Clinical performance metrics are the foundation of the design and ultimate performance of North Carolina’s Medicaid reform plan. This commentary describes the general approach of the state’s Department of Health and Human Services in setting metrics, including goals, assumptions, and starting principles.

A foundation of Medicaid reform will be a set of clinical metrics that will frame the goals and organize the administration of Medicaid. Ideally, these metrics will address the whole person, be prioritized to address our state’s most significant health problems, and be aligned as much as possible with national measures and those of other insurers. This commentary builds on the issue brief [1] by Rick Brajer, former secretary of the North Carolina Department of Health and Human Services (DHHS), and it summarizes DHHS’ goals and principles for establishing clinical metrics.

Policy Goals

DHHS’ goal in reforming Medicaid is to dramatically improve health and health care in North Carolina, both directly through Medicaid and indirectly through alignment with Medicare, commercial insurers, and other educational and social services.

Ample evidence shows that despite having health care costs 2–3 times that of comparable industrialized countries [2] (see Figure 1), the United States has care outcomes that are substantially worse than those of other countries (see Figures 2A and 2B) [3]. Further, even as the United States compares unfavorably to other industrialized countries, North Carolina’s health care performance is below average compared to that of other states. While North Carolina has improved relative to other states over the past 2 generations, particularly with respect to immunization rates, we currently rank below the national average for many high-risk health conditions (smoking, obesity, and inactivity), diseases (eg, diabetes, stroke, many cancers, and infectious diseases), and many health outcomes, especially low birth weight and infant mortality [4, 5].

Moreover, striking disparities exist in care outcomes by location, race, and other factors. Figure 3 illustrates the widening gap between rural and urban mortality over the past 30 years [6]. Similarly, for many conditions—including cardiovascular disease, cancer, and pregnancies—the disparity between whites and African Americans is striking and ranks among the worst in the country [5]. DHHS intends to reduce these disparities.

Organizing Framework

To lay the foundation for the development of Medicaid reform, DHHS asked the North Carolina Institute of Medicine (NCIOM) to convene a task force on metrics, which I am co-chairing. While I am not writing on behalf of this task force, what follows reflects the thinking of DHHS going into the deliberation. As a first step in organizing our quality metrics, we focused on the components of the quadruple aim: better health, better patient experience, lower costs, and better clinician and staff engagement.

Better Health

To define quality of care, we will start with measures that have already been vetted by North Carolina’s clinicians and professional groups during the development of the 1115 waiver, in addition to comprehensive primary care plus and other recent work, including the 2016 Medicaid core measures for adults and children, the Patient Protection and Affordable Care Act measures, the patient-centered medical home measures, and the Institute for Healthcare Improvement’s “Whole Systems Measures 2.0” [7]. As much as possible, we will consider benchmarks for quality of care from other Medicaid programs, adjusted for eligibility and case mix, and target those benchmarks that have the greatest performance gaps for North Carolina.

Better Patient Experience

We will also assess patient experience, an important...
aspect of care recently explored by an NCIOM task force [8]. Most health systems now systematically perform these assessments. A key question will be how we will assess the experience of Medicaid patients.

**Lower Costs**

Cost of care will be addressed from multiple perspectives. We will track both overall costs to the state and to patients, as well as key drivers of costs, such as rates of emergency department visits, hospitalizations, readmissions, coordination of care, and medications. These efforts will help us choose measures that address safety and quality as well as costs. For example, Medicare has demonstrated that reducing payments for readmissions and for iatrogenic complications can cut costs; more importantly, however, it can improve quality and patient experience.

**Better Clinician and Staff Engagement**

Clinician experience is a key driver of patient experience, outcomes, and costs. However, measurement of clinician experience, especially at the statewide level, is still in its infancy. Keeping in mind the adage that “perfect can be the enemy of good,” we will need to develop a common and consistent measurement strategy across clinical systems to address the experience and engagement of doctors, nurses, and other members of clinical teams. In addition, a key part of the 1115 waiver proposal is to develop the workforce necessary for Medicaid. The task force will consider metrics for the development of the workforce necessary for Medicaid, using as a foundation the 2007 NCIOM recommendations on physician workforce necessary for North Carolina and the graduate medical education strategy developed in the 1115 waiver by DHHS. Metrics will track our success toward this goal.

**Principles for Developing Metrics**

In developing metrics for North Carolina’s new Medicaid program, we seek broad participation—including that of patients and families. Our emphasis will be on clinical and public health implications and potential impact. In addition to patient participation, we want expert input, informed by experience in other states and at the federal level, on which measures are most important for driving improvement of health care and health outcomes.

We will aim to be transparent in developing our metrics. Advisory committee meetings will be open, and recommendations will be posted publicly. We will seek formal public comment, and the final version of the proposed metrics will be published in the PubMed-indexed *North Carolina Medical Journal* to facilitate access.

We seek to develop a single statewide set of measures, which will be aligned with national measures as much as possible. Given the substantial regional variations in health and health behaviors in North Carolina, we will also be open to including a limited number of region-specific measures.

Primary care will be foundational to the care of Medicaid patients.

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*Includes investments
*Data refers to 2012.

Note: Expenditure excludes investments unless otherwise stated.

Source: Organization for Economic Co-Operation and Development (OECD) [2]; World Health Organization Global Health Expenditure Database.

