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Issue Brief

Comparative Effectiveness Review Within the U.K.'s National Institute for Health and Clinical Excellence

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ABSTRACT: The U.K.'s National Institute for Health and Clinical Excellence (NICE) was established to perform three core functions: 1) reduce unwarranted variation in practice across the United Kingdom through the development and dissemination of best practice evidence-based standards; 2) encourage fast diffusion and uniform uptake of high-value medical innovations; and 3) ensure the taxpayers' money is invested in the National Health Service so that health benefit is maximized. NICE decisions are made by independent committees of health professionals, academics, and industry and lay representatives. More than 2,000 experts engage with NICE processes throughout the year. NICE committees consider comparative clinical and cost effectiveness, social values (including impact on equity), and U.K. and European Union legislation when making their decisions.

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OVERVIEW

The establishment of the National Institute for Health and Clinical Excellence (NICE) has been followed by a time of rapid increases in funding for the United Kingdom's National Health Service (NHS). The Institute's objectives are to assure that the new investment yields maximum health benefit, reduces unwarranted variation in medical practice, and encourages rapid diffusion of high-value new technologies. NICE is structured as an independent authority, with an appointed board and an annual budget of about \$70 million.

NICE develops four types of products: clinical guidelines for whole treatment pathways; technology assessments for (mostly) new drugs, devices, and diagnostic tests; guidance on safety and efficacy of surgical and invasive diagnostic procedures; and public health guidance for health promotion and disease prevention.

NICE decisions are made by independent committees of health professionals, academics, and industry and lay representatives who offer their time usually for free. More than 2,000 experts engage with NICE processes throughout the year. NICE committees consider comparative clinical and cost effectiveness, social values (including impact on equity), and U.K. and European Union legislation when making their decisions. While NICE decisions could be overridden by the Secretary of State for Health, this has not happened yet.

While its program of work, especially for new technologies, is reviewed by the Health Ministry, NICE is responsible for the process of topic selection. All new cancer drugs and most but not all new drugs for other indications are considered by NICE. Criteria for selecting a new technology for review include potential for significant costs (or savings) or health benefits, and unexplained variation in current practice.

The methods and process for making decisions, as well as the actual material used to inform a specific recommendation, are placed in the public domain. Confidential commercial and academic data are accepted but kept to a minimum. Committee meetings (apart from their final stage) and appeals are held in public. Stakeholders engage with NICE throughout the process of selecting a topic, developing and disseminating the final product as well as the process for reviewing NICE's methodology. Industry and professional associations as well as patients are key NICE stakeholders involved in all the above stages through consultation, submission of evidence and oral testimonies, membership of decision-making committees, and the right to appeal decisions.

NICE is a user rather than producer of comparative effectiveness research, relying on work commissioned from academic networks or (for the recently developed single technology appraisal process) evidence presented by the sponsor of a new drug or technology. NICE is flexible in considering evidence, focusing on the quality rather than the specific type of available studies. It is experimenting with schemes such as risk-sharing or conditional reimbursement to

allow use of new technologies while evidence is being developed. NICE recommendations on technologies are subject to appeal; about one-third of appraisals are appealed, and half these appeals result in some change in the guidance.

Guidance is disseminated electronically to clinicians, hospital managers, local purchasers (primary care trusts), and industry, professional, and patient organizations. For example, in the case of clinical guidelines, the respective Royal College holds a launch event to which all its specialist members are invited. NICE operates customized e-mail alert services, runs an annual conference, and sponsors a network of 'implementation consultants' to interact with frontline managers and clinicians.

The government has taken several steps to improve compliance with NICE guidance and reduce local variation. Local purchasers of care (primary care trusts) are required to fund newly recommended technologies and hospitals to make them available when requested by a patient and his or her physician; compliance is increasingly considered as part of provider accreditation, and a new NHS Constitution makes access to NICE-recommended treatments a right for everyone in England. While it is difficult to separate the effects of NICE guidance from other factors affecting utilization trends, there is evidence that the system has responded rapidly to both positive and negative specific recommendations, while hospital compliance with NICE guidance has risen steadily.

NICE has generally been supported by the public and by politicians, despite some highly publicized and controversial decisions. Overall, NICE guidance is estimated to have increased NHS expenditures, because its focus is on promoting the use of high-value services, rather than simply cost containment.

