

## Health Economics

An individual writing an entry summarizing the field of health economics in 1960 would have had difficulty finding much to say. By contrast, an individual writing at the turn of the twenty-first century faces an embarrassment of riches: the field has exploded since the 1960s. There are now several textbooks, as well as a two-volume *Handbook of Health Economics* (Culyer and Newhouse 2000) and two international journals: the *Journal of Health Economics* and *Health Economics*. This article will thus necessarily be selective.

At least four reasons can be identified for the growth in health economics. The first is the enormous expansion of the health-care sector in almost every developed country during the second half of the twentieth century. Between 1960 and 1997 real health-care spending per person in the G-7 countries grew at annual rates between 3.7 percent (the United Kingdom) and 7.4 percent (Japan) (Anderson and Poullier 1999 give figures in nominal US dollars, and I have deflated by the US Gross Domestic Product, GDP, deflator). As a result of this growth, the G-7 countries in 1997 spent in real terms between 4 and 14 times more on health care per person than they spent in 1960. Because their economies did not grow nearly as rapidly, all the countries saw a rise in the share of GDP going to health care. By 1997 that share ranged from 6.7 percent in the UK to 13.6 percent in the USA.

Second, developments in economic theory, especially the growth of information economics, have aided the development of health economics. Third, although this is not really taken up below, the development of computational power has greatly facilitated empirical work by permitting analysis of large administrative databases. Finally, in several countries, especially the USA, the field has been generously supported when compared with most other subfields of economics, although not when compared with most natural or biomedical sciences.

### 1. Uncertainty, Medical Insurance, and Medical Care Services

The seminal article in health economics is generally considered to be by Arrow (1963). In explaining the institutions surrounding the delivery of medical care, Arrow emphasized two related features: the pervasiveness of uncertainty in medical care, and the asymmetric information between the physician and the patient. Uncertainty gave rise to a demand for insurance, but because insurance markets were seriously incomplete, nonmarket institutions evolved to compensate. In particular, medical ethics dictated that physicians were not to act in a narrow, profit-maximizing fashion, and the patient trusted that the physician was acting in the patient's interests. Much of what was to follow in

health economics over the next four decades flowed out of these notions.

The subsequent development of information economics in the 1970s stimulated developments in health economics; indeed, medical care was an example used in several of the early seminal articles in information economics (for example, Rothschild and Stiglitz 1976). These articles showed that if buyers in competitive insurance markets knew more about their risk than sellers, a market equilibrium would not exist and hence certain markets would not exist. One necessary condition for lack of equilibrium in the Rothschild–Stiglitz model was that the proportion of bad risks be relatively small, which is descriptively accurate about health insurance. Typically the highest five percent of spenders account for 50 percent or more of resource use (Berk and Monheit 1992). Relaxing the assumption of symmetric information between buyer and seller thus gave a theoretical rationale for Arrow's observation that insurance markets were often incomplete. It also gave a policy rationale for the public sector interventions in health insurance markets—or the direct provision of services by the public sector—that had by then occurred in every developed country.

Zeckhauser (1970) pointed out that health insurance—and risk-spreading arrangements more generally—inevitably created a second-best situation: although insurance offered protection against risk, it did so at the expense of increasing moral hazard. The traditional meaning of moral hazard in the insurance literature was failure of insured individuals to take preventive measures. In the case of medical care, that insured individuals might forgo prevention seemed of less concern because their health, including pain and suffering, was not insured. But medical care insurance typically reimbursed a certain proportion of spending rather than reimburse a lump sum contingent upon a certain event's occurring. Hence, moral hazard came to mean the additional consumption stimulated by the subsidy implied by insurance. Although the additional consumption was often construed as creating a dead-weight loss (Pauly 1968), this is not necessarily the case. One could want resources transferred to certain states of the world precisely so that one could consume medical care that would otherwise be unaffordable in those states (DeMeza 1983). As a result, the conventional test of a welfare loss from health insurance is whether a consumer, to insure a given state of the world, would purchase an actuarially fair insurance policy with an appropriate lump-sum reimbursement (Goddeeris 1984). Any willingness to pay on the part of others (i.e., an externality) should also be added.

There is, however, a literature in health economics that rejects the conventional test of a welfare loss from insurance for various reasons. Two prominent reasons given in this literature are that the observed demand curve does not reflect the preferences of an informed consumer (about which more below) or that income should not affect the delivery of medical services

(Williams and Cookson 2000). The applicability of the conventional test thus remains a controversial issue.

