'T HAVE ENOUGH DATA GENERATED AT CIRM. RIGHT? WE ARE GOING TO HAVE THE FIRST POWERED DATA HOPEFULLY WITH THE REMIND PROGRAM BECAUSE IN AUGUST WE'LL HAVE THE ARS, AND YOU WILL SEE THAT MOSTLY WE GOT TWO MAIN DISEASES. SO WE MIGHT BE ABLE TO GENERATE ENOUGH DATA THERE THAT WE CAN GO AND COLLABORATE AND HAVE THIS APPROACH.

SO I'LL TAKE THAT INTO THE NOTES OF WHEN WE PROPOSE IT, IF THE BOARD AGREES. WHEN WE PROPOSE IT, WE SHOW A PHASED APPROACH FOR THIS DATA COORDINATING MANAGEMENT CENTER WITH DATA SCIENCE GRANTS TO UTILIZE THE DATA.

AND IN TERMS OF EXTERNAL DATA, DEFINITELY WE WOULD NEED MOU'S WITH DIFFERENT PARTNERS. WE ARE ALREADY TALKING WITH DIFFERENT RELEVANT NIH INSTITUTES. AND WE WOULD HAVE TO TALK TO OTHERS AS

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WELL, NOT ONLY LIKE MICHAEL J. FOX OR ALZHEIMER'S DISEASE ASSOCIATION OR OTHERS, RIGHT, BECAUSE THERE'S ALSO THE ADDI, THE ALZHEIMER'S DISEASE DISCOVERY INITIATIVE, OR THE ALS. RIGHT? SO THERE IS DIFFERENT PLACES WHERE WE COULD GO, BUT WE WOULD HAVE TO FIGURE OUT WHAT DO WE HAVE IN TERMS OF POWER IN DATA AND WHAT ARE THE BOTTLENECKS, WHERE DO WE WANT TO GO. WE WILL HAVE TO CHOOSE. BUT THAT COULD BE PART OF THE PROPOSAL IN THE CONCEPT. SO THANK YOU. THAT'S REALLY HELPFUL, RELEVANT.

DR. MELTZER: ROSA, THANK YOU SO MUCH. JUST TO ECHO PAT'S COMMENTS, THE TEAM HAS DONE AN INCREDIBLE JOB WITH SYNTHESIZING DATA. I DO THINK IT'S WORTH SPENDING MORE TIME AT SOME POINT ON SLIDE 20 WHERE YOU LOOK AT THE DISEASE PATIENT IMPACT, BIOMARKER NEED, ECONOMIC BURDEN AS WE CONSIDER AND WHERE BIOMARKERS MAY BE AVAILABLE. ALSO MAYBE THINKING ABOUT FUTURE TRENDS OF DISEASE, AGING POPULATION, ALZHEIMER'S, HEALTH DISPARITIES, AND INCREASING CLIMATE CHANGE. THE THINGS LIKE ASTHMA BECOMING MORE PREVALENT. SO THERE'S PROBABLY SOME WAYS TO PROJECT INCREASING OR DECREASING IMPACT OF SOME OF THE DISEASES AND THEN ADDED WITH THE TECHNOLOGY GAPS.

I ALSO REALLY LOVE THE IDEA OF HAVING MORE

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MULTIDISCIPLINARY ACADEMIC/INDUSTRY PARTNERSHIPS. REPRODUCIBILITY IS A HUGE ISSUE, BUT ALSO THERE ARE MULTIPLE OTHER WAYS THAT INTEGRATED PARTNERSHIPS CAN STREAMLINE TRANSLATION, STUDY DESIGN, POWER, POPULATION, HOW THINGS ARE PLANNED FROM THE BEGINNING, AND THE ACADEMIC EXPERIMENTS THAT ARE AT THAT PHASE. SO SO MUCH GREAT WORK TO DO. THANK YOU.

DR. CANET-AVILES: THANK YOU. THOSE ARE FANTASTIC COMMENTS. THANK YOU, CAROLYN.

SHLOMO. YOU'RE MUTED.

DR. MELMED: THANK YOU. AND ONCE AGAIN, KUDOS TO YOU AND THE TEAM. SUPER, SUPER PRESENTATION. REALLY CONGRATULATIONS. WE CAN ALL BE PROUD OF YOUR WORK.

I WANT TO COME BACK TO A COMMENT WHICH PAT MADE, I THINK, LAST WEEK OR TWO WEEKS AGO IN A MEETING. AND THAT IS I THINK WE HAVE TO BE SUFFICIENTLY FLEXIBLE IN OUR THINKING AS TO WHAT MAY HAPPEN WITH NIH. AND IF THE CURRENT NIH PROPOSAL DOES GO THROUGH AS PROPOSED, WE'RE GOING TO FACE A TECTONIC CHANGE IN OUR ACADEMIC MEDICINE AND RESEARCHERS SUPPORTED. AND I WOULD WONDER IF THERE SHOULD BE SOME ROOM OR AT LEAST A STATEMENT IN OUR STRATEGIC VISION THAT WE HAVE THE SUFFICIENT

