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# PÁGINA ABERTA

## Why education and health are more different than alike

Claudio de Moura Castro <sup>a</sup>  
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### Abstract

Education and health – or more precisely, schooling and health care – are often lumped together as the major components of something called “the social sector”. There are some important similarities, but they are outweighed by greater and more significant differences. Most of these differences are intrinsic to knowledge and learning or to disease and dealing with it. Other distinctions arise from how society organizes and pays for schooling and medical care. The differences matter for costs, day-to-day management, and reform efforts in each sector. Treating the two sectors as highly comparable is both sloppy thinking and conducive to bad public policy.

**Keywords:** Health. Education. Medical care. Learning. Schools. Policies. Human capital. Costs. Reform.

### 1 Imagine this scenario

A school-age child is walking down the street, when suddenly he or she begins to feel ignorant. The feeling increases to the point where the child is forced to sit down and beg assistance from passers-by. Flustered, those people nearest him or her try to help by reciting the multiplication table, or asking if the child can remember the names of the principal rivers and cities of the country. Fortunately, among the nearby pedestrians is a retired schoolteacher, who has the presence of mind to telephone for professional help before sitting with the child and assuring him or her that everything will soon be all right.

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Within minutes, the big yellow school bus arrives, siren blaring and lights flashing. The child is rushed to the university, where a team of specialists performs a battery of tests and plan the necessary treatment. The child has suffered an acute ignorance of chemistry and geography, but there seems to be no damage to grammar or mathematics. After a few anxious days in the Intensive Teaching Unit, he or she is transferred to a normal classroom in the university, with semi-private tutoring. Several weeks later, when repeated tests show nearly full recovery, the child is referred to a primary school for follow-up instruction.

The professors who see the child through the crisis are naturally proud of their work. One of them nonetheless grumbles that with proper preventive teaching, the emergency need never have happened. The Minister of Education also is alarmed when a study shows that the typical case of acute ignorance costs the country nearly twenty times as much as the average annual spending per child in primary school. Editorial writers use the incident to criticize, once again, the inequities, lack of priorities and runaway costs in the country's educational system.

The child's parents, meanwhile, are grateful for the prompt and expert care. "If it weren't for the school insurance," says the mother, "we could never have afforded it." The father observes that the family will still have to pay 10 percent of the university cost, and hopes fervently that everyone else in the family shall stay knowledgeable for the rest of the year, since the cap on insurance reimbursement has nearly been reached. "If the government really cared about education," he tells a television interviewer, "they'd just pay for all the schooling anybody needs. How do poor people with several children survive at all?" Pressed as to whether the family had done all they could to prevent the problem, he insists that he and his wife always protect their children's knowledge at home, that they go regularly for examinations at the local school, that report cards are kept up to date and that the primary teacher's telephone number is prominently posted along with other emergency numbers. "These things happen," he says, noting that the child had never before had any but the usual mild episodes of ignorance, brief and without complications.

## 2 What's wrong with this story?

The short answer is, "Nearly everything." Most obviously, while some health problems are individual emergencies requiring immediate attention, schooling problems never are. Educational critics and politicians often describe outcomes like low test scores as an "emergency", but that is an abuse of language. It is certainly true that ignorance can precipitate a dangerous situation (what you don't know can hurt you), but schools are not called on, or even able, to deal with such situations.

In the second place, even when health problems are not emergencies they are largely unpredictable and do not depend on anyone's decision, the way that going to school does. It is because the need for health care is randomly (but not equally) distributed that health insurance exists (ARROW, 1963). But there is no market for schooling insurance: no one would buy it if the cost exceeded the cost of education, and no one would sell it if the cost were less. This does not prevent insurers from selling protection against the remaining cost of already contracted private tuition if a child is forced by uncontrollable circumstances to leave school during the academic year (A. W. G. DEWAR, INC., 2001). But there is no payment if the child stays in school, or leaves for reasons not covered in the contract.

Since the cost of schooling can be known in advance and the decision to attend school is not usually made in response to unforeseen events, education is financed out of current income or from savings, like out-of-pocket costs in health care, or else is paid for publicly or charitably. The costs of health care can be catastrophic for a family or leave it impoverished (WHO, 2001, p. 155-160; WAGSTAFF; VAN DOORSLAER, 2002); so can the health consequences of not getting care when needed. The costs of schooling, while they may be quite onerous, are seldom catastrophic or impoverishing because there are no life-or-death consequences, and education can more safely be interrupted or postponed than health care can.

