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The Researcher, Physicians, Regulator, and Patient in an Age of Personalized Medicine

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Dr. Hudis stated that cancer treatment has always been personalized, as it is described by tumor site, cell type, cell profiles, specific targets on the cell, and complex pathways. He also noted that breast cancer treatment has been subject to additional classification, or personalization, for some time, with the description of patients as “triple negative” just one way of personalizing breast cancer diagnosis and treatment. The more accurate description of the next step in cancer treatment and diagnosis is precision medicine.

One of the specific challenges of personalized, or precision, cancer treatment development is accruing the number of patients necessary to complete trials. Dr. Hudis described the Translational Breast Cancer Research Consortium, or the TBCRC, as a nimble, independent structure for breast cancer trials. Such a structure is necessary because breast cancer is an umbrella of phenotypes, trials are biology-driven, and trials are too small and too intensive for cooperative groups but too large for any single institution. Dr. Hudis
described a trial that is being conducted through TBCRC, enrolling from the population of 10% of triple-negative patients who might benefit from an androgen-positive receptor drug.

Dr. Hudis also highlighted obesity as a public health problem that deserves immediate study. He described the links between obesity, a chronic inflammatory condition, and aromatase activity, and suggested public health interventions and more research are both necessary.

He also cautioned that targeted therapies, although an important new option in cancer treatment, may represent only a delaying tactic for patients.

Dr. Reaman described crizotinib and zelboraf as the poster children for targeted therapy development and suggested that the lessons learned in their development should be followed in the future. Dr. Skillings highlighted the positive lessons from crizotinib development, including the collaboration among academics working on the project and the cooperation between Pfizer and the Food and Drug Administration (FDA). The academics on the project put aside their publication wishes to advance the drug to market, and they also collaborated to identify through diagnostic testing the patients with ALK mutation who would benefit from crizotinib. The collaboration with FDA began early, with all parties dedicated to success in one of the first cases of concurrent development of a drug and diagnostic.

Dr. Skillings was asked to comment on the fact that the company had the drug before it knew the target. Dr. Skillings said that investigators were initially interested in the drug more as a C-Met inhibitor, but they shifted quickly to its development for patients with the ALK mutation after they were identified as those who would benefit most from the therapy. Although the company has received encouragement to test the drug in groups outside the target population, there is not a strong interest in testing in non-ALK patients who have little time to waste on a therapy that may not work. In contrast, with strong involvement of the pediatric oncologists of the Children’s Oncology Group, Pfizer is engaged in development of crizotinib for two pediatric indications - - neuroblastoma and ALK-driven anaplastic lymphoma.

Is it possible for industry to pursue great science and a great drug, if the drug will benefit only 500 people per year? Dr. Skillings acknowledged that industry does have to prioritize and that industry leaders have to see a value proposition. However, she said that the industry has demonstrated its willingness to test novel approaches to development.

Dr. Reaman identified two challenges associated with the development and use of targeted therapies. The diagnostic test that is approved today may not be the preferred test tomorrow. The rapid pace of development of diagnostics to guide use of targeted therapies will require collaboration and communication between the Center for Drug Evaluation and Research (CDER) and the Center for Diagnostics and Radiological Health (CDRH). The second challenge relates to the design of trials for targeted therapies. Large randomized Phase III trials have always been problematic in children, but they may also be increasingly problematic for evaluation of targeted therapies for small populations of adults.

Ms. Visco expressed concerns that the bar has been set too low for personalized therapies and in fact all cancer therapies and urged that the standard for review be overall survival and not just progression-free survival. She said that we are still stalled in a place where results are incremental and we are seeing only small improvements in overall survival. Drugs are still accompanied by traditional toxicities and long-term adverse events. She also urged consideration of new business models that will be necessary for investment in targeted
therapies providing benefit for very small populations. Ms. Visco cited recent literature describing the heterogeneity within tumors and suggested that this work raises issues about potentially misleading information used to guide the targeting of therapies.

**Changes in Oncology Practice Models, Payment, and Location: The Impact of Health Reform and Delivery Reform**

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Dr. Goodrich, a practicing hospitalist and recent addition to the Office of Clinical Standards and Quality at the Centers for Medicare & Medicaid Services (CMS), identified a number of CMS activities that can all be characterized as part of the movement at CMS from a fee-for-service system to a system that rewards outcomes and quality. CMS is pursuing initiatives to measure quality, establishing a quality collaborative as well as learning and action networks, training clinicians and multi-disciplinary teams, and seeking to understand how local context affects results.