The understanding of how the health insurance contract itself affects health care and even health has progressed over several years. Following Zeckhauser, many early US studies focused attention on the extent of the moral hazard introduced by health insurance, or more concretely the demand response of the consumer to more or less generous insurance coverage. Indeed, the RAND Health Insurance Experiment, one of the largest social science projects to date, was in effect a controlled trial that was in part aimed at quantifying the consumer's demand response to varying levels of coverage (Newhouse and the Insurance Experiment Group 1993). (The results of this experiment are covered below.)

In addition to specifying the price to the consumer or the degree of subsidy, the health insurance contract also specifies the terms at which the insurer would reimburse the supplier. (Terms must also be specified when the government is a direct provider.) In many cases the supplier agrees to accept the insurer's terms as payment in full and does not bill the consumer an additional amount; indeed, in some instances, such as in Canada, billing additional amounts to the consumer is illegal.

Numerous studies have showed that the amount paid to the supplier, especially the physician, affects the quantity of services, holding constant the price paid by the consumer or patient (for example, Rice 1983). These studies have given rise to a lengthy debate among health economists about whether supplier-induced demand rendered standard demand theory, which postulated an exogenous set of consumer preferences, inapplicable to medical care.

The dominant empirical evidence purporting to show that supplier-induced demand violated standard theory was that the volume of health-care services often rose when physician fees were reduced. This was sometimes interpreted as physicians' delivering more services in order to maintain their income, and was referred to as the target-income hypothesis. But it subsequently was shown that this behavior could be accommodated by a standard neoclassical model, provided the physician's utility function was assumed to include total income, work effort or leisure, and the degree of inducement (the latter was assumed to be negatively valued) (McGuire and Pauly 1991). Under these conditions, if the cut in fees implied a large enough cut in income, the physician would increase inducement and services delivered would rise, but if the reduction in fees had only a modest effect on income, services would fall. (In the former case an income effect would dominate a substitution effect, and conversely in the latter case.) This modification, although potentially leaving the construct of a demand curve intact from the point of view of positive economics, left the applicability of conventional welfare economics on shaky ground.

The role of the physician as an agent for the patient gave rise to a literature that emphasized altering financial incentives facing physicians to improve the trade-off between risk spreading and moral hazard. Specifically, it was proposed to put the physician (or other supplier such as a hospital) at some risk for the quantity of services used by a group of patients (Ellis and McGuire 1986). Fee-for-service reimbursement of the physician, with fees set in an administrative transaction between the insurer and the physician, was thought to contain economic rents in many cases, with a resulting incentive for the physician to overprescribe services and procedures. For if fees were set at marginal cost there would be no incentive to overprescribe, and no concern about supplier-induced demand (Pauly 1980). Thus, the use of two-part pricing, wherein the physician (or other supplier) received a lump sum for each enrollee—a capitation—as well as a diminished fee, could in principle reduce the moral hazard from rents in fees without increasing the financial risk borne by the patient. (But some cost sharing on the demand side would still presumably be useful to address the patient's incentive to seek care in the first place.) Of course, if the consumer were well informed and could monitor the services delivered, the basis of payment to the physician, capitation, or fee-for-service, would not matter, but this was a strong assumption. Indeed, what the consumer often wanted from the physician was diagnostic information. The principle of a two-part payment could be extended to other kinds of services, for example paying a lump sum for each hospital admission, with perhaps additional payments for very expensive cases, rather than a varying amount for each admission, depending on the exact services delivered. This latter example shows that the fee portion of the payment could in principle be paid in nonlinear fashion.

The importance of pricing in affecting supplier behavior has blossomed in the USA with the development of managed care (Glied 2000). Health-maintenance organizations, which provide all necessary medical services in return for a monthly premium, had existed since the 1930s. Until the 1980s, however, they had a small market share (under 10 percent). But as medical capabilities and the resulting costs of health care rose, the scale of moral hazard and potential welfare loss of the then dominant insurance form rose concomitantly. Probably as a result, starting in the mid-1980s managed care grew to dominate the US market, in part because it was seen as a set of techniques to reduce the moral hazard without increasing the financial risk on the consumer.