In the third place, education is largely cumulative and aims to improve on the state of ignorance we are born with and would remain in, without any learning. Such improvement is strictly cumulative only within a particular discipline (learning more chemistry does not help one's knowledge of geography), but literacy and numeracy affect all kinds of learning, and the knowledge from apparently unrelated subjects can often be fruitfully combined. Medical care, in contrast, seeks to restore a state of health damaged by disease or injury. Such restoration is not cumulative, because a person can often suffer the same problem again, and the treatment itself may create other problems. It is tempting to link this distinction to the fact that education is directed to the nervous system, which responds more to changes than to constant states; much of medical care is directed to supporting the immune system, which typically tries to restore the status quo ante infection or injury.

Medical care is sometimes aimed at correcting congenital damage, rather than damage occurring later, but even then the object is to leave the patient in a state of good or normal health. The corresponding concept of "normal knowledge" – what everyone would know if there were no learning problems – hardly even exists, although the definition of a primary school

curriculum perhaps comes close. (That is not the same thing as a definition of what everyone should know in order to be considered cultured (It is usually assumed that four to six years of schooling are necessary to read the newspapers. Dean Jamieson and L. Lau (1982) found the same threshold of education to become more productive in agriculture. One might by good fortune be healthy all one's life without ever receiving any medical care, but it is impossible to be an educated person without an investment in learning.

One consequence of these differences is that there is nothing in education corresponding to referrals in medical care. A sick or injured person can be referred "up" from a health center or physician to a hospital, and referred "down" when hospital care is no longer required. There is a natural hierarchy of organizations and treatments in health care, but there is no natural sequence like primary education followed by secondary schooling followed by university or other higher-level training. This difference shows up in the fact that one leaves a medical facility, if alive, by being discharged, whereas one leaves an educational facility by dropping out or by graduating. If the health system worked the same way as education, no patient could get into hospital until he or she had spent six years at health posts, say, and then another six years attending clinics and completing treatment at all levels. In schooling, the worse results are at one level, the harder it is to proceed to the next higher one (VELEZ; SCHIEFELBEIN; VALENZUELA, 1993), while in health care the exact opposite occurs. This is one of the reasons why health care costs increase more rapidly than educational costs: those who fail primary school are not sent, at great expense, to university.

Another consequence of the difference between building up a stock of knowledge, and restoring a state of health, is that it makes sense to accumulate education as early as one can, and use the knowledge for the rest of one's life or at least one's working life. The opportunity cost of schooling contributes to this pattern, because learning takes a lot of time (BECKER, 1993, p. 77-80). Medical care can also absorb much time, but the opportunity cost is often lower because the person is too sick to do much else. And sometimes health care takes very little time to produce dramatic results. People can go to school at any age, but typically stop somewhere between late childhood and early adulthood, so that educational expenditure reaches a peak in or soon after adolescence. Spending on health care for an individual who lives long enough and who is protected by insurance, in contrast, is typically J-shaped with age – moderately high at birth and in infancy, very low in childhood, and then rising to what may be very high levels in old age (VAN DE VEN; VAN PRAAG, 1981). It makes sense to speak of a "school-age" child, but not of a "health-care-age" person.

### 3 Intrinsic versus socially-determined differences

The differences just described between schooling and medical care are intrinsic; they do not depend notably on how society chooses to organize either education or health care. Some other important differences are more socially determined. One of these is that education can be offered in a relatively uniform way to groups of students at the same time, whereas clinical care is highly individual even if the treatment is standardized (and often it is not, because patients differ in age, severity of condition, or co-morbidity). This distinction is far from absolute: some students need special instruction, and mass teaching risks boring the smarter students or leaving the less gifted behind. In health care, some services can be delivered (almost) uniformly to everyone without individual attention, especially services such as sanitation and vector control that are (at least partly) public goods that are not delivered to individuals. Nevertheless, the service can be more uniform in a school than in a health facility, and the differences are more marked between schools than within them (Within a classroom, services are closer to public goods, being collectively consumed without the learning of one student affecting much the learning of another).

In consequence of the greater standardization of the educational product, quality control is also easier. Everyone in a given grade and subject can be given the same tests, and the school or teacher can be judged by them, imperfectly but for many purposes adequately. Controversy mostly concerns the degree to which test results measure value added by the educational system rather than students' native intelligence or their home environment (SOARES; RIBEIRO; CASTRO, 2001).