Health reform in Massachusetts has boosted the rate of insurance coverage to 98%, according to Dr. Mulvey. This means that most citizens of Massachusetts have the ability to manage the costs of routine care. However, reform has created some issues related to the delivery of care and the organization and structure of oncology practices. For consumers, there are questions about whether creditable coverage necessarily translates to adequate coverage for cancer patients, and there are also questions about the adequacy of the supply of physicians to deliver preventive care and primary care. For cancer care providers, there have been significant increases in utilization management and administrative costs since passage of health reform. Oncologists are required to obtain prior authorization to prescribe oral cancer agents, and the same is true for imaging services.
Dr. Mulvey also expressed misgivings about the presence of venture capital firms in the oncology space. Problems may not appear immediately after the purchase of oncology practices by venture capital firms, but the longer term question is whether those practices will accept Medicaid and Medicare patients in the future.

Cost and quality are not associated in the current cancer care delivery system, said Dr. Klein. He said that a critical key to better quality and care is a benefit design that reduces costs, holds the line on quality, and guarantees access to preventive services. He also said that there must be some “traffic lights” to control costs. That means that for outlier populations that would do whatever is allowed, there must be some controls.

Dr. Klein stated that there must be more routine use of information technology to improve the coordination of care. There must be health information technology at the office level to coordinate care and reward providers. Better use of health information technology gives us a win by increasing quality and lowering cost, said Dr. Klein. What the patient gets for use of health information technology is more coordination of care, more rational use of drugs, better care coordination, and overall higher quality of care.

Cancer centers that bear the National Cancer Institute (NCI) designation have not generally paid attention to efficiency, said Dr. Jacobson. They have a complex infrastructure and to date have had little incentive to streamline their processes. The cancer centers, which have not competed in the value-based environment, must take lessons from Michael Porter and others and measure their outcome per cost incurred. They must become innovators in cancer care delivery, defining value around the patient, if they are to survive.

Dr. Cox echoed the lessons offered by Dr. Jacobson, stating that oncology practices have to adopt new ways of delivering care. Oncology practices have to develop the facility to measure. They must learn how to use electronic health records, modernize their billing practices, and adopt and learn how to provide team-based care.

The transformation of cancer care must begin with a movement away from a volume-based system. Dr. Cox called on oncologists to identify patients at greatest risk, reform how they deal with survivorship, coordinate care through the use of multidisciplinary teams, and measure the benefits of care provided.

**Implementation of the Affordable Care Act: Highlights of Recent HHS Activity**

Jay Angoff  
Senior Advisor and Acting Region VII Director  
Department of Health and Human Services

The enactment of the Affordable Care Act presented the Department of Health and Human Services with a number of difficult deadlines for action. Mr. Angoff described those actions that were required within 90 days of enactment: 1) the implementation of the pre-existing condition insurance plans in each state, 2) the establishment of the early retiree reinsurance program, and 3) the launching of [www.healthcare.gov](http://www.healthcare.gov). Those provisions of the law that were implemented within six months were the Patient’s Bill of Rights, lifetime limits, preventive services, the elimination of pre-existing condition limits for children, and the extension of dependent coverage for those up to age 26.
The Department has also put in place a medical loss ratio rule and rate review regulation and has published a bulletin on essential health benefits. Mr. Angoff defended the essential health benefits approach defined by the bulletin as one that balances cost and access. He dismissed the complaints of consumers and patient advocates that the benefit package is adequate or that the benefit package should have been more specifically defined in the bulletin or in regulations.

**Essential Health Benefits: The Impact on Patients and Health Providers**

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*Department of Health Policy*  
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*George Washington University*

*Gregory Gierer, M.P.P.*  
*Vice President, Policy & Regulatory Affairs*  
*America’s Health Insurance Plans (AHIP)*

*Joshua M. Sharfstein, M.D.*  
*Secretary*  
*Department of Health and Mental Hygiene*  
*State of Maryland*

Ms. Hayes, Mr. Gierer, and Dr. Sharfstein all acknowledged the difficult task of balancing cost and access when designing a benefit package. Ms. Hayes suggested that the limited formulary that is defined in the essential health benefits bulletin may pose serious problems for cancer survivors. The bulletin proposes coverage of only one drug per class or category and eliminates the protected classes that are defined in the Medicare Part D program. Ms. Hayes also noted that, under the currently defined approach to essential health benefits, insurers may choose a strict definition of medical necessity in an effort to limit access and utilization. She also suggested that payers may rely on treatment guidelines to effectively limit coverage.

Mr. Gierer stressed the difficult implementation efforts that must be accomplished for the Affordable Care Act (ACA) to meet its goals. The most fundamental balancing act of the ACA is its structure – market reforms, subsidies, and the individual mandate. America’s Health Insurance Plans (AHIP) maintains that all elements of the ACA are critical for its success, and for that reason AHIP is focused on the Supreme Court’s ruling on the ACA. The essential health benefits package also represents a balancing effort. The package must be adequate, but it must not be unreasonably expensive and therefore unaffordable to consumers and the government, which will finance subsidies. Mr. Gierer also stressed that, in addition to finding the proper balance in the benefit package, we need to turn attention to innovations in health care delivery that will help manage the cost of care in the country.