Managed care consists of two broad techniques. The first is financial incentives to physicians, usually groups of physicians, to reduce services. A common form of such incentives is capitation, but there are also various kinds of risk-sharing arrangements with payment according to whether utilization is over or under a target. The second technique is command-and-

control-type regulation, such as utilization review or prior authorization of hospitalization, in order to reduce the delivery of low-valued services. Baumgardner (1991) showed how, as the technical capabilities of medicine increased, command-and-control techniques could become more valuable in addressing moral hazard.

But capitation had a downside as well. Because in practice the same capitation amount was paid for patients whose expected costs varied, there was an incentive to select good risks and avoid bad risks. This issue has been the subject of much analysis (Van de Ven and Ellis 2000). Some of the analysis stressed situations in which regulation prohibited charging different risks different amounts even when information was symmetric. Other analysis stressed asymmetric information and the attraction of sicker individuals to more generous benefits even if insurance plans made no active effort to discriminate among risks. The latter point of view gave rise to a literature on risk adjustment, meaning that an external party (government, an employer, a coalition of employers) would alter premiums facing consumers choosing among plans in accordance with the risk mix of their enrollees (Newhouse 1996, Van de Ven and Ellis 2000). After risk adjustment, plans that had a disproportionate number of bad risks would not be more expensive to the consumer than other plans.

The Rothschild–Stiglitz model of selection in insurance markets, which assumes asymmetric information, has been influential, but makes two predictions that do not correspond with experience. First, it predicts no pooling equilibrium (meaning heterogeneous risks purchase the same insurance plan). Second, it predicts that high-risk individuals can obtain the insurance they want, whereas low-risk individuals cannot. Real-world insurance markets obviously exhibit some pooling; furthermore, it is typically high-risk rather than low-risk individuals who have difficulty obtaining as much insurance as they want in competitive insurance markets. Newhouse (1996) showed that if it is costly for insurers to discriminate among varying risks or persons with varying expected costs, there will be some pooling of risks (there will be more pooling with higher costs of discriminating). Moreover, under these conditions it is high-risk rather than low-risk individuals who will not be able to buy all the insurance they wish. Although these predictions appear to accord better with reality, it is not clear that the magnitude of costs to insurers to discriminate among different risks is large enough to carry the burden assigned to them. Theoretical understanding of insurance markets remains imperfect.

If insurers (or health plans) compete for individual members, as is observed in the USA and in certain other countries (e.g., The Netherlands, Israel), competition will take place on risk type if premiums do not approximate expected cost at the individual level. In other words, if paid a uniform premium, it is in a

plan's financial interest to enroll relatively healthy persons and not to enroll the sick. A similar phenomenon can occur among physicians to the degree that they are reimbursed a fixed capitated amount per patient and are at risk for spending above that amount (e.g., primary care groups in the UK National Health Service). Selection based on expected costliness of patients implies that premium spirals may occur, in which certain plans are left with poorer and poorer risks, and ultimately may go out of existence (Cutler and Reber 1998). It also implies that prices quoted by health plans reflect the average enrollee risk in addition to any product differences that would affect cost for a given risk. In turn this means that prices facing an individual enrollee do not generally reflect the marginal cost of providing services to that enrollee, and that the allocation of persons to plans differs from that of a perfect market.

Remedying this situation by charging premiums geared to individual risk means an individual cannot avoid the financial risk of a deterioration in health if premiums are adjusted periodically, say annually, to reflect risk in the next period. For example, persons newly diagnosed with diabetes mellitus would face an increased premium and would thus bear the financial risk of contracting diabetes. In principle, the risk would be avoided if insurance policies paid a lump sum to an individual diagnosed with a disease at the time of diagnosis (Cochrane 1995). Such a feature is not observed, however, probably for the reason that health insurance tends not to be written as a fixed indemnity policy in the first place, namely that the large number of states of the world (i.e., the severity and combinations of various diseases) makes it impractical to enumerate the states. Furthermore, such insurance would fail to protect against the risk that a better but more expensive treatment will become available in the future, a common occurrence in medicine.

A monopoly public insurance program or the direct public provision of services effectively insures against the possibility of becoming a bad risk and also avoids the selection problem inherent in competitive arrangements, but potentially gives up whatever benefits in more favorable prices or quality may be available from competition. Moreover, it cannot readily cater to diverse preferences or willingness to pay for alternative treatments of varying expense. Also, even a monopoly insurance plan may leave competition among providers with which it contracts (e.g., physicians) and thereby introduce selection issues.