Judging the quality of medical care is harder, despite the enormous array of diagnostic tests available. One reason is that what matters is not only the patient's condition at discharge or the end of treatment, but his or her survival and degree of disability over the next five or ten years. Schools would be much harder to evaluate if they were held responsible for how much their graduates or drop-outs remembered a decade later, or how they were using the education they received.

In both education and health, "universal coverage" is often wanted, but it means different things in the two cases. In education, it means everyone should complete a certain number of years of schooling, for which attendance is obligatory in principle. It usually also means that at least some schooling beyond that level is provided publicly, although places are not provided for everyone. In health care, few if any services are obligatory (immunization is sometimes an exception); and because treatments are neither cumulative nor easily arranged in a sequence, and outcomes vary among individuals, it is extremely hard to determine what services everyone should have

access to (SHEPARD; ZECKHAUSER, 1982). Even for determining what to buy with public money, there are at least nine relevant and sometimes conflicting criteria (MUSGROVE, 1999). Trying to make all health care free to whoever wants or needs it, would be equivalent to offering to subsidize as much schooling as anyone demands, even late in life and even if the student cannot master the subject.

The cumulative nature of education, the fact that costs can be known in advance and the limitation of coverage to a certain number of years of a standard curriculum, usually have the consequence that the public sector provides most of the schooling and pays for it from unambiguous and controllable budgets (UNITED NATIONS, 1997). Private schools abound, but – with some exceptions – seldom receive public subsidies. In contrast, the life-or-death nature of some medical care, the unpredictability of need and the large, hard-to-control variations in quality lead to large shares of private provision and finance, especially in poor countries (MUSGROVE; ZERAMDINI; CARRIN, 2002). The episodic nature of health care and the huge differences in cost between one intervention and another also mean that people cannot be identified with a single provider or sub-system but often get treatment at many different places and draw on several sources of finance, including private and social insurance as well as out-of-pocket payments and public expenditure (LA FORGIA et al., 2002). The equivalent in education would be to study different subjects in different schools during the same interval, with very different costs and payment modes.

This discussion has treated both schooling and health care primarily as investments in human capital, in which respect they are admittedly similar (WORLD HEALTH ORGANIZATION, 2000, p. 4; BECKER, 1993, chapter 2). Education, far more than medical care, can also be considered consumption. People go to school, or take particular courses, partly for the pleasure of it. And accumulated education, particularly if it is useless or at least not used to earn income, can be a form of conspicuous consumption and a mark of leisure (VEBLEN, 1931). This does not occur readily with most forms of medical care, although the distinction is increasingly blurred in the case of cosmetic surgery undertaken for consumption rather than simply to repair damage or restore health.

Finally, there is one general and rather puzzling difference in the relation to technical change. Educational systems are typically technophobic, conserving a traditional classroom delivery style and resisting external pressures to innovate, even in rich countries (LYNCH, 1999, p. 12-14). This helps control costs, but makes it hard to realize the savings that might accrue from technical innovation. In health care systems technophilia is the norm, and there is constant pressure to

adopt expensive new products and procedures even if they yield only marginal health benefits or none at all. Since both education and health care are often financed by third-party payers, this difference does not seem due solely to how markets are organized – for example, greater freedom of doctors than of teachers to pass along the costs of technical change – but must be at least partly cultural. The effects on costs are large and obvious.

We believe that the most profound differences between education and health are intrinsic, but it can be argued that social decisions widen those differences and make them seem more natural than they really are. For example, both the pace of technical change and that of cost increase in health are much faster than in education, in part because of how health care is paid for. It is interesting to speculate how different schooling would be, if teachers could always diagnose and treat students individually, decide on technical innovations or other cost-increasing changes and pass much of the cost along to third parties (WEISBROD, 1991). However, there seem to us to be sound and intrinsic reasons, such as those described here, why that does not occur except – and only to a very limited extent – for schooling for children with special handicaps or developmental problems.

#### **4 Aren't there also important similarities?**

Clearly education and health would not be regarded as components of a single comprehensive social sector if they did not have some features in common. As with the differences, some similarities are intrinsic and some appear to be socially determined. In the former category, both schooling and medical care generate some externalities and are partly public goods (BARR, 2012). In both cases markets work imperfectly because of these factors and because information is incomplete and asymmetric between producers and consumers. In both cases a public regulatory role is needed, at a minimum, and some services need to be financed publicly if they are to be delivered at all, made available to the poor, or produced in optimal amounts.