A BRIEF HISTORY OF NICE

In 1997, the newly elected U.K. Labour government announced its intention to support decision-makers across the NHS through sponsoring the generation and dissemination of evidence of comparative effectiveness. Following years of underinvestment, the NHS

in the late 1990s was faced with a number of challenges. A lack of evidence-based quality standards for best practice was partially responsible for unwarranted sociodemographic and geographical variation. Adoption of new technologies was slow, possibly due to an inherently conservative attitude on behalf of health care professionals, coupled with budgetary restrictions. And there was no clear procedural and methodological framework to guide additional public investment toward those interventions and practices representing best value for money.

The lack of a consistent, transparent, scientific, and contestable process for making investment decisions was possibly one trigger for the establishment of NICE. The launch of sildenafil (Viagra) in the U.K. market in 1998 was followed by a very public debate on whether it should be covered by the NHS. A restrictive ministerial decision, mainly due to budgetary concerns, was later challenged in court by the manufacturer, Pfizer. The court ruled in favor of Pfizer, based on what was seen to be a deficient process leading to the decision (as opposed to the content of the decision). Professional associations, patient organizations, and industry called for more transparency and accountability in health care policymaking. NICE was launched a few months later, in March 1999.

PRINCIPLES, VALUES, AND OBJECTIVES

NICE was established to perform three core functions,¹ which continue to be its main objectives today:

1. Reduce unwarranted variation in practice across the U.K., through the development and dissemination of best practice evidence-based standards.
2. Encourage fast diffusion and uniform uptake of high-value medical innovations.
3. Ensure the taxpayers' money is invested in the NHS so that health benefit is maximized.

The objectives are interrelated and directly linked to the record increases in NHS funding, more than 50 percent in real terms between 2002 and 2008.

During this period, NICE's main aim was to target the increased health care expenditures toward those interventions that are most effective and cost effective, including accelerating the uptake of good value innovation and reducing the discrepancies in access and, further downstream, outcomes, across the U.K. population. However, with reducing levels of public investment in health, NICE is now becoming increasingly focused on targeting waste and optimizing the use of new expensive technologies to ensure best value for money.

Since its establishment, NICE has applied a set of core principles to the way it operates:

- *Transparency:* All stages of the process for developing NICE guidance and the methodology underpinning guidance development, as well as the evidence underpinning the guidance, are put in the public domain, with the exception of academic and confidential commercial data. On the latter, NICE insists that such confidential information is kept to a minimum and is made publicly available as soon as possible after the publication of its guidance. In an effort to improve transparency, all NICE advisory body meetings are held in public, starting autumn 2008.
- *Scientific rigor:* NICE guidance development methods are evidence-based, are constantly reviewed and peer-reviewed, and incorporate the latest developments in methods research. In fact, NICE has boosted investment in publicly funded methodology research.
- *Inclusiveness:* NICE identifies all relevant stakeholders, including professional and patient organizations, the broader academic community, budget holders and health care administrators, and medical technology manufacturers, and provides them with the opportunity to become involved in the development of NICE's specific products and overall methods and processes through: a) public consultation, broadly open to the public, b) submission of written and oral evidence, generally more restricted to

registered stakeholders, and c) participation in the Institute’s decision-making bodies, through a dedicated selection process.

- *Consistency:* The processes and methods for NICE guidance development are applied across all technologies and interventions NICE considers, with some differences across the different programs of work (e.g., appraisals of individual technologies vs. clinical guidelines for whole care pathways).
- *Independence:* NICE guidance is developed by independent advisory bodies whose members are drawn from clinicians, professional groups, researchers, and patient and public representatives. The Institute operates “at arm’s length” from government, which is one of the many stakeholders in the overall process, and it issues its guidance directly to the NHS.
- *Review and update:* All NICE guidance is updated at regular intervals—three to four years, or earlier if new evidence becomes available.
- *Timeliness:* Timeliness is becoming an increasingly important priority for NICE and has resulted in an in-depth review of the methods and processes and the establishment of the Single Technology Appraisal process, discussed below.