Dr. Sharfstein addressed the practical issues associated with implementation of state exchanges and benefit packages. In the state of Maryland, leaders have made a decision to embrace a non-ideological approach to implementation. A large panel will be appointed to oversee the implementation of health reform in
Maryland, and Dr. Sharfstein expects significant agreement among the group about 98% of the benefit package and disagreement and discussion about only the remaining 2%.

The panelists were reluctant to predict outcomes of the Supreme Court decision, although Dr. Sharfstein did express concerns that a rejection of the ACA would result in a step back for states like Maryland.

**Drug Shortages: The Impact on Cancer Patients and Providers and Strategies for Solving the Problem**

*Scott Gottlieb, M.D.*  
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*Associate Director*  
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*Micahael Link, M.D.*  
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*Stanford University School of Medicine*

*Daniel Todd, M.D.*  
*Committee on Finance*  
*United States Senate*

Dr. Gottlieb asked if a more rigorous Food and Drug Administration (FDA) approach to inspections and more aggressive action on particulates had contributed to the drug shortage problem. He also recommended that FDA take a more cautious approach to shutting down facilities, attempting instead to address only those lines where problems have been documented rather than the entire facility. Dr. Gottlieb also proposed a range of actions to address shortages, including changing the FDA review of sterile injectables, reforming the reimbursement system to allow higher rates of reimbursement for sterile injectables, and permitting manufacturers of sterile injectables to make safety claims about their drugs that would boost reimbursement rates.

CAPT Jensen and CDR Bina described the FDA approach as one where the agency seeks the earliest possible notice from manufacturers about manufacturing disruptions and then pursues a range of activities to address shortages. This includes active negotiation with manufacturers about strategies for addressing shortages, including keeping facilities open while isolating and addressing the manufacturing problem. The agency has
employed a number of other strategies, including persuading other manufacturers to address a drug shortage, replacing drugs with products from outside the country, and using its regulatory discretion with regard to minor issues. The FDA team stressed that it responds appropriately to the risk posed by manufacturing issues, including but not limited to particulates in sterile injectables.

The American Society of Clinical Oncology (ASCO) is actively involved in efforts to address drug shortages, said Dr. Link. The consequences of drug shortages are dire for cancer patients and physicians and include treatment delays, the substitution of treatments, time and expense dedicated to finding alternative drug supply, adverse effects on ongoing clinical trials, and mark-ups of drugs in short supply that result in overall increased cost of care. ASCO has been publicizing the problem, working on policy solutions, and also monitoring the work of a non-profit organization formed to manufacture certain sterile injectables. Dr. Link suggested that more attention and more policy solutions are necessary to address the economics of the generic market of sterile injectables.

While the Senate Health, Education, Labor, and Pensions (HELP) Committee works on drug shortage legislation focusing on reporting of shortages to FDA, the Senate Finance Committee Republican staff is looking at solutions within the jurisdiction of the Finance Committee. Mr. Todd described these proposals, still in discussion phase. One proposal would change the system of reimbursement for sterile injectables from the average sale price to the wholesale acquisition cost (WAC) model; if the WAC system provided high enough prices and was also perceived as stable, it might persuade manufacturers to remain in the sterile injectable manufacturing space. In addition to measures that address reimbursement, there is discussion of incentives to companies that choose to enter the sterile injectable manufacturing market.

Friday, March 23, 2012

Tell It Like It Is: Improving Access to Better Quality Cancer Care and Better Quality of Life

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Dr. Smith focused on concrete and immediate steps that oncologists can take to improve cancer care quality and at the same time bend the health care cost curve: 1) target surveillance procedures, 2) use monotherapy for second- and third-line treatment of metastatic disease, 3) for patients with cancer that has progressed on treatment, limit future active therapy to patients with good performance status, 4) avoid “nth” line chemotherapy for patients not responding to three consecutive regimens; direct those patients to clinical trials, and 5) make a dose reduction to replace use of growth factors.

He also suggested that we change five attitudes by taking these actions: 1) acknowledge that we drive the cost of care, 2) acknowledge that both doctors and patients need more realistic expectations, 3) realign compensation for quality care, 4) better utilize end-of-life non-chemotherapy-oriented palliative care, and 5) accept the need for cost-effectiveness analysis and some limits on care.
Dr. Smith also cautioned that we not wait for the complete overhaul of the cancer care system before taking concrete steps toward reform. He commended ASCO and other medical societies for their engagement in the “Choosing Wisely” campaign that encourages discussion between physician and patient about procedures and services that may be unnecessary. He also applauded the development of the ASCO provisional clinical opinion on palliative care and its potential positive impact on the integration of palliative care into the system of cancer care. Finally, he mentioned his previous work with Chris Desch to overhaul patient records in a way that encouraged coordination of care and better communication between patient and physician.