Teaching Health Policy in an Economic Framework to Non-Majors

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ABSTRACT
A policy course requires a set of evaluation tools to explore the effects of proposed and existing policy initiatives. This paper offers an economic approach for teaching health policy to students who are not economics majors. The author provides a model that uses a graduate-level elective course as an example. In this course, an economics “boot camp” is used to provide a short, intensive overview of principles of economics. Next, two comprehensive health economics applications are used for a transition from economics principles to health policy analysis. In the balance of the course, economic concepts are integrated into evaluations of four health policy goal areas: access, cost, quality, and market interventions. A discussion of the methods for applying this design to other graduate and undergraduate policy courses for non-economics majors is also included.

INTRODUCTION
A course in U.S. health policy presents two important pedagogical issues. First, it provokes lively discussion and disagreement among students, often based on anecdotal reports of inequity and ethics. Second, health policy is both complex and dynamic. Ever-changing health policies and pending, new initiatives make this a demanding course for faculty and students. Nonetheless, virtually all students and their families have been consumers in the U.S. health care industry, which forms a common starting-point for engaged learning.

The first issue requires a neutral framework for evaluating the effectiveness of health policy, and economic analytical tools can provide this framework. The second issue requires a health policy course to have a manageable method of organization. Problems created by overlapping policy initiatives and changing political and economic conditions need to be addressed in a structured format.

The academic composition of students in such a course can be diverse. For example, students of health policy may seek degrees in public administration or health care management. In the latter case, this degree is typically offered in a school of business or health science, or through a joint program at these two schools. As a result, the students’ base of academic preparation can vary widely.
Different types of students bring different perspectives, which introduce both enhancements and challenges to the classroom. Blending an academically diverse group of students also offers a unique opportunity for interdisciplinary learning. In this context, students may benefit from their varied perspectives. Students can be encouraged by their cohorts to broaden their view of the health care industry, as each one brings a unique experience and perspective to the classroom. The advantages and difficulties of interdisciplinary learning have been summarized in earlier works by Newell (1994), and Lattuca, Voight, and Fath (2004), among others.

**Course Design**

In the example course discussed here, titled Health Policy and Economics, all students are expected to meet the following goals:

1. To understand basic economic principles;
2. To apply economic evaluation tools in evaluating health policy;
3. To know the current, broad health policy initiatives that address cost, quality, access, and market reform; and
4. To understand the impact of these policies on target populations. This course is taught as an elective in a Master of Business Administration (MBA) program, and it is open to other graduate students at the university.

The diversity of class composition can introduce several instructional challenges. In a typical class, MBA students have had at least two undergraduate courses on the principles of macroeconomics and microeconomics. If not, then they have had a required foundation graduate course in economics. About half of these students have also completed an MBA-level managerial economics course. Many MBA students elect to complete a concentration in health services within the program, but they do not necessarily have current or past work experience in that environment. University students from outside the MBA program are also attracted to this course. These may include students from graduate programs in nursing, occupational therapy, and physical therapy, who are taking the course to meet an elective requirement. In many cases, these students have had no economic principles courses, but most of them have current experience working in an environment that is directly influenced by health policy. A good course design can mitigate the students’ lack of economics study.

There are at least three possible approaches to addressing the challenges described above. In the first approach, the instructor could cover relevant economic principles as they arise in the discussion of health policy initiatives. In this method, the course launches headlong into a review of U.S. health policy, and introduces and applies the economic tools *ad hoc*. This course design does not use a full economic framework approach, but it enlists economic concepts as
an add-on feature to policy discussion.

The second approach is thoroughly to cover the principles of economics topics before there is any discussion of health policy. This approach runs the risk of boring those with prior economics education, and overwhelming those with none. This method also effectively separates the study of health policy from economics, which runs contrary to the contemporary structure of health policy research.

The third approach uses a short, intensive overview of economic principles at the beginning of the course, and then follows on continuously with examples of their effective applications to relevant health policy topics. Using this approach, basic economic principles are introduced to provide a foundation for later use in health policy analysis. Later applications expand these principles in depth and complexity, as needed.

The course described in this paper is organized around the third approach. It has three distinct components: an economics overview, a transitional applications section, and a structured health policy review. The design is similar to the model described by Caviglia-Harris (2003), for teaching economics in an interdisciplinary course on environmental studies, and it is similar in approach to the course outlined by Duchovic, Maloney, Majundar, and Manalis (1998), for teaching science to non-science majors.

