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Office of the President

TO MEMBERS OF THE HEALTH SERVICES COMMITTEE:

DISCUSSION ITEM

For Meeting of October 9, 2018

DATA-DRIVEN INSIGHTS TO IMPROVE PATIENT CARE

EXECUTIVE SUMMARY

UC Health's Chief Data Scientist Atul Butte, M.D., Ph.D., will provide an overview of UC Health's efforts to use clinical data collected and aggregated from the six UC academic health centers to improve quality of care and patient outcomes, and reduce costs across the entire UC Health system. In addition, UC Health Chief Strategy Officer Elizabeth Engel will provide a brief update on the University's health data governance efforts.

BACKGROUND

Like many academic health systems, UC Health has invested over the past few years in deploying across its six academic health systems electronic health records (EHRs), now partially standardized on the Epic medical record system. More recently, UC Health has developed a single centralized health data warehouse and analytics platform that houses EHR data fed from the six locations. In the future, the health data warehouse also would incorporate additional data sources, such as data related to imaging services. Notably, this effort goes beyond the typical claims data integration upon which many health care organizations rely for their analytics; the EHR data includes the more detailed clinical information about patient care – and thus offers much greater potential to leverage those data to develop insights regarding clinical practices and the quality and efficiency of the care delivered at UC.

The first stages of building the centralized data warehouse have recently been completed. Even though each UC location implemented its EHR in different years, the health data warehouse can count four to five million current patients, with a total of 15 million total patients for whom there is at least some available EHR data, in the UC Health system.

Another unique feature of the UC health data warehouse is that, in addition to the EHR data for patients treated at UC health systems, the health data warehouse also integrates the claims data from UC's self-funded health plans. These data represent a unique set of patients, UC employees and their families, for whom UC Health's payor and health care providers are aligning their efforts to continuously improve the quality and efficiency of care.

Per the UC Health Division's strategic plan, UC Health has established the Center for Data Driven Insights and Innovation (CDI2), a small team devoted to further developing the health data warehouse as well as collaborating with the campuses on strategies for its systemwide use. CDI2 will marshal UC Health's data to support UC research, and inform and improve UC Health's business and clinical operations. By centrally generating analytics tools that can be used systemwide, CDI2 will also produce efficiencies and savings through economies of scale.

UC Health Chief Data Scientist Atul Butte will share with the Committee some highlights of how CDI2 has been using UC Health systemwide data to improve UC Health's patient care and operations. CDI2 has already created numerous quality and safety dashboards using the health data warehouse. More broadly, UC Health is learning how to use its EHR data to understand better why patients thrive or fail on specific treatments – ultimately seeking to predict better at the outset which treatment path will succeed and achieve the best outcomes for UC Health patients. Dr. Butte will demonstrate how the health data warehouse is already being used to improve the quality of care UC delivers and to study the care patterns behind important (and costly) chronic diseases, such as diabetes.

Part of the mission at UC – as a teaching institution and academic medical center system – is to responsibly use data to improve the care that UC gives to its patients. As this Committee knows, the way health providers deliver care and measure the value of the care provided, and even the ways in which illnesses are diagnosed, predicted, and treated are currently being redefined by technology. Hospitals and health systems, including UC Health, are becoming technology-based and data-driven institutions. There is enormous promise in this development and there are extraordinary opportunities. But these opportunities also present challenges and long-term implications for UC institutions, including the responsibility to question whether novel therapies are actually working in real patients, and to ensure that the use of data serves the public good. These are challenges for all academic health systems and other health providers across the country. But UC Health is one of the very few with the data, talent, and mission to address these challenges.

Vice Chancellor of UCLA Health Sciences and CEO of UCLA Health John Mazziotta and UC Health Chief Strategy Officer Elizabeth Engel previously discussed with this Committee some of these issues and how UC, via the President's Ad Hoc Task Force on Health Data Governance, has sought to address them. Ms. Engel will share with the Committee the key steps that have been taken in this arena since the previous presentation.