NICE’s mission was expanded in 2005 to include health promotion and disease prevention, as well as a more explicit responsibility to reduce health inequalities. In addition to the NHS, NICE guidance is now issued directly to local authorities, education and transport boards, employers, and other parties with a stake in preventative public health interventions.

STRUCTURE AND SIZE, POSITIONING, OUTPUTS, AND BUDGETARY IMPACT

NICE was set up as a Special Health Authority, with a Board of 12 nonexecutive Directors and a Partners’ Council consisting of major stakeholders appointed directly by the Secretary of State for Health. (The latter meets annually to review NICE’s annual report.) NICE

employs approximately 330 staff and has an annual budget of around \$70 million, set to rise to over \$180 million in the next three to four years. At any given time, NICE collaborates with approximately 2,000 experts from around the country in developing individual guidance products. NICE is funded directly by the Department of Health; however, it issues its recommendations to the NHS and, even though the Secretary of State for Health can overturn a NICE decision, this has never happened so far. Government can become involved in the guidance development process as any other NICE stakeholder.

NICE develops four broad types of products:

- Clinical guidelines, looking at disease management strategies, from diagnosis and treatment to longer follow-up. Since its establishment, NICE has issued over 70 clinical guidelines covering primary prevention, diagnosis, and management of major diseases such as diabetes, schizophrenia, and hypertension. Another 40 are under development.
- Technology appraisals, assessing the comparative clinical and cost effectiveness of specific technologies, including drugs, devices, and diagnostic tests. NICE has developed guidance on the optimal use of around 400 technologies (mostly drugs and devices, broken down by population subgroup and licensing indication).
- Interventional procedures guidance, which assesses the safety and efficacy of surgical and interventional diagnostic procedures. Over 250 have been assessed, mostly surgical procedures and diagnostic interventions such as endoscopy and ultrasound tests. These assessments are the only NICE products that consider clinical effectiveness but not cost; they are thus the equivalent, for surgical procedures, of the drug licensure process.
- Public health guidance, looking at disease prevention and health promotion interventions and broader public health programs; 15 public health interventions and programs have been developed since 2005.

Table 1. Examples of Guidance Offered by NICE

Guidance	Type	Year
Intraoperative red blood cell salvage during radical prostatectomy or radical cystectomy	Interventional procedure	2008
Radiofrequency ablation of hepatocellular carcinoma	Interventional procedure	2003
Guidance on the promotion and creation of physical environments that support increased levels of physical activity	Public health intervention	2008
Interventions to reduce substance misuse among vulnerable young people	Public health intervention	2007
Management of chronic heart failure in adults in primary and secondary care	Clinical guideline	2003 (under review)
Prenatal care: routine care for the healthy pregnant woman	Clinical guideline	2008
Adalimumab, etanercept and infliximab for ankylosing spondylitis (chronic inflammatory arthritis)	Technology appraisal	2008
Bortezomib for multiple myeloma	Technology appraisal	2007
The clinical effectiveness and cost effectiveness of endometrial ablation (fluid-filled thermal balloon and microwave) for menorrhagia	Technology appraisal	2004

Table 1 provides some examples of different types of NICE guidance.

USING COMPARATIVE EFFECTIVENESS RESEARCH TO INFORM POLICY DECISIONS

In an attempt to reduce unexplained geographic variation in the uptake of new technologies, NICE recommendations for the use of technologies became mandatory in July 2003.² Local purchasers of care (Primary Care Trusts, or PCTs) are given a three-month period to identify the funding to support the implementation of NICE guidance on specific technologies, upon a physician's and patient's request of the recommended treatment. As NICE holds no budget to fund its adoption recommendations, PCTs have to identify and make available appropriate funding, a requirement that many argue distorts local priorities and results in crowding out of non-drug, service delivery-type interventions, for which there is usually no mandate. To help address this issue, NICE provides PCTs with planning tools to prepare them for forthcoming guidance and is increasingly focusing on identifying disinvestment guidance to release resources from wasteful practices.