ECONOMICS “BOOT CAMP”

The first unit of this section is an overview based on a list of concisely stated principles of economics, and it focuses primarily on the microeconomic principles that will be used throughout the course. At a minimum, concepts such as scarcity, trade-offs, opportunity cost, incentives, marginal analysis, and markets should be covered. Mankiw (2004, pp. 3-15) and Henderson (2005, pp. 12-13) provide good examples of this type of list. It is very important for the instructor to use examples from health services, wherever possible, to illustrate these concepts. Students are thus immediately able to recognize how economics is relevant to studying health policy. Interestingly, this method is remarkably easy and effective. Because all of us have some experience with the health care market, the instructor is able to effectively engage students’ comprehension of theoretical concepts by drawing on their personal experiences.

In the second unit, I review the law of demand, demand and demand-determinants, supply and supply-determinants, and market equilibrium. Here, I use a health-services market example of physician office visits. To introduce graphing as an analytical tool, I present this example in the context of the market for physician office visits in the Canadian health care system. First, I use a graph to illustrate demand, supply, and market equilibrium in an unregulated price environment. Next, we consider the effects of price controls on office visit fees, and review the concepts of shortage and surplus.
A brief unit on elasticity follows. Simple calculations of price, income, and cross-price elasticities are introduced, again using examples from health services. We then compare the price-elasticity of demand for brain surgery to the price-elasticity of demand for cosmetic surgery, in order to recognize the wide range of elasticities that exist for specific services in the larger health care market. This unit is supplemented with two tables from journal articles on methods for estimating the price-elasticity of demand and also income elasticity, which demonstrates applications of these tools in health services.

The next economics unit introduces the concepts of production and cost. Here, I use the example of inpatient hospital stays, and rely on production and cost tables to walk students through a depiction of production and cost curves. I review the marginal analysis approach, while equating marginal revenue and marginal cost, in order to determine the optimal level of production. This provides an example of how marginal analysis can determine an optimal outcome, which is useful later in the course.

Together, these units comprise the economics “boot camp” section of the course. While there is not enough time to present the principles in depth, as one would in a principles of economics course, the economics boot camp gives students a sense of how these principles can be used to guide the analysis of health policy effects.

**Transitional Applications**

The second section of the course leads students from the “economics boot camp” into two comprehensive health applications. The health production-function presentation follows Grossman (1972), and topics include a health production-function model, the relationship between medical care inputs and health status, the marginal product of medical care spending, and optimal medical care spending.

The market for health insurance is also introduced as part of this transitional applications section. After a brief review of employer-based, group health insurance (indemnity and managed-care plans), the theory of risk and insurance is presented. Key concepts introduced here are utility of income, risk aversion, the probability of an event, choice under the condition of uncertainty, and the expected value of an outcome. Students work through several calculations on the value of insurance and the price of uncertainty. Following this segment is a discussion of asymmetric information, adverse selection, and moral hazard in the health insurance market.

Both of these applications emphasize the conceptual frameworks of analyses, so students are provided with two, thorough examples of how economics is used in health policy research. The initial economic principles overview and this transitional applications section prepare students to use an economic approach for evaluating the variety of health policy issues that are covered in the course’s third section.
Health Policy

The third section of the course introduces the broad range of U.S. health policy initiatives. This section can be organized around targeted populations or health policy goals. Targeted populations include the poor, the elderly, children, women, the disabled, military personnel, employees, and other specific sub-populations. Health policy goals are generally aimed at cost containment, quality assurance, improved access, and market reforms. The proposed course design uses health policy goals as a broad organizational structure. Highlighted within each goal are policies aimed at specific targeted populations. For example, within the health policy unit on improved access, we consider those policies related to improving access for selected targeted populations — Medicare and Medicaid recipients, employees, and recipients of the States Children's Health Insurance Program (SCHIP). In a later unit on policies for containing health care costs, a discussion centers on selection of cost-control policies aimed at specific populations. With this approach, students can review a variety of policy initiatives that are designed to address each of the listed, targeted populations throughout the duration of the course. This method of organization also enables students to understand how health policies with the same goal can be crafted differently, depending on the targeted populations.

The four health policy goals — cost containment, quality assurance, access improvement, and market reform — form the basis of design for the rest of the course. Henderson's Health Policy and Economics (2005) follows a similar outline, and it is currently the required text for this course. Given the dynamic nature of health policy, however, even the best textbooks cannot remain current for long. This requires continuous updating to course content. Students assist with this activity through a course assignment to find one article each week on proposed or enacted health care legislation, and to be prepared to discuss it briefly at the beginning of each class. Given the academic diversity of the students in this course, these articles inevitably reflect a variety of sources, such as clinical publications, business publications, and the popular press. This range of perspectives broadens students’ exposure to the conception and perception of U.S. health policy.