One middle ground between a monopoly insurer and competitive individual insurance markets is competition to insure groups of individuals who have formed for purposes other than obtaining health insurance (Diamond 1992). Provision of insurance through the place of employment, as is common in several countries, is one method of achieving this. Employer-provided insurance, however, breaks down

for small firms or the self-employed, as well as for individuals not attached to the labor market.

Another middle ground is so-called carve-out arrangements, whereby an employer or a public health insurance plan asks for competitive bids from suppliers of particular services such as mental-health services. A contract for the given service is then awarded to a single supplier, and the contract can be periodically rebid. For the service that is carved out, there is a single supplier to an entire group, but for services that are not carved out there can be competitive suppliers within the group. Carve-outs eliminate selection for the service that is carved out, but at the price of potential coordination problems among various suppliers. For example, it may be unclear whether a visit by a depressed patient who is complaining of fatigue should be charged to the supplier of carved-out mental-health services or the health plan that is responsible for all other health services.

Currently there is much interest in the consequences of different methods of reimbursing suppliers, especially physicians. The interest stems in part from the wide variety of methods used around the world, including fee-for-service, capitation (a fixed payment per period of time for 'necessary' services), and salary. Similarly, hospitals may be paid a fee for each detailed service, an all-inclusive fee per day, or an all-inclusive fee per admission. Several countries have changed their method of reimbursement (e.g., greater use of capitation in the USA). The consequences of different methods of paying providers will almost certainly be one of the main topics of research over the next several years.

## 2. *Health*

In 1972 Grossman developed a model that construed the demand for medical care services as derived from the demand for health, which he treated partly as an investment good and partly as a consumption good; for an exposition of the model and subsequent developments, see Grossman (2000). As an investment good, health care was assumed to increase the stock of health and thereby the flow of healthy days and productivity; as a consumption good, health care was assumed to improve well-being. Health, of course, was not traded in the market, but factors such as age and schooling altered the optimal level of health by altering its shadow price. Grossman's model, by emphasizing health rather than medical care as what was desired, was consistent with a stream of empirical work that sought to measure clinical outcomes of health care and did not simply take spending on medical services as equivalent to output. Starting from a different position, Sen (1992) has also emphasized the importance of health as a good in its own right.

The importance of health has given rise to two types of literatures in health economics, one on cost-effective

interventions to change health and the other on the determinants of health. One strand of literature evaluates various clinical interventions according to conventional economic criteria. Valuing health outcomes in dollar terms, however, is controversial; as a result, alternative methods for measuring benefits that are independent of willingness to pay have evolved. Two prominent methods are Quality Adjusted Life Years (QALYs) and Disability Adjusted Life Years (DALYs). These methods attempt to attach utility weights to various states of the world in order to compare them. In effect, they are measures of life expectancy adjusted for quality of life. For explications of methods and issues refer to Garber (2000).

It was natural for economists to study how additional medical services affected health outcomes. The RAND Health Insurance Experiment showed that free medical care induced participants to consume some 30–40 percent more services relative to a plan with a large deductible, but the additional services did little or nothing to affect the average person's health (Newhouse and the Insurance Experiment Group 1993). Such a finding was consistent with the prediction of a standard economic model, namely that ever-greater subsidies would lead to the consumption of ever-lower valued services. That additional services could have a small marginal effect on health, of course, is consistent with their having a large average effect; reducing medical services to zero could have catastrophic consequences.

Nonetheless, closer analysis of the experimental data suggested that the allocation of services by person did not fit the standard prediction. Fully insured consumers were more likely than those with cost sharing to receive services of substantial clinical value, which should have left them on average in better health, but they also were more likely to receive services of negative value (e.g., antibiotics for viral conditions). On average, the additional positive and negative services consumed by those with free care appeared roughly to offset, although for the poor who were chronically ill the additional services when care was free appeared to have a net benefit. In this group, of course, the prior odds that a given service would be beneficial rather than harmful was considerably greater.

The apparent misallocation of services to persons is consistent with one of the best established facts in health economics: there is enormous variation across areas—both small and large—in the delivery of various medical services, even conditioning on diagnosis (Phelps 2000). For example, rates of specific procedures per Medicare beneficiary in the USA generally varied by more than a factor of two from high to low across 13 large areas in 1981 (Chassin et al. 1986). And areas that had high rates for one particular procedure did not necessarily have high rates for another. Moreover, the percentage of 'appropriate' services in the various areas was roughly constant, rather than

declining in the areas with higher rates, and there were seemingly high rates of zero or negatively valued services in all areas, one-sixth to one-third for several procedures (Chassin et al. 1987). In other words, allocation of services to persons did not appear to be following the principle of maximizing health benefits in the population. Further studies have revealed high rates of zero or negatively valued services in other health systems as well (Brook 1993), which implies that the efficiency of health-care delivery worldwide may be well within the frontier.