The socially-determined similarities are more numerous and more marked. Both schooling (at least through primary level) and medical care have come to be regarded as basic human rights, generating pressure for expansion of coverage. Equity is also a major concern, and public subsidies are regarded as justified for those who cannot afford the services that society considers essential. Nonetheless in both sectors, difficulties of public financing and arguments of efficiency and equity lead to reasons why patients or students should bear some part of the cost under similar regimes of user fees (JIMENEZ, 1987). However, in both sectors equity is hard to achieve. The rich do usually end up subsidizing the poor, but the



rich still tend to capture a large part of the publicly-financed services, in addition to buying more for themselves through private finance. This is particularly true of the costliest services such as are provided in universities and hospitals. The cumulative nature of schooling makes it much harder for the poor to attend university than to be treated in hospital, so public health care spending often redistributes more toward the poor than educational spending does, when both universities and hospitals are subsidized (HAMMER; NABI; CERCONE, 1995). This pattern does not hold for secondary schools versus hospitals, if enrolment is relatively high and schools are more widely distributed than hospitals (LANJOUW et al., 2002, p. 29-33), but “higher” education has no exact counterpart in health care.

In both education and health care there appears to be substantial scope for reallocation of resources to improve equity and efficiency, so both systems are typically in need of reform. Also in both cases the providers usually wield great political power and oppose reforms that would reduce that power or require significant changes in how services are delivered. In particular, labor unions and professional associations are often hostile to greater use of incentives, especially monetary incentives, for controlling costs and raising quality (REFORMING PRIMARY AND SECONDARY EDUCATION..., 2000). Finally, both sectors are characterized by far too much ideology and lack of communication between defenders and critics of the status quo, although rational analysis and discussion seem to us to be making headway.

Nevertheless, it is easy to overstate these similarities or their importance. For example, in health only a few services are really public goods, and externalities are primarily associated with communicable disease control – tobacco use being a marked exception (JHA et al., 2000). The externalities generated by a more educated population are more varied, and some are harder to define, but they are no less real – including substantial effects on health (PSACHAROPOULOS, 1995). Moreover, there is an increasing gain to protecting everyone from a communicable disease, as by immunization, but the marginal returns to expanded schooling are more likely to fall than to rise as saturation is neared, because of individuals’ different abilities to profit from more education. Almost everyone can graduate from primary school, but trying to put everyone through college is certain to lower standards. This does not happen to the same extent in medical care, if services are expanded only to those who can actually benefit. To be sure, it is often hard to determine who will benefit, or how often to repeat an intervention, especially for screening or preventive measures that might be applied to much of the population and might rise rapidly in cost as coverage is expanded (BARNUM; GREENBERG, 1993).

## 5 Summing up the differences and similarities

Different people mean slightly different things when they talk about “the social sector”, but the phrase always refers, at a minimum, to education and health care. To lump these into a single sector is to assert that they should be treated, for most purposes, as being essentially the same with only minor differences that do not matter greatly for social policy. We argue just the opposite: that in thinking about education and health, the dangers of lumping are worse than the dangers of splitting, that the differences matter more than the similarities. We hope to have indicated just what the most important differences are, and why they matter for such issues as coverage, equity, technical innovation, costs, financing, quality, and the balance between public and private activity.

We summarize the arguments for our conclusion in Table. Sometimes there is a clear “Yes” or “No” answer to the question whether health care or schooling exhibit a particular characteristic, but more often there are differences of degree, sometimes very marked between the two. Since it is usually possible to find some similarities and some differences when comparing any two things, comparisons always involve some decisions about emphasizing common features or divergent ones. At one extreme, everything may look so much alike as to paralyze discrimination and analysis. At the other extreme is the character of Funes the Memorious (BORGES, 1980), so overwhelmed by details and minute differences as to be incapable of abstract thought.

If these differences are important for the day-to-day operation of an educational system or a health-care system, we argue that they matter even more for efforts to reform such systems. One can imagine quite radical reforms in schooling, to the point of doing away with traditional classroom instruction, but there is little appetite for such changes or experience with them, except at the highest levels of education where courses may be taken from the Internet. This is a relatively conservative sector in which most discussions of reform, and most efforts to implement change, center on preventing the loss of teachers to other professions, improving the quality of teaching, or on broadening parents’ and students’ choices among schools (FELS, 1996). In the former category are improvements in educational materials and in training teachers and keeping them up-to-date. The latter category includes giving parents vouchers so they can send their children to private schools, setting up charter schools with private administration to lift the dead hand of public bureaucracy, and creating magnet schools to attract students with particular skills or interests (SAVAS, 2000). These are potentially very significant changes, but they hardly touch the relation of instructor to student and may