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FLEXIBILITY TO RESPOND IN CALIFORNIA TO WHAT MAY HAPPEN NATIONALLY. BECAUSE AS PAT CORRECTLY POINTED OUT, THE CHANGES THAT ARE BEING PROPOSED AT NIH ARE GOING TO HAVE A MAJOR, MAJOR DETRIMENTAL IMPACT ON ALL MEDICAL RESEARCH AS WE KNOW IT. AND OUR PLAN AS YOU PRESENTED MAY BE DEFUNCT. AND WE MAY HAVE TO START FROM SCRATCH AGAIN, CREATING OUR OWN MODELS TO FILL THAT VACUUM. IT MAY NOT HAPPEN. THIS IS ALL FUTURISTIC, BUT THE PLANS ON THE TABLE ARE PRETTY SCARY. AND I WOULD ASK US AT LEAST TO HAVE SOME FLEXIBILITY IN OUR LANGUAGE THAT WE DO HAVE THE ABILITY TO PIVOT IF, IN FACT, OUR SOCIETY IN CALIFORNIA DEMANDS IT OF US BECAUSE WE'LL BE THE ONLY ONES HERE TO CARRY THAT BURDEN.

PAT, I'D REALLY LIKE TO HEAR YOU EXTEND YOUR THOUGHTS WHICH YOU PRESENTED OR AT LEAST RAISED A COUPLE OF WEEKS AGO.

DR. LEVITT: I DON'T KNOW WHAT TO ADD TO THAT EXCEPT THAT IT'S GOOD THAT YOU REMEMBER WHAT I SAID TWO WEEKS AGO BECAUSE I CAN'T.

I MEAN WE HAVE SEVERAL CHALLENGES. ONE IS HAVING RAPID FLEXIBILITY FOR AN ORGANIZATION LIKE THIS IS ALWAYS A CHALLENGE, BUT IT HAS TO BE DONE WITHIN A CONSTRAINED FRAMEWORK, RIGHT, OR THE CHARGE THROUGH THE PROPOSITION IS TO FOCUS ON SPECIFIC

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KINDS OF BIOMEDICAL RESEARCH. AND SO I THINK WE CAN ADAPT TO WHATEVER DISASTERS ARE COMING OUR WAY IF THAT IS PASSED.

I'VE HEARD FROM OUR, AND I'M SURE YOU HAVE AS WELL, ALL OF US WHO HAVE RELATIONS WITH OUR LEGISLATIVE FOLKS THAT THEY BELIEVE IT'S A NONSTARTER BASED ON THE CURRENT CENSUS OF CONGRESS. BUT THERE ARE THINGS IN THERE THAT ARE SUBTLY MENTIONED, A FEW SENTENCES HERE OR THERE THAT ARE REALLY DRACONIAN, A MAJOR PROBLEM. SO I WOULD SAY WE CAN -- WE CAN HAVE LANGUAGE THAT WOULD ALLOW US TO PIVOT RELATIVELY RAPIDLY AS AN ORGANIZATION, KEEPING IN MIND THAT WE ARE ONLY GOING TO BE ABLE TO DO THAT IN THE CONTEXT OF STEM CELL REGENERATIVE MEDICINE AND GENETIC AND GENE THERAPIES.

BUT THE POINT YOU MADE, SHLOMO, IS REALLY IMPORTANT BECAUSE PART OF WHAT WE SHOULD BE PROPOSING IS MOST ALL OF OUR GRANTEES ARE ACADEMIC. RIGHT. AND SO HOW ARE WE GOING TO FILL WHATEVER GAPS MAY OCCUR? THAT'S PROBABLY FOR ANOTHER CONVERSATION IF IT HAPPENS. BUT FLEXIBLE LANGUAGE WOULD BE GOOD, AND I THINK THAT COULD BE DONE EVEN WITHIN THE CONTEXT OF THE VERY SPECIFIC MODELS THAT THE TEAM HAS PUT FORTH.

I DON'T THINK ANY OF US HAVE A CRYSTAL

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BALL OF WHAT'S GOING TO HAPPEN. AND WE'LL KNOW AFTER NOVEMBER 4. THAT'S FOR SURE. THAT'S ALL I HAVE. I DON'T KNOW WHAT ELSE TO SAY EXCEPT THAT IT'S NOT A HAPPY TIME IN ACADEMIA AFTER YOU READ THAT.

DR. CANET-AVILES: YEAH. AND I THINK WE WOULD, AS ALWAYS, BE VERY FLEXIBLE WITH THE LANGUAGE THAT WE HAVE. RIGHT NOW WE ARE PROPOSING AN APPROACH, AND THEN WE CAN PUT THE SPECIFICS WHEN WE RELEASE THE DIFFERENT PROGRAM ANNOUNCEMENTS, AND THERE WILL BE ENOUGH FLEXIBILITY. BUT THAT'S A GREAT POINT. THANK YOU BOTH.

I THINK IT'S -- I'M NOT THE CHAIR OF THE -- I'M SORRY, MARK. I FORGOT. AFTER I PRESENT, I GET ALL RILED UP ON A ROLL. AND IT'S YOUR MEETING.