A national review published for the 60th anniversary of the NHS in June 2008 introduced an NHS Constitution which was ratified by the country's

parliament in January 2009. For the first time in NHS history, the NHS Constitution describes the basic standards of care to be expected from the NHS by its users. NICE guidance has a central place in this document, and NICE recommendations for best practice and optimal use of health technologies are designated as patients' rights to care in the NHS.³

In order to ensure NICE guidance and other (usually centrally set) quality standards are implemented across the NHS, the government established, at the same time as NICE, a monitoring body known as the Health Care Commission (HCC). The HCC reviewed the performance of NHS providers against a number of core and developmental standards. The core standards are mandatory and include NICE guidance on the safety and efficacy of new interventional procedures⁴ and on NICE recommendation on specific health technologies, as described above. HCC was superseded in April 2009 by the Care Quality Commission (CQC), which will introduce a new system of accreditation and performance management standards for providers drawing on, among other quality metrics, specific NICE recommendations for best practice.

Overall, NICE relies on frontline NHS staff and patients for implementing its guidance rather than on rigid rules and regulations that force clinicians and

commissioners to adopt its recommendations, and strives to gain stakeholder buy-in through the inclusive nature of the guidance development processes.

PROCESSES AND METHODS

Topic Selection

NICE plays an increasingly central role in selecting the topics for developing guidance. Since 2006 NICE has been given responsibility for identifying and sifting high-priority topics, according to predetermined criteria, including: broad policy priorities; potential budgetary impact; potential to improve health outcomes; current variation in practice; availability of relevant evidence; and potential of NICE guidance to add value. However, final responsibility for the referral of mostly new technologies still remains with the Secretary of State for Health.⁵ A number of sources are used to derive topics, including a dedicated horizon-scanning service funded by the Department of Health and suggestions by individual members of the public through an open Web-based process.

NICE puts the recommended topics before disease-specific consideration panels led by National Clinical Directors in the respective areas (e.g., cardiovascular disease, public health, mental health, cancer). These panels draw their membership from professional associations, industry, academia, and the general public.

Transparency and inclusiveness are important characteristics of the NICE topic selection process; however, there remains a clear tension between being timely and inclusive (including getting public and expert feedback through lengthy consultation rounds), a tension that applies across the whole of the NICE guidance development process.

Methods

Considerations. NICE committees consider comparative clinical and cost effectiveness, social values, including impact on equity, and U.K. and European Union legislation when making its decisions. Costs are considered through an incremental cost-effectiveness analysis and a judgement is made on value for money

based on a threshold range of £20,000–£30,000 per QALY (quality-adjusted life year—one QALY is the equivalent of a year in full health). This range allows consistency of decision-making across disease areas and over time and is broadly consistent with empirical evidence of cost per QALY of other decisions made by local NHS purchasers and by willingness to pay surveys. Technologies of significantly higher cost per QALY have been approved by NICE based on other considerations.

Primary research and evidence synthesis. NICE is often described as a comparative effectiveness research (CER) entity. However, NICE is a user rather than a producer of CER. To develop its guidance, NICE depends on a publicly funded network of academic institutions working together under the auspices of the National Institute for Health Research (NIHR). On behalf of NICE, the Department of Health commissions designated NIHR academic groups to undertake: a) horizon scanning to inform the topic selection process, b) evidence syntheses to inform the development of guidance on the use of specific technologies, and c) starting in 2007, prospective real-world trials to address specific uncertainties identified during the guidance development process.⁶ Similarly, the Medical Research Council receives public funding to support research on methodologies, including modeling tools for making conditional coverage decisions and ways for incorporating equity considerations into the decision-making algorithm.

NICE's overall approach to evidence does not follow the conventional evidential hierarchies, but it is driven mainly by the type of policy and clinical practice question that needs to be answered and focuses on the quality (rather than the type) of the study used to address this question.⁷ Such evidence includes good quality meta-analyses and systematic reviews of randomized controlled trials (RCTs), head-to-head RCT comparisons of the technologies under consideration, and also different types of nonexperimental studies, such as prospective cohort, registries, and epidemiological analyses. Unpublished evidence deemed to be either academic or confidential commercial

information can also be considered; however, NICE encourages stakeholders to keep such submissions to a minimum.

Furthermore, NICE relies on decision analyses rather than primary research, which allows consideration of multiple sources of evidence; extrapolation beyond usually short time horizons of RCTs; incorporation of the epidemiological data specific to the U.K. population; consideration of alternative comparators and costs; and quantification of uncertainty and of the implications of making the wrong decision, issues hardly addressable through a single explanatory RCT. Finally, NICE also considers patient surveys and patient and professional expert opinion.