In addition to the effect of medical services on health, economists have studied other determinants of health, in particular the consequences of various personal behaviors. The use of tobacco has probably been the most studied (Chaloupka and Warner 2000). Abuse of alcohol has also been studied intensively (Cook and Moore 2000). For both tobacco and alcohol, economists have shown that higher taxes reduce use substantially. In the USA, however, cigarette taxes are already at a level that roughly offsets the average and probably the marginal externality of smoking. By contrast, alcohol taxes are well below the average and probably the marginal externality created by excessive drinking (Manning et al. 1991).

Recently there have been a number of studies of the potential effect of income inequality on health outcomes, although most of these have been carried out by noneconomists. Many studies purport to show that increased inequality, controlling for the level of income, damages health, but there are issues as to which way causality runs and whether any inferences can be drawn from the aggregate data that many studies have employed. A useful review and critique is found in Smith (1999).

### 3. Policy Considerations and the Future

Health economists in several countries have been active in policy debates over financing medical services and measures to promote health. In some European countries, especially the UK, an important thrust has been to break apart the government role as both buyer and seller of services in order to promote competition on price among sellers. Similarly in the USA the spread of managed competition has been an effort to promote price competition among sellers of medical services (Enthoven 1988). The essence of managed competition is that a consumer should bear much or all of the incremental cost of choosing one health plan rather than another, which in turn motivates the health plan to seek economical suppliers of care.

The competition needs to be managed, however, so that it does not degenerate into a competition for good risks. As mentioned above, the 'manager' could be an employer, a coalition of employers, or government; in fact, all three are observed. Current techniques for

management or risk adjustment, however, are imperfect, explaining something less than half of the systematic or predictable variance across individuals in annual spending (Newhouse 1996, Van de Ven and Ellis 2000).

Although institutional arrangements in all countries attempt to control moral hazard, the efforts are imperfect for several reasons. First, medical knowledge is continually changing, so that what was thought to be the treatment of choice today may be discredited tomorrow. And sometimes the opposite happens as well. Because the spread of knowledge is imperfect, physicians may unwittingly be delivering a service that is known to be no longer effective or which is dominated by a newer service. Second, any efforts the physician makes to elicit the patient's preferences among alternative treatments may be imperfect. In extreme cases they may be futile, as in the case of a demented patient. As a result, the physician may give the patient a service a more informed patient would not have wanted or vice versa. Third, there is often lack of consensus about how health-care services should be rationed and in particular what role, if any, income should play (Garber 2000, Williams and Cookson 2000). Indeed, the advent of managed care in the USA and its effort at controlling moral hazard has led to a demand for 'patient protection.' In particular, under managed care arrangements patients have no ready way at the point of service to express the intensity of their preference or demand for a service. As a result, it is certainly possible that rationing would occur among highly valued services. Fourth, the degree to which others are willing to pay for an individual's treatment is variable across societies and across individuals. Improving methods for rationing services is likely to remain on many policy agendas for a long time.

One of the features of the late twentieth and early twenty-first century has been the aging of most developed countries. Several factors are contributing to this trend including increased life expectancy among those over 65, the post-World War II baby boom, and the ensuing baby bust. The result will be an increased demand for medical care (those over 65 typically spend from three to five times as much on medical care as those under 65) and an increased demand for personal care services as individuals become unable to live independently without assistance. Much of this demand will be financed from public sources, but the decline in fertility in developed countries means there will be more retired elderly per worker in most countries, and hence a greater tax burden for workers.

Historically, as noted above, real per capita medical care costs have gone up four percent or five percent per year in many countries over several decades. It is now generally accepted that this increase is mainly due to technological change or the increased capabilities of medicine (Newhouse 1992, Fuchs 1996). If this rate of increase in cost continues, medical care, much of

which is publicly financed, will consume an ever greater share of GDP. There is, of course, nothing inherently wrong with this, provided the benefits justify the costs, although the presence of insurance raises a question about whether, at the margin, the benefits do justify the costs. To the degree that the growth in costs is attributable to new capabilities, the issue is willingness to pay for those capabilities, both for oneself and others. Given the similar rates of increase in medical costs across countries with dissimilar institutions, there is some presumption that much of the increase is desired.