CHAIRMAN FISCHER-COLBRIE: NO, NO. ROSA, I THINK YOU'RE DOING A GREAT JOB ON THE FACILITATION. SO LET'S CONTINUE WITH YOU FIELDING THE QUESTIONS BECAUSE I THINK THAT'S MOST APPROPRIATE. AND I'M NOT SURE WHO WAS NEXT UP. MAYBE FRED OR KEITH. I'M NOT SURE.

DR. FISHER: I'M HAPPY TO DEFER TO KEITH.

DR. YAMAMOTO: NO. FRED, YOU'RE UP. GO AHEAD.

CHAIRMAN FISCHER-COLBRIE: GO AHEAD. AND, ROSA, YOU GO AHEAD AND FLAG WHO'S UP NEXT AND WHO TO CALL ON BECAUSE YOU'RE DOING A GREAT JOB. SO THANK YOU.

DR. FISHER: SO APOLOGIES FOR MY CAMERA. MY COMPUTER HAS DECIDED TO TELL ME TO LOOK FOR CAMERA THAT DOESN'T EXIST.

IT'S BEEN A QUESTION REALLY JUST TRYING TO UNDERSTAND WHEN WE TALK ABOUT INDUSTRY PARTNERSHIPS, WHAT EXACTLY DO WE MEAN BY INDUSTRY? NOTWITHSTANDING PAT'S RECENT COMMENT, IT OCCURS TO ME THAT A SIGNIFICANT PORTION OF THE GRANTS THAT WE FUND ARE WITH SMALL BIOTECHS. WHEN I THINK OF INDUSTRY, I THINK ABOUT MID TO LARGE CAP BIOTECHS AND PHARMA. SO WHEN WE TALK ABOUT INDUSTRY, ARE WE INCLUDING THE ONE- OR TWO-PERSON SHOPS IN A FOR-PROFIT START-UP AS INDUSTRY? WHERE IS THE CUTOFF, IF ANY, IN TERMS OF HOW YOU DEFINE INDUSTRY?

DR. CANET-AVILES: THAT'S A VERY GOOD, APPROPRIATE QUESTION BECAUSE LIKE IF WE THINK ABOUT -- SO TWO THINGS. ONE IS THE INDUSTRY FOR GOAL 1 AND THE OTHER IS THE INDUSTRY FOR GOAL 2. I THINK THAT THOSE COULD BE TWO DIFFERENT.

SO WHEN WE TALK ABOUT GOAL 2, THE ROLE OF THE INDUSTRY PARTICIPATION COULD BE MORE ON

REFINING, SCALING, AND COMMERCIALIZING THOSE TECHNOLOGIES, DEVELOPING THE ACADEMIC SETTINGS. AND THEY COULD PROVIDE EXPERTISE IN CLINICAL APPLICATION, REGULATORY COMPLIANCE, MARKET READINESS. SO FOR THAT IT'S NOT A SMALL SHOP. THAT WOULD BE MY -- AND AS I SAID, WE'RE STILL DEFINING ALL OF THIS. OH, SHYAM, DO YOU WANT TO ANSWER THE QUESTION? HE HAS THE HAND. GO AHEAD.

DR. PATEL: THANK YOU, ROSA. THAT IS A VERY GOOD QUESTION, AND I THINK WE TEND TO LUMP A LOT OF DIFFERENT TYPES OF INDUSTRY PLAYERS INTO THIS CONVERSATION. SO I THINK, AS ROSA HAS APPROPRIATELY INDICATED, IT WOULD BE DIFFERENT DEPENDING ON THE TWO GOALS THAT ARE ESTABLISHED HERE.

SO IF YOU DON'T MIND, I'LL JUST WALK THROUGH A COUPLE OF QUICK EXAMPLES. SO FOR GOAL 1, WHEN WE'RE TALKING ABOUT BIOMARKERS AND TARGETS, THE KEY THING IS GOING TO BE TO ENGAGE THE BIGGER BIOTECH AND PHARMA COMPANIES THAT YOU'RE MENTIONING, THE MID CAPS AND THE LARGE CAPS. AND AS ROSA APPROPRIATELY POINTED OUT, IT'S GOING TO BE GETTING AWAY FROM A CAPITAL COMMITMENT TO BEING MORE OF A RESOURCE AS WELL AS ADVISORY COMMITMENT TO GET TO THE AREAS THAT PAT AND OTHERS HAVE POINTED OUT WITH RESPECT TO REPRODUCIBILITY, STUDY DESIGN,

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SCALABILITY, EVEN HAVING ACCESS TO HIGH THROUGHPUT SCREENING MECHANISMS MIGHT BE USEFUL THAT SOME OF THE PLAYERS CAN PROVIDE. SO IT'S TO THAT LEVEL.