NICE is also experimenting with risk-sharing schemes or conditional reimbursement decisions. These options, which link policy and practice recommendations to evidence generation, are particularly relevant in circumstances of increased uncertainty—as is the case with new drugs at the time of receiving marketing authorization, or with diagnostic tests and surgical procedures, which are usually accompanied by limited evidence of impact on health outcomes. Risk-sharing/patient access schemes now form part of the new national policy on drug pricing, to allow the generation of real-life information on the clinical performance and cost of new drugs where the evidence base is too weak to inform coverage and reimbursement decisions. Both NICE and the British Pharmaceutical Industry Association are fully supportive of and working together on this initiative.

Appeal

NICE recommendations for the use of technologies can be appealed by stakeholders, such as patient and professional organizations, commissioners, and medical product manufacturers on the following grounds: a) perversity, in that no reasonable group of people would have formulated recommendations as presented by NICE; b) violation of NICE's procedural rules; and c) a decision by NICE exceeding its scope of responsibilities. Appeals are heard by a panel consisting of non-executive NICE directors, patient advocates, industry,

and NHS representatives. Approximately one of three appraisals are appealed and almost half of these appeals are upheld. If unsuccessful at the appeal stage, stakeholders can seek a judicial review of the guidance. This has happened on three occasions since NICE was set up 10 years ago.

Conflict-of-Interest Policies

NICE has a detailed policy on declaring and handling conflicts of interests for its members of the Board, staff, and advisory body members, as well as external experts providing their insight to individual guidance products. No personal financial interests are acceptable in the case of members of the NICE Board, NICE employees, and employees of organizations directly contracted by NICE who are involved in the development of NICE products.

THE MEDIA AND PUBLIC PERCEPTIONS

Both NICE and the NHS are the subject of intense media attention. Although NICE generally receives balanced media coverage,⁸ certain parts of the U.K. press have increasingly adopted a critical approach to the Institute's work.⁹ Independently-conducted NICE-sponsored opinion polls indicate that, while awareness of NICE among the general population has increased between 2002 and 2007, public attitudes have remained roughly the same. Over 70 percent of those familiar with NICE stated they are neutral or positive about NICE, despite a number of controversial decisions that received extensive press attention during that time (e.g., restrictive guidance for drugs for Alzheimer's disease, leading to an ongoing legal battle).

Politicians' views of NICE have changed over the years. In their 2008 parliamentary enquiry into NICE, the multipartisan Health Select Committee concluded: "NICE does a vital job in difficult circumstances. The development of more and more health technologies and procedures, alongside rising patient expectations and the aging population, is going to make it even more difficult in the future. Health care budgets in England, as in other countries, are limited. Patients cannot expect to receive every possible

treatment. Demand outstrips resources and priorities have to be determined. In other words rationing is essential, and NICE has a key role to play. Given the difficult environment, NICE requires the backing of the Government. NICE must not be left to fight a lone battle to support cost and clinical effectiveness in the NHS.”¹⁰

IMPACT ON POLICY AND PRACTICE: SELECTED CASE STUDIES AND OVERALL TRENDS

When NICE was first established, implementation of its guidance was explicitly excluded from its mission. However, as unwarranted geographic variation in practice persisted despite national guidance, implementation of NICE recommendations became a government priority and a number of measures were introduced to improve uptake. These included the three-month funding direction discussed above and the establishment of a NICE Implementation Directorate in 2004.

This directorate has developed a number of tools and interventions for supporting the uptake of NICE guidance at the local level, including audit criteria, educational tools, a network of “implementation consultants” operating at the local level, guides to changing provider behavior, budget impact tools adaptable to the local setting, and a “forward planner” to help commissioners plan ahead for NICE guidance in the pipeline. The implementation directorate is also responsible for developing and maintaining a database of uptake studies from across the U.K. (www.nice.org.uk/ernie).

More recently, NICE launched an electronic portal—NHS Evidence (www.evidence.nhs.uk)—that brings together evidence of clinical and cost effectiveness for patients, professionals, purchasers, and policy-makers in order to support access to good quality information, including NICE guidance, for decision-makers across the NHS.