Continued biomedical research, especially the revolution in molecular biology and the mapping of the human genome, promise further technological change in medicine. Unfortunately, the implications of the change for cost are highly uncertain. Consequently, the future of health care and what of the increased menu of valuable services various societies will wish to purchase remains highly uncertain.

*See also:* Health Care Delivery Services; Health Care: Legal Issues; Health Care Markets: Theory and Practice; Health Care Organizations: For-profit and Nonprofit; Health Insurance: Economic and Risk Aspects; Health Policy; Health Promotion in Schools; Health Surveys; Medical Geography; Medical Sociology; Occupational Health and Safety, Regulation of; Welfare State; Well-being and Burnout in the Workplace, Psychology of

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J. P. Newhouse

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## Health Education and Health Promotion

Health education is any combination of learning experiences designed to facilitate voluntary actions conducive to health (Green and Kreuter 1999). Health promotion is the combination of educational and environmental supports for actions and conditions of living conducive to health (Green and Kreuter 1999), thereby including health education. The two definitions represent a historical development in approach from more individual to more ecological where the role of the environment has acquired increased relevance in understanding and changing conditions for health. For this reason, we will use the term health promotion in the remainder of this article. Health promotion can be characterized by four other main developments: the need for planning, the importance of evaluation, the use of social and behavioral science theories, and the systematic application of evidence and theories in the development of health promotion interventions. Finally, we will describe recent developments in information technology (IT) and their effect on health promotion.

### 1. Health, Environment, and Behavior

In the ecological approach to health promotion, health is viewed as a function of individuals and the environments in which individuals are embedded, including family, social networks, organizations, and community and public policies. The relation between social economic status and health is a clear example of environmental influences on health. At the same time it also constitutes a major challenge. The central concern of health promotion is health behavior. However, health behavior refers not only to the individual's behavior but also to the behavior or actions of groups and organizations. Stress at work may be related to individual coping behavior, but also to managers' decision-making behavior (organization). Richard et al. (1996) describe the various environmental levels as embedded systems. They indicate that individuals exist within groups, which are in turn embedded within organizations and higher order systems. The individual is influenced by, and can influence directly or through groups and organiz-

ations, the higher order systems. The picture that emerges is a complex web of causation as well as a rich context for interventions. In the stress example, the individual as well as the manager will both be targets for health promotion interventions. Moreover, at the society level, the intervention may target politicians' decision-making related to a healthier organization of labor. We see managers and politicians as agents in the environment who serve as targets for health promotion interventions (Bartholomew et al. 2000).

### 2. Health Promotion Planning

Health promotion is a planned activity. The most widely used health promotion planning framework is Green and Kreuter's (1999) PRECEDE/PROCEED model (see Fig. 1).

The model begins on the right with the assessment of quality of life and health problems, changes in which should be the proposed outcomes of a health promotion intervention. It then guides the planner to assess the behavioral and environmental causes. In the behavioral assessment typically one asks what the individuals at risk are doing that increases their risk of death from the health problem. In the environmental assessment we ask what factors in the environment are related to the health problem directly or to its behavioral causes. In the previous subsection, it was explained how the environmental causes can be viewed as behaviors or actions at various environmental levels: groups, organizations, communities, and society.

In the next phase of PRECEDE/PROCEED, the determinants of the behavioral and environmental factors are assessed. Green and Kreuter (1999) describe determinants affecting behavior as predisposing, reinforcing, and enabling. Predisposing factors relate to the motivation of an individual or a group to act. Notice that the target may also be an agent in one of the environmental levels, such as a manager or a politician. These factors mostly fall into the psychological domain and include the cognitive and affective dimensions of knowing, feeling, believing, valuing. Reinforcing factors are those consequences of action that determine whether the actor receives positive (or negative) feedback and is supported socially after it occurs. Reinforcing factors thus include social support, peer influences, and advice and feedback by healthcare providers. Notice that the perception of social support would be a predisposing factor. Reinforcing factors also include physical consequences of the behavior such as well-being or pain. Enabling factors, often conditions of the environment, facilitate the performance of an action by individuals, groups, or organizations. Factors included are the availability, accessibility, and affordability of healthcare and community resources. Enabling factors also include new skills that a person, organization, or community needs to learn to carry out a behavioral or environmental