AND ROSA OBVIOUSLY HAS A LOT OF EXPERIENCE IN THAT FROM NIH AMP -- FNIH AMP ACTIVITIES. AND AS YOU ALL KNOW, THERE ARE A LOT OF PARTNERSHIPS THAT PHARMA WILL ENGAGE WITH ON AN INDIVIDUAL LEVEL WITH EARTH PI'S DIRECTLY OR WITH ACADEMIC INSTITUTIONS TO A BROADER LEVEL WHERE THEY GET A VIEW INTO DATA OR IP AND SO ON. SO FOR US IT'S GOING TO BE INCENTIVIZING THOSE LARGER COMPANIES TO ENGAGE WITH US ON THESE AREAS WHERE THERE MAY BE A WIN-WIN FOR ALL SIDES.

FOR THE TECHNOLOGY PLATFORM SIDE, THERE ARE DIFFERENT TYPES OF PLAYERS THAT COULD BE RELEVANT HERE. YOU COULD HAVE A SMALL TECHNOLOGY INNOVATOR THAT IS DEVELOPING A NEW TECHNOLOGY, BUT WOULD REALLY BENEFIT FROM ACADEMIC COLLABORATIONS TO HELP REFINE THAT TECHNOLOGY AND MAKE IT MORE APPLICABLE FOR THEIR DEVELOPMENT. A LOT OF THE TIMES THESE TYPES OF COMPANIES FOCUS ON SHARING WITH LARGER BIOPHARMA PARTNERS. AND THEY DON'T RECOGNIZE THAT A LOT OF ACADEMIC INVESTIGATORS ARE ACTUALLY DRIVING QUITE A FEW THERAPIES IN THE CELL AND GENE THERAPY SPACE IN THE CLINIC. THAT'S A CONSISTENT

THEME THAT I AND MY TEAM AS WELL AS CIRM AS A WHOLE HAS BEEN PROPAGATING ACROSS ALL OF OUR INDUSTRY OUTREACHES, THAT THERE'S A LOT OF CLINICAL DEVELOPMENT HAPPENING IN THE ACADEMIC SPACE. AND THAT'S WHERE YOU CAN PARTNER WITH THEM.

AS ROSA APPROPRIATELY MENTIONED, FOR THE LARGER, THE MID CAP AND LARGE CAP BIOPHARMA COMPANIES, ON THE TECHNOLOGY DEVELOPMENT, IT'S REALLY IDENTIFYING THE NEEDS. WHAT ARE THE NEEDS? WHAT RESOURCES CAN THEY SHARE? AND THEN HOW CAN THEY TAKE WHAT IS BEING DEVELOPED AND UTILIZE IT FOR THERAPEUTIC DEVELOPMENT? SO I THINK IT DEPENDS, BUT WE DO NEED TO HAVE FLEXIBILITY AND COMPARTMENTALIZED DIFFERENT TYPES OF INDUSTRY PLAYERS AND BRING THEM TO THE FOLD IF WE'RE GOING TO DO THIS APPROPRIATELY AND EFFECTIVELY GOING FORWARD.

DR. FISHER: THANK YOU FOR THAT. MY HOPE -- I THINK A LOT OF INNOVATION COMES FROM SMALL BIOTECHS THAT HAVE A THERAPEUTIC IDEA THAT NEEDS TO BE PURSUED. AND I HOPE WE FIND A WAY TO CONTINUE TO INCLUDE THOSE FOLKS IN OUR DISCOVERY AND POTENTIALLY CLIN PROJECTS.

DR. CANET-AVILES: ABSOLUTELY. YEAH. THANK YOU, SHYAM. THAT WAS EXCELLENT. APPRECIATE IT.

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YES. THE ANSWER TO YOU, FRED, IS YES. AND WE STILL HAVE NOT GONE THROUGH GOALS 3 AND 4. AND I THINK GOAL 4 WILL BE TALKING MORE ABOUT WHAT YOU ARE REFERRING. SO WE WILL DISCUSS IT IN AUGUST, BUT THANK YOU.

KEITH.

DR. YAMAMOTO: TERRIFIC. ROSA, I'LL JUST UNDERSCORE WHAT OTHERS HAVE SAID. AND THANK YOU FOR A FANTASTIC PRESENTATION BACKED BY AN ENORMOUS AND COMPREHENSIVE BODY OF WORK BY YOUR TEAM. SO CONGRATULATIONS TO YOU ALL AND THANKS TO YOU ALL. FANTASTIC.

THREE QUICK POINTS OR QUESTIONS, I GUESS. YOU PRESENTED A VERY COMPREHENSIVE SUMMARY OF CRITERIA TO EXAMINE IN EVENTUALLY MAKING A CHOICE OF WHERE TO PUT FOCUS, WHETHER THERE ARE GOOD EXISTING STEM CELL MODELS, WHETHER THERE'S A HIGH NEED FOR BIOMARKERS, THE NIH SPEND, THE ECONOMIC BARRIER IN CALIFORNIA -- ECONOMIC BURDEN IN CALIFORNIA, AND SO FORTH. A LOT OF CRITERIA.

I THINK I KNOW THE ANSWER TO THIS, BUT I'LL JUST ASK IT SO YOU CAN COMMENT. AND THAT IS HOW ARE YOU GOING TO MAKE A DECISION FOR ANY GIVEN DISEASE? THE OVERLAP OF CRITERIA ARE NOT SIMPLE, AND DOESN'T SIMPLY LINE UP THAT ONE DISEASE JUMPS

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OUT BECAUSE THERE'S A GREAT NEED IN EACH OF THE CRITERIA AREAS. AND SO YOU ARE GOING TO HAVE HARD DECISIONS TO MAKE.