Finally, a number of performance indicators in the pay-for-performance scheme for primary care practitioners (Quality and Outcomes Framework—QOF) across the U.K. come from NICE best practice guidance, another important means for incentivizing the uptake of NICE recommendations.

It is methodologically challenging to assess the impact of NICE guidance on practice patterns and, even more so, on health outcomes. The lack of a control group and the multitude of government policies and other, often non-health-related, factors affecting observed health trends, make attributing causality impossible. However, there are numerous case studies that show the impact of the use of evidence-based coverage decisions on unwarranted variation in practice and on the speed of diffusion of new, good-value-for-money treatment across the NHS.

According to a report by the National Director for Cancer, the uptake of cancer drugs appraised by NICE increased by almost 50 percent across the country from 2003 to 2005, and variation in use dropped from three-to-eight fold to two-to-three fold over the same period.¹¹ Another national report in 2007 showed that NICE advice for the use of multidisciplinary teams for managing lung and colon cancer patients was taken up by over 95 percent of providers across the NHS. There are some examples of very rapid NHS-wide response to NICE recommendations on specific technologies: sharp growth in the use of varenicline for smoking cessation after a positive recommendation and a steep drop in the use of anakinra for rheumatoid arthritis after a negative appraisal. In other cases the uptake of guidance is slower and/or less even across different parts of the country.

Table 2 gives the results of the annual inspection (Health Check) of hospitals’ adherence to NICE’s recommendations conducted by the Health Care Commission (now the Care Quality Commission). While these are self-assessment results, there are accompanied by spot checks and give an indication of providers’ compliance, or at least awareness, of NICE guidance.

Overall, NICE adoption decisions have an estimated aggregate cost of over £1.5 billion per year; in 2006–07, NICE guidance absorbed more than a tenth of the growth in health care spending across the NHS. Over the same period, the price of DRG-equivalents used by the NHS (Health Care Resource Groups—HRGs) was adjusted upward by almost 1 percent. This is expected to increase significantly as new cancer

Table 2. Hospital Adherence to NICE Recommendations

	2005–06	2006–07	2007–08
Compliant	85%	89.3%	95.1%
Insufficient assurance	11%	7.9%	*
Not met	4%	2.8%	*

* To be confirmed.

drugs, all of which are now subject to NICE appraisals, are included in the HRG price list. It is very hard to assess whether spending would have been higher or lower had there not been a NICE; however, the government's explicit objective was for NICE to target additional funding toward good value innovation rather than to cut costs.

Perhaps the greatest contribution of NICE has been to raise awareness among the general public, the media, professionals, and industry of the importance of making evidence-informed health care resource allocation decisions in a transparent, inclusive, and methodologically robust way.

LESSONS LEARNED: A CRITICAL VIEW

In late 2005 NICE launched the Single Technology Appraisal (STA), a new process for assessing medicines closer to the time of marketing authorization. This was the result of growing concerns as to the timeliness of the NICE process. Even though purchasers and providers at the local level are expected to make their own decisions on the availability of new technologies while NICE guidance is pending, often there are delays in adoption, as local decision-makers prefer to wait for definitive NICE guidance. This may be due to both the lack of necessary analytical capacity locally and budgetary constraints.

In the new process, independent modeling carried out by academic groups commissioned directly by the U.K. Department of Health is replaced by a model and systematic review of the evidence submitted by the technology sponsor. This is then supplemented by a critical review undertaken by an external academic group. In addition to somewhat reducing the overall length of the technology appraisal process, this streamlining has two additional implications:

- Sponsors are required to undertake a systematic review to inform the economic evaluation. Given limited experience with actual use and the (sometimes sensitive) commercial nature of the evidence base, sponsor-led systematic reviews close to licensing pose practical challenges, particularly when they involve accessing confidential data held by a sponsor's competitors. Furthermore, NICE has no means of assessing whether all available (published and unpublished) relevant studies are indeed included in the sponsor's submission.¹²
- By definition, STA is about assessing the value of a single (most of the time new) technology for a single indication. For follow-on drugs, comparing each technology to preexisting therapies (rather than to each other) may lead to timely positive recommendations for each new drug; these may, however, be of limited value to NHS purchasers interested in the comparative effectiveness of each one against all available alternatives across different population groups.