**Table.** Summary of Differences and Similarities between Education and Health.

Characteristic	Health Care	Schooling
Responds to Emergencies	Sometimes	Never
Predictable Demand	Only in Part	Largely
Insurance Market Exists	Yes	No
Nature of Improvements	Episodic	Cumulative
Natural "Good" State Exists	Yes	No
Hierarchy of Facilities	Yes	Yes
Referrals among Facilities	Yes	No
Tendency to Cost Escalation	Strong	Slight
Concentrated Early in Life	No	Yes
Time-Consuming	Sometimes	Always
Uniform Treatment	Sometimes	Usually
Measurement of Quality	Very Difficult	Relatively Easy
Universal Coverage	All Services	Up to Some Level
Gains from Universal Coverage	Non-Decreasing	Decreasing
Public Budgeting	Difficult	Easy
Public Finance	Quite Variable	Always High
Relation to Technical Change	Technophilic	Technophobic
Externalities	Communicable Diseases	General and Diffuse
Concern for Equity	Yes	Yes
Share of Spending on the Poor	Low	Very Low
Powerful Providers	Yes	Yes

Source: Prepared by the authors, in 2010, based on their own experience and judgment (2010).

not change the way schools are organized or financed. Furthermore, they are so far confined almost exclusively to the richest countries.

Health sector reforms can be much more varied and profound. They may involve substantial reductions in public provision, redirection of public financing, expansion of insurance coverage, subsidized insurance, increased competition among providers and more regulation of private activity (OECD, 1994). The relation of doctors to patients has already changed radically in some systems as those who pay for care, whether the government or private insurers, determine more and more what will be paid for. There are also many different choices of how to pay

physicians and other providers (U. S. CONGRESS, 1986). More generally, the health care industry is characterized by incomplete vertical integration, which can take many different organizational forms (EVANS, 1981), none of which is typical of how schools are organized or related. Health maintenance organizations, preferred provider arrangements, payment by diagnostic-related groups rather than for individual goods or services, and service contracts with providers are all reforms which have few or no parallels in education.

In sum, it is vague enough to talk about “the social sectors”; at the least, one should respect the plural and not talk of the social sector as if it were much the same throughout. Health care and education are different enough that policy for one based on analogy with the other is likely to turn out badly.

## **Educação e Saúde: mais diferentes do que parecidos**

### **Resumo**

*Educação e Saúde – para ser mais preciso, escolaridade e cuidados médicos – são frequentemente agrupados e considerados como sendo os elementos do “Setor Social”. Na verdade, há semelhanças importantes, mas são obliteradas por diferenças maiores e de maior peso. A maioria das diferenças são intrínsecas à natureza do conhecimento e do aprendizado, de um lado, e da doença e das formas de tratá-la, de outro. Outras diferenças resultam da maneira pela qual as sociedades organizam e financiam educação e cuidados médicos. Tais diferenças são relevantes quando falamos de custos, gestão do cotidiano e esforços de reformar os respectivos sistemas. Tratar os dois setores como semelhantes revela uma análise desleixada, e que acabará por conduzir a políticas equivocadas.*

**Palavras-chave:** Saúde. Educação. Cuidados médicos. Aprendizado. Escolas. Políticas. Capital humano. Custos. Reforma.

## **Educación y Salud: más diferentes que semejantes**

### **Resumen**

*Educación y Salud – mejordicho, escolaridad y cuidados médicos – confrecuenciason tratados conjuntamente y considerados como partes del “Sector Social”. Escorrectodecir que hay similitudes importantes, pero son obliteradas por diferencias aun más grandes y más relevantes. Gran parte de las diferencias es intrínseca a lanaturalezadelconocimiento y delaprendizaje, por un lado, y a lasenfermedades y las formas de tratarlas, por el otro. Pero haytambién diferencias asociadas a las formas de organización y financiamiento de laeducación y de los cuidados médicos. Tales diferenciasson críticas cuandohablamos de costos, gestióndelo cotidiano y de losesfuerzos de reforma de los sistemas. Tratar los dos sectores como si fueransemejantes revela unanálisipoco riguroso que puedellevarnos a políticas equivocadas.*

**Palabras clave:** Salud. Educación. Cuidados médicos. Aprendizaje. Escuelas. Políticas. Capital humano. Costos. Reforma.

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