HAVE YOU THOUGHT ABOUT HOW THAT WILL BE DONE, CERTAINLY NOT FORMULAICALLY, BUT HAVE YOU THOUGHT ABOUT HOW YOU WILL BE MAKING THOSE CHOICES? SO THAT'S THE FIRST QUESTION.

AND THEN A COMMENT THAT EXPANDS ON OR MAYBE UNDERSCORES WHAT PAT HAS BEEN TALKING ABOUT. YOU REALLY MADE THE POINT STRONGLY AT THE BEGINNING THAT IT WOULD BE USEFUL TO THINK ABOUT ESTABLISHMENT OF A DATA COORDINATING AND MANAGEMENT CENTER AS A COMPUTATIONAL PROBLEM AND A DATA SCIENCE PROBLEM. IT'S A SUBSTANTIAL ONE BECAUSE, IN FACT, YOU'RE NOT JUST TRYING TO PUT EVERYTHING ONTO -- ALL THIS INFORMATION ONTO A GRID. YOU'RE TRYING TO UNDERSTAND THE INTERACTIONS AND RELATIONSHIPS BETWEEN DIFFERENT DATA TYPES. AND THAT IS A SUBSTANTIAL CHALLENGE. AND I THINK PAT'S IDEA THAT HE VOICED OF REALLY HAVING A SECTOR OF OFFERINGS FOR FUNDING FOR REALLY DATA SCIENCE VERY MUCH IN THE CONTEXT OF BUILDING A KNOWLEDGE NETWORK, SOMETHING THAT WE'VE TALKED ABOUT IN THIS ORGANIZATION BEFORE WHEN WE INTERACTED WITH THE PRECISION MEDICINE INITIATIVE WHICH HAD THIS NOTION OF BUILDING A

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KNOWLEDGE NETWORK AT ITS CORE.

SO INTERACTING WITH GROUPS THAT ARE ALONG THE WAY ON THAT. UCSF HAS MADE A LOT OF PROGRESS IN THIS REALM, BUT WE'RE CERTAINLY NOT THE ONLY ONES, COULD BE USEFUL. AND THEN MORE BROADLY, OPENING UP THE POTENTIAL FOR FUNDING FOR DATA SCIENTISTS WHO ARE ALREADY THINKING ABOUT THESE CHALLENGES, I THINK, COULD BE VERY PRODUCTIVE. AND I THINK THAT THAT'S PERFECT.

AND THEN FINALLY, JUST TO COMMENT ON WHERE WE ARE AT THE NATIONAL LEVEL, I'M ACTUALLY REACHING YOU ALL FROM DC. I'M IN TOWN TO -- IN FACT, I JUST HAD A LONG MEETING WITH BILL CASSIDY, WHO YOU KNOW IS THE RANKING MEMBER ON THE SENATE HEALTH COMMITTEE WHICH OVERSEES THE SENATE SIDE, AUTHORIZATION COMMITTEE FOR THE NIH. AND BILL HAS BEEN THINKING FOR A YEAR AND A HALF. I'VE BEEN TALKING A LOT WITH HIM ABOUT A COMPREHENSIVE REAUTHORIZATION OF THE NIH THAT HASN'T BEEN DONE SINCE 2006 WHEN JOE BARTON ON THE HOUSE SIDE LAUNCHED A VERY EFFECTIVE AND HELPFUL REAUTHORIZATION. I THINK THAT CASSIDY IS THINKING SIMILARLY IN THIS WAY.

HE HAS RELEASED A DOCUMENT ACTUALLY BEFORE THE CATHY MCMORRIS-RODGERS DOCUMENT SUMMARIZING THE INPUTS THAT HE RECEIVED FROM HIS RPE ON NIH REFORM.

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AND I THINK THAT'S MOVING FORWARD WELL. SO I'M HOPING THAT THE KIND OF STRATEGIES AND THOUGHTS THAT HE HAS HAD IN LOOKING AT NIH REFORM CAN CARRY THE DAY AT THE END OF THE DAY.

THE MCMORRIS-RODGERS DOCUMENT IS INCREDIBLY DESTRUCTIVE. IT IS REALLY WRITTEN FROM THE STANDPOINT THAT REFLECTS MCMORRIS-RODGERS' ANGER AT NIH EVER SINCE WUHAN. HER VIEW IS THAT THE SARS COV2 VIRUS WAS A LAB ESCAPEE FROM WUHAN. AND THEN MOST DAMAGINGLY WAS PARTIALLY FUNDED BY THE ECO-HEALTH ALLIANCE SUBCONTRACT THAT WAS LET TO WUHAN VIROLOGY.