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**FIGURE 1.**

Health Expenditure Per Capita, 2013 (or nearest year)

| Country          | Public | Private |
|------------------|--------|---------|
| United States    | 8,720  | 16,350  |
| Mexico           | 4,011  | 8,022   |
| South Korea      | 4,057  | 8,114   |
| Japan            | 4,082  | 8,128   |
| Germany          | 4,096  | 8,131   |
| France           | 4,106  | 8,136   |
| Italy            | 4,110  | 8,138   |
| United Kingdom   | 4,116  | 8,143   |
| Netherlands      | 4,121  | 8,147   |
| Austria          | 4,126  | 8,151   |
| Switzerland      | 4,131  | 8,155   |
| Belgium          | 4,136  | 8,159   |
| Spain            | 4,141  | 8,163   |
| Portugal         | 4,146  | 8,167   |
| Ireland          | 4,151  | 8,172   |
| Costa Rica       | 4,156  | 8,176   |
| Malaysia         | 4,161  | 8,180   |
| Singapore        | 4,166  | 8,184   |
| Australia        | 4,171  | 8,188   |
| New Zealand       | 4,176  | 8,192   |
| India            | 4,181  | 8,196   |
| China            | 4,186  | 8,200   |
| Chile            | 4,191  | 8,204   |
| Colombia      | 4,196  | 8,208   |
| Brazil           | 4,201  | 8,212   |
| Russia           | 4,206  | 8,216   |

* Expenditure excludes investments unless otherwise stated.
patients. In the new Medicaid system, all patients will be attributed to a primary care clinician and a primary care practice; a key to Medicaid reform will be allowing patients to choose their own primary care medical home. For physician practices, having practice panels comes with responsibilities; as much as possible, the unit of analysis will be at the level of the practice, as practices take responsibility for patients over the year and are the major drivers of access, quality, and coordination of care. Metrics will both assume and support the components of robust primary care, including first-contact care, whole-person care, continuity of care, and coordination of care.

The available data will frame the choice of metrics. Our primary focus will be on metrics and specifications for electronic health records (EHRs). In recent years, virtually all clinicians and hospitals have adopted EHR systems, and Medicaid provides ongoing support for practices to adjust to new regulations and EHR changes. More broadly, we will align as much as possible with emerging health information exchanges. Having actionable data in real time is critical for quality improvement programs and pay-for-value models, both for health systems and independent clinicians. We look forward to engaging with the state’s health information exchange, insurers, clinicians, health systems, and others to develop principles for sharing data.

We are committed to parsimony. As underscored by the National Academy of Medicine last year [9], there is increasing awareness that too many quality measures are distracting and ultimately self-defeating. Our intent is to emphasize prioritization based on gaps of care, public health implications, and feasibility of major and rapid improvement.

Risk adjustment of metrics will be necessary; the task force developing these metrics will review options and endorse a strategy. Risk adjustment on the basis of age, sex, and comorbidity is typically performed, and we will explore risk adjustment based on social determinants of health. New Zealand has done this for more than a generation, and the United Kingdom and other countries have also begun to do so. We will consider these efforts and try to operationalize them for North Carolina.

We will seek to align measures as much as possible with Medicare and commercial insurers. To have different measures and specifications across insurers multiplies work for clinicians and their staff. Furthermore, a key driver of improvement at the practice level is the total proportion of patients in a practice who have the same care metrics. We will start with Medicaid and look for opportunities to engage other insurers. Nationally, 2 smaller states—Rhode Island and Vermont—have integrated quality measures across insurers, and many states are beginning to align Medicaid measures with Medicare.

Metrics will need to be updated regularly. New clinical issues and metrics will emerge, and others may need to be retired or modified because they are performing poorly or because clinical outcomes have improved and are stable. We will develop an explicit and transparent process for regular review of metrics.

**Next Steps**

After public input, the NCIOM task force on health care analytics will present its recommendations to the Secretary of DHHS and the Director of the Division of Health Benefits. On behalf of the state and in consultation with the legislature, the Secretary of DHHS, acting through the new Division of Health Benefits, will review the recommendations and
An important issue is how to drive improvement. We believe clinicians and hospitals are inherently motivated to provide good care to all of their patients, all of the time. We also believe that clinicians are increasingly aware of the systems and other interventions they need to initiate and sustain improvements in care. Incentives will provide important support for both clinicians and systems in transforming the care they provide—and for spreading best practices. DHHS will design these incentives as a part of the waiver development process.

The task ahead of us is substantial, and we believe that the state, clinicians, patients, systems, and insurers will all need to work together over many years to dramatically improve outcomes. We will need openness to change, transparent and actionable data, and widespread innovation with evaluation and reporting of outcomes. To bring the greatest benefit to patients, we will need to learn better how to learn from each other. A carefully chosen statewide set of metrics will be the framework for this goal. 

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**FIGURE 3.**
Rural Versus Urban Age-Adjusted Death Rate Per 100,000 Population

| Year | Nonmetropolitan - Total | Metropolitan - Total | Nonmetropolitan - Male | Metropolitan - Male | Nonmetropolitan - Female | Metropolitan - Female |
|------|-------------------------|----------------------|------------------------|---------------------|-------------------------|-----------------------|
| 1969 | 1600                    | 1200                 | 900                    | 1000                | 700                     | 600                   |
| 1970 | 1400                    | 1000                 | 800                    | 900                 | 600                     | 500                   |
| 1971 | 1200                    | 800                  | 600                    | 700                 | 400                     | 300                   |

Note. 2000 US population was used as the standard.