Dependence on sponsor-generated and controlled evidence and limitations as to the comparators used make STA an acceptable first screening tool for new technologies close to licensing (when most the information is held by the sponsors and there are few alternative technologies), but a less reliable process for informing the NHS as to the best option among many new technologies in a class. NICE is attempting to address these weaknesses by commissioning an independent review of the STA process and considering formal review arrangements for STAs, either in the context of clinical guidelines or Multiple Technology Appraisals.

To improve the quality of industry submissions, NICE launched in 2008 a formal program for engaging with the medical technologies industry during phase II and III trials to help inform trial design, especially with regard to outcome measures, types of cost, and appropriate comparators. This is a fee-for-service initiative, aiming at helping technology sponsors better understand and respond to decision-makers' informational requirements, so that new drugs and devices are approved closer to licensing.

NOTES

- ¹ Frank Dobson, Secretary of State, Speech launching NICE, March 31, 1999, available at: http://www.nice.org.uk/aboutnice/whatwedo/niceandthenhs/secretary_of_states_speech_launching_nice.jsp.
- ² Directions to Primary Care Trusts and NHS Trusts in England Concerning Arrangements for the Funding of Technology Appraisal Guidance from NICE, July 1, 2003, available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsLegislation/DH_4083088.
- ³ The National Health Service Constitution, Department of Health, June 2008, available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_085814.
- ⁴ This program is the equivalent of the U.S. Food and Drug Administration for interventional procedures—NICE does not recommend the use of the procedures it reviews but it “licenses” them for use across the NHS and, increasingly, the private sector.
- ⁵ NICE Topic Selection Process, available at: http://www.nice.org.uk/getinvolved/suggestatopic/topicselectionconsiderationpanels/topic_selection_consideration_panels.jsp.
- ⁶ K. Chalkidou, T. Walley, A. Culyer et al., “Evidence-Informed Evidence-Making,” *Journal of Health Services Research and Policy*, July 2008 13(3):167–73.
- ⁷ Sir Michael Rawlins, “De Testimonio: On the Evidence for Decisions About the Use of Therapeutic Interventions,” The 2008 Harveian Oration, Royal College of Physicians, available at: <http://www.rcplondon.ac.uk/pubs/brochure.aspx?e=262>.
- ⁸ See for example, J. Laurance, “The Big Question: Can It Ever Be Right for the NHS to Reject Drugs That Could Extend Life?” *The Independent*, Aug. 8, 2008; P. Toynbee, “The Public Deserves Protection from the False Hope of ‘Wonder Drugs’,” *The Guardian*, June 20, 2008; T. Stuttaford, “NICE Treatment—If You Can Get It,” *The Times*, March 6, 2008; and S. Boseley and J. Carvel, “Drug Rationing Essential for Health Service, MPs Say,” *The Guardian*, Jan. 10, 2008.
- ⁹ For example, when a row over high drug prices broke out in the U.K. in August 2008, following a NICE provisional decision against the use of a number of life prolonging drugs for renal cancer, the front cover of *The Lancet* read: “Last week’s welcome intervention by Michael Rawlins, NICE’s chairman, in which he criticized industry’s pricing strategy and profit motives, indicates that the Institute is no longer prepared to be the passive punch-bag of either government or the pharmaceutical companies” (Vol. 372, Aug. 23, 2008). A U.K. tabloid’s interpretation of this editorial was entitled: “Respected Medical Journal Says NICE Needs ‘Shake Up’ and Should Be Reformed After Kidney Cancer Row” (*The Daily Mail*, Aug. 22, 2008).
- ¹⁰ Health Select Committee, First Report, Session 2007–08: National Institute for Health and Clinical Excellence, available at: <http://www.publications.parliament.uk/pa/cm/cmhealth.htm>.
- ¹¹ National Cancer Director, “Usage of Cancer Drugs Approved by NICE,” Department of Health, Sept. 2006, available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4139061.
- ¹² J. Laurance, “Drug Giants Warned: Tell the Truth on Medicines,” *The Independent*, Feb. 27, 2008.

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