I THINK THERE'S ESSENTIALLY NO DATA THAT ARE CONSISTENT WITH THOSE NOTIONS, BUT IT'S A PREVALENT VIEW ON THE HOUSE ENERGY AND COMMERCE COMMITTEE LEADERSHIP. AND IT LED TO THE REALLY DESTRUCTIVE DOCUMENT THAT SHE'S PUT FORTH. I DON'T THINK THAT WILL GO FORWARD. I AGREE WITH PAT. THE WORD ON THE STREET IS THAT IT WON'T, AND I'M HOPING THAT IT WILL BE MODERATED, TO PUT IT MILDLY, BY THE KINDS OF THINGS THAT CASSIDY IS THINKING ABOUT.

SO I THINK WE NEED TO JUST STAY ALERT. BUT THE BOTTOM LINE IS THAT -- THE BOTTOM LINE FOR CIRM IS THAT WE NEED TO BE ALWAYS THINKING ABOUT WHERE CIRM CAN MAKE UNIQUE ATTRIBUTIONS IN THE AREA

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OF RESEARCH OF ITS CHOOSING. AND A PART OF THAT DECISION HAS GOT TO LOOK AT WHAT THE POSSIBLE OVERLAPS ARE FOR THE NIH. IF THAT IS SOMETHING THAT'S GOING TO BE CHANGING SOON, WELL, WE'LL JUST HAVE TO BE ALERT TO IT. I ACTUALLY DON'T THINK THAT WE'LL KNOW THE ANSWER TO THAT ON NOVEMBER 4TH. I DON'T THINK THE MCMORRIS-RODGERS STRATEGY IS ACTUALLY GOING TO MOVE FORWARD IN THIS CONGRESS. AND SO IT'S GOING TO BE AFTER THAT THAT THE TWO HOUSES OF CONGRESS GET DOWN TO BUSINESS OF WRITING OF AUTHORIZING LANGUAGE FOR THE NIH THAT WE'LL BEGIN TO SEE HOW THIS IS ALL GOING TO BREAK OUT.

SO SIMPLY STAYING ALERT AND ON TOP OF THE SITUATION. AND I AND OTHERS ARE IN TOWN WORKING ON THIS VERY PROBLEM. SO I'LL CERTAINLY KEEP ALL OF YOU ADVISED AS EXPEDITIOUSLY AS POSSIBLE.

DR. LEVITT: IF I CAN FOLLOW UP BRIEFLY, TAKE THE CO-CHAIR PREROGATIVE. AS KEITH WAS TALKING ABOUT THE DATA SCIENCE THING, I WAS THINKING WE HAVE IN THE REMIND PROGRAMS, WE HAVE A REQUIREMENT FOR -- I THINK WE HAVE A REQUIREMENT FOR DATA SCIENCE OR INFORMATICS AS PART OF THE BIOMEDICAL RESEARCH TEAM. IF YOU JUST FLIP THAT -- YOU HAVE A TEAM OF DATA SCIENTISTS AND THEN YOU HAVE A REQUIREMENT FOR A BIOMEDICAL RESEARCHER TO BE PART

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OF THAT TEAM THAT BASICALLY DOES THE SAME THING, MEANING THAT THERE WILL BE INPUT FROM THE VERY BEGINNING FROM SOMEBODY WHO UNDERSTANDS THE BIOLOGICAL CONSTRUCT, THE DISEASE CONSTRUCTS, WHICH CAN REALLY BE IMPORTANT SO THEY'RE NOT OUT THERE ON THEIR OWN AS DATA SCIENTISTS. SOME ARE GREAT AND UNDERSTAND IT; OTHERS REALLY HAVE CHALLENGES. SO THEY DO A TON OF ANALYSES, AND THEN YOU END UP SCRATCHING YOUR HEAD BECAUSE THEY KIND OF MISSED THE BOAT ABOUT THE --

DR. YAMAMOTO: THAT'S RIGHT.

DR. LEVITT: -- ABOUT THE BIOLOGY. SO IF YOU HAVE THAT JUST REVERSE REQUIREMENT, IT WOULD REALLY -- IT WOULD BE VERY EXCITING BECAUSE I DON'T KNOW OF OTHER INITIATIVES THAT DO THAT. IT WOULD BE VERY, VERY COOL.

AND THE OTHER THING I JUST WANTED TO MENTION IS I KNOW YOU'RE GOING TO DO THIS WITH THE RFA'S, BUT DEFINING WHAT WE MEAN BY, LIKE, THE ACTUAL -- LIKE THERE'S SO MANY WAYS TO DEFINE PARTNERSHIPS AND RELATIONSHIPS. DEFINING THOSE REALLY SPECIFICALLY, AS SHYAM WAS SPEAKING, IT JUST SORT OF TRIGGERED IN MY BRAIN, OKAY, SO WHAT ARE GOING TO BE -- IN TALKING TO THE POTENTIAL INDUSTRY PARTNERS, WHAT DO THEY FEEL IS GOING TO BE THE MOST

PRODUCTIVE WAY OF DEFINING A PARTNERSHIP, NOT JUST US DEFINING IT AND TELLING THEM HERE'S THE WAY YOU HAVE TO PARTNER WITH THE ACADEMICS, BUT GETTING INPUT FROM THEM EARLY ON BEFORE THE RFA EVEN COMES OUT AND SAYING HERE'S THE DEFINITION OF WHAT WE MEAN BY A PARTNERSHIP. AND I THINK THAT WOULD REALLY ALSO SAVE A LOT OF TIME. ANYWAY, YEAH.