Many health policy topics yield opportunities for using economic tools and concepts to examine the potential effects of a policy initiative. The principles that students learned in earlier economics units now are routinely used to enhance discussion of policy effectiveness and outcomes, where appropriate. Several examples are provided below, but many others are integrated into policy topics used throughout the course.

For example, when reviewing U.S. policies to contain health care costs, the economic implications of price controls are revisited. We consider how the conditions of a price ceiling may change health care providers’ behaviors as they seek to improve their own incomes. An economic approach to analyzing the effects of price controls in a pharmaceutical monopoly market is also
demonstrated. Using a graph to illustrate the monopolist’s demand, marginal revenue, and marginal cost curves, we first determine monopoly output and price. Then, students determine the effects of a price ceiling on the price and output for the same monopoly.

Medicare and Medicaid expansion and enhancement policies, designed to improve access to care, usually lead to an increased demand for health care services. Simple graphing models can be used to illustrate the shifting demand for medical care, and, assuming an unchanged supply curve, to describe why we see increases in price, quantity, and overall spending in these markets.

Quality assurance initiatives include a variety of professional and provider regulations and standards. These policies can create considerable increased costs for a health care organization. Students work through a quality-assurance policy example where the average cost per hospital service unit increases by five percent as a result of the policy enforcement. Students then determine the effect on price and quantity in a monopoly hospital market.

Economic analysis is also used to describe the effects of health policy on the market for nurses. On the demand side, I emphasize the theme of changing demographics in the U.S., with an aging population that demands more chronic-care services. We look at several initiatives to increase the number of nursing personnel. Using shifts in supply and demand curves, we consider several possible outcomes involving wages and the number of nurses employed in the market, depending on the effectiveness of various policies.

A Federal policy strategy aimed at preventing the re-importation of U.S.-manufactured drugs from Canada is used to describe the effects of market intervention in an international setting. We examine the effects of this policy on the pricing and distribution of pharmaceutical products, and we consider Medicaid program efforts to circumvent these regulations in several states.

Assessments and Outcomes

Students are evaluated on their learning outcomes with three main types of assessments. First, mid-term and final exams require that four or five essay questions be answered during a two-hour test period. Students must use graphs, functions, or other economic tools to support narrative answers. In the mid-term exam, students are required to address one comprehensive problem that is drawn from one of the transitional applications topics — either the health production function or the health insurance market. Second, students put their newspaper and journal articles on health policy in a portfolio, with brief written comments on each piece. They are assessed on the relevance of the articles and their ability to recognize health policy and its economic implications. Third, a written paper and oral presentation on an approved topic in health policy is required. Students are expected to become classroom “experts” in the selected area of health policy, and to
include an economic evaluation in their projects. Past topics have included Medicare Part D, patient satisfaction measurements, a comparison of physician incentives for managed care, states’ Medicaid HMOs, medical error-reduction strategies, and the uninsured.

Among students who complete this course, the overall results of these assessments show no significant difference between the overall performance of those with little or no previous economics exposure, and those who completed a course in managerial economics. Not surprisingly, students with a health education background and students with a business education background present different sets of strengths. Students with clinical backgrounds often demonstrate a better feel for the nuances of health policy implications, because they have seen first-hand the effects of changing regulation. Students with a business background are more likely to grasp the economic implications of health policy initiatives, because of their prior exposure to economics courses.

**Extensions Of The Course Design**

William Becker (2000, p. 117) notes that “a few courses in undergraduate economics, and perhaps only an introductory course, are often the only interaction that the college graduates of tomorrow will have with the economics profession.” As indicated, undergraduate and graduate students increasingly receive limited economics education while pursuing advanced study in their chosen disciplines. In higher-level coursework, these disciplines often require at least some level of familiarity with economics.

The inclusion of an economics boot camp at the beginning of the course is a model that could be used in other policy courses where economic evaluation is important. Topic-based courses that require some economics knowledge include environmental, gender, and labor studies, among others. If courses are team-taught, the economics faculty could lead the boot camp and transitional applications sections of the course, while field faculty could instruct the third section.

This course design is not intended to replace a course in health economics within a degree program that requires one. A course in health economics would necessarily involve a higher level of prerequisite economics education as an academic foundation. However, when developing the curriculum for a Master of Health Administration degree, for example, the diverse academic backgrounds of students could render a stand-alone health economics course as unfeasible. This course design, on the other hand, combines economic and health policy content in an effective delivery package that enables students from a variety of educational experiences to achieve similar levels of success.
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References


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