DR. CANET-AVILES: WE WILL DEFINITELY TAKE THOSE -- THAT INPUT, THAT FEEDBACK, WHICH IS EXCELLENT, INTO ACCOUNT AS WE DEVELOP THE CONCEPT, IF APPROVED. RIGHT? BECAUSE FROM EXPERIENCE AT THE FNIH LEVEL, YOU GET WHAT THE INDUSTRY PARTNERS WANTED WAS THE DEPTH OF THE DATA WAS THAT GENERATED THE FUNDING FROM THE NIH, RIGHT, AND THE ACCESS TO ALL THESE MULTIPLE ACADEMIC AND VALIDATION, THE REPRODUCIBILITY, AND THEY BRINGING EXPERIENCE IN TARGET VALIDATION, RIGHT, AT THE PRECOMPETITIVE LEVEL. THIS COULD MESH WITH THE COMPETITIVENESS, RIGHT. SO WE NEED TO TALK TO THEM AND FIGURE OUT WHAT IS IT THAT COULD MAKE THE DEAL FOR THEM, AND THAT COULD ALSO PLEASE ACADEMICS BECAUSE EVERYBODY NEEDS TO AT THE END OF THE DAY BE HAPPY.

NOW, WE DO HAVE THE FUNDING WHICH IS WHAT WE ARE OFFERING AND THE PATIENTS RIGHT THERE WAITING FOR SOLUTIONS.

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THERE WAS A QUESTION THAT -- SO THANK YOU, KEITH, FOR BEING IN DC FOR ALL OF US ON BEHALF OF ALL OF US. YOU ASKED ABOUT THE CRITERIA TO EXAMINE WHERE TO PUT THE FOCUS. HOW WOULD WE MAKE A DECISION? AND THERE ARE DIFFERENT WAYS TO MAKE A DECISION. WE COULD THEN SELECT DISEASES. WHAT WE WOULD ASK IS, THROUGH THE ELIGIBILITY CRITERIA, WE COULD BE ASKING THAT IF YOU ARE COMING TO -- IF THERE IS AN APPLICATION, THE DISEASE HAS TO HAVE A VALIDATED CELL MODEL. THE NEED FOR BIOMARKERS NEEDS TO BE X. RIGHT. IT HAS TO BE. AND YOU NEED TO HAVE A PARTNERSHIP, ONCE WE DEFINE THE TERMS OF THE PARTNERSHIP, WITH INDUSTRY COMPONENTS. THAT PARTNERSHIP NEEDS TO BE WITH SOMEBODY WHO HAS A FOCUS IN THAT DISEASE, FOR EXAMPLE, OR THAT THE NEEDS OF THE PROJECT ARE BEING CORROBORATED BY THE INDUSTRY PART.

SO WE WOULD HAVE TO FIGURE OUT THOSE DIFFERENT ASPECTS.

I HAVE ONE COMMENT ON THE DATA SCIENCE PROBLEM. I SEE -- I THINK HAVING A DATA COORDINATING MANAGEMENT CENTER, HAVING A KNOWLEDGE PLATFORM WILL LEAD TO THAT PHASE OF HAVING THE DATA SCIENCE AND HAVING POTENTIALLY A GROUP OF DATA SCIENTISTS.

ANOTHER WAY TO APPROACH THIS IS HOW THE NIH HAS DONE IT FOR SOME AMPS IS TO HAVE A HACKATHON. TO HAVE LIKE A BUNCH OF DATA, SAY WE GENERATED DATA THROUGH THIS SPECIFIC DISEASE, AND THEN YOU HAVE ALL THESE DATA SCIENTISTS WITH SOME BIOLOGISTS OR CLINICIANS THAT ARE COLLABORATING TOGETHER TO SOLVE A SPECIFIC ISSUE. THAT'S ANOTHER WAY TO APPROACH IT.

BUT THOSE ARE VERY GOOD IDEAS, AND WE WILL TAKE THEM INTO ACCOUNT IF WE DEVELOP THE CONCEPT. THANK YOU. ANYTHING ELSE? ANYBODY ELSE? I THINK THE ROOM HAS -- J.T.

DR. THOMAS: YES. THIS IS IN RESPONSE TO KEITH'S COMMENTS WHICH STARTED SORT OF WITH SHLOMO AND PAT. I AGREE, KEITH. IT'S WONDERFUL YOU'RE BACK THERE AND GIVING DIRECT INPUT HERE. THIS IS A PRECARIOUS TIME. IT REQUIRES GREAT INSIGHT. AND WE'RE ALL THE BETTER OFF FOR YOU BEING THERE TO HAVE THESE DIRECT CONVERSATIONS.

WITH RESPECT TO CIRM BEING NIMBLE. AND PERHAPS HAVING TO ADAPT WHETHER OR NOT THIS PARTICULAR LEGISLATION GOES FORWARD, OF COURSE, CIRM IS, AS IT WAS FORMED ORIGINALLY, WAS MEANT TO BE SOMETHING THAT SUPPLEMENTED WHAT NIH WASN'T DOING. AND THROUGHOUT OUR LIFE SPAN, WE HAVE EVALUATED SORT

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OF WHERE WE ARE WITH RESPECT TO NIH FUNDING, HOW BEST TO FILL GAPS WHERE FUNDING ISN'T GETTING DONE, ET CETERA. SO WE HAVE A LONG-STANDING TRADITION AND CULTURE OF ADAPTING TO THE NATIONAL FUNDING FRAMEWORK.

SO TO THE EXTENT THAT ANYTHING DOES ARISE OUT OF DRACONIAN LEGISLATION EITHER THROUGH CONGRESS OR DEPENDING ON HOW THE ELECTION GOES, THE DIRECTION IF THERE IS A NEW ADMINISTRATION, ET CETERA, THAT DRUMS UP SUPPORT FOR REDUCING NIH FUNDING FOR WHATEVER, WE ARE VERY -- OUR ANTENNA ARE ALWAYS UP. AND WE WILL ADAPT ACCORDINGLY TO ANY SUCH ADVERSE DEVELOPMENTS. SO THANK YOU ALL FOR THOSE COMMENTS. THOSE ARE VERY IMPORTANT.

CHAIRMAN FISCHER-COLBRIE: ARE THERE OTHER COMMENTS BEFORE WE OPEN FOR ANY POTENTIAL PUBLIC COMMENTS THAT MIGHT BE THERE? ANY OTHER DISCUSSION POINT PEOPLE WOULD LIKE TO BRING UP?

ROSA, I JUST WANT TO AMPLIFY AND ECHO THE COMMENTS ABOUT THE DEPTH OF THE WORK AND WHAT'S BEEN COMPLETED SO FAR. EXCITED ABOUT CONTINUING THE ONGOING PROCESS LEADING TO THE GOALS AND ACKNOWLEDGE THAT WE HAVE STILL SIGNIFICANT WORK TO MOVE FORWARD ON. BUT YOU HAVE COLLECTIVELY PROVIDED VERY THOUGHTFUL DATA, INFORMATION, AND CONSIDERATION

AROUND FACTORS FOR US TO REVIEW AND COMMENT ON AS WE GO FORWARD. AGAIN, JUST AMPLIFYING THE KUDOS TO THE GROUP FOR THE DEPTH AND THE CONSIDERATION HERE. IT'S EXTREMELY REMARKABLE. SO THANK YOU.

WITH THAT, ANY PUBLIC COMMENTS?

MR. TOCHER: WE'RE SURVEYING THE ROOM AND ONLINE, AND IT DOES NOT APPEAR THAT WE HAVE ANY PUBLIC COMMENT AT THIS TIME, MARK.

CHAIRMAN FISCHER-COLBRIE: OKAY. UNLESS THERE'S ANY OTHER COMMENTS, OR J.T., IF THERE ARE ANY OTHER ADDITIONAL COMMENTS YOU WOULD LIKE TO MAKE BEFORE WE CONCLUDE THE MEETING.

DR. THOMAS: NO. OTHER THAN TO RESTATE WHAT EVERYBODY HAS SAID, WHICH IS THANK ROSA AND HER TEAM WRIT LARGE. THERE ARE MANY, MANY PEOPLE HERE WORKING ON THIS AND GIVING INPUT. AND I THINK THIS IS ALL PART OF THE EFFORT THAT'S GOING TO BE DRIVING TOWARDS A CRESCENDO IN SEPTEMBER WHERE THE BOARD WILL BE WELL POSITIONED HAVING BEEN ABLE TO HEAR A LOT OF THINGS ALONG THE WAY TO MAKE A STRATEGIC DECISION ON THE DIRECTION THAT'S GOING TO GUIDE US FOR YEARS TO COME.

SO, ROSA AND SHYAM AND EVERYBODY, THANK YOU VERY MUCH FOR YOUR OUTSTANDING WORK. AND SARA AND THOMAS WHO HAVE BEEN SO INSTRUMENTAL AS WELL.

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SO THANK YOU VERY MUCH.

DR. CANET-AVILES: AND OUR NEW CO-CHAIRS AND CHAIR, LIKE MARK AND CAROLYN AND PAT, THANK YOU.

CHAIRMAN FISCHER-COLBRIE: I THINK WITH THAT WE CAN CONCLUDE THE MEETING. SO THANK YOU VERY MUCH FOR YOUR TIME, AND I'LL LOOK FORWARD TO YOUR THOUGHTFUL INPUT AS WE CONTINUE TO GO THROUGH THIS PROCESS. SO THANK YOU.

(THE MEETING WAS THEN CONCLUDED AT 10:21 A.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 AND TASK FORCE ON NEUROSCIENCE AND MEDICINE OF THE INDEPENDENT CITIZEN'S OVERSIGHT COMMITTEE OF THE CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE IN THE MATTER OF ITS REGULAR MEETING HELD ON JULY 11, 2024, 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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SANDPOINT, IDAHO
(208) 920-3543