

But Only If....

A Major Perspective Shift is a Good, Needed Start



As we begin to consider health care as a system, we would like readers to take a moment and solve the following arithmetic problem. The rules are simple. Please read the following out loud, then answer the question at the end. You are not allowed to go back and reread the problem after you read the question.

You get on a bus and it leaves the terminal. At the first stop, 4 people get on. At the next stop, 3 more people get on. At the next stop, 2 more people get on and 1 person gets off. At the next stop, 6 people get on and 4 get off. At the next stop, 4 people get on and 8 people get off. How many stops did the bus make (and you are not allowed to go back and count)?

You probably didn't know the answer, because you were solving a different problem. You were trying to determine how many people were on the bus after the last stop. In health care, we're nearly always trying to solve the wrong problem.

The history of bureaucracy is littered with detritus of solving the wrong problem at the wrong level. For example, health care costs are high compared with every nation that makes any pretense of having a health care system. The problem always posed is how to reduce the "use" of health care. That's the wrong problem, rather like counting the people who get on the bus.

Health Care Services: Shared, Not Consumed

To get a clear view of the underlying problem, the one we need to solve, we need a different perspective. A first step is to accept that health care is an essential service. In Vermont, because almost everyone gets the health care they need, health care is a shared service. We take the position that the

distinction between a “*shared service*” and a “*consumed product*” is critical to understanding the fundamental problem.



Looking upon health care as a consumable commodity has proven misleading and confusing. The portion of health care “consumed” is small. Consumables are restricted to prescription drugs and medical supplies (e.g., splints, bandages, wheelchairs, etc.). They comprise only about 16 percent of the costs in running a health care facility, such as a hospital.

Instead, the largest costs of a medical facility are apportioned between fixed costs (overhead items, such as rent, utilities, etc.) and costs that are all-but-fixed (the skilled professional staff). The first amounts to about 32 percent of the total. By far the largest portion—52 percent—is for skilled staff.⁵⁸

We’ve coined the term “all-but-fixed” to cover a category that is routinely misunderstood in health care. Skilled professionals, like those providing health care services, are not easy to find or replace. On an annual budgetary basis, they act as fixed costs. On a longer-term basis, more flexibility emerges. A health care service may discover a pattern, over a year or two, of declining admission rates and find that six nurses are too many and five is sufficient. But for all practical purposes, over the short term (at least a year), skilled staff act as all-but-fixed costs.

While writing this book, Terry Doran, one of the authors, experienced a lesson in fixed costs vs. consumables. He broke his leg running on a treadmill at a Montpelier gym. Five EMTs showed up, two transported him by ambulance to Central Vermont Hospital’s emergency room. An attempt to reduce the fracture failed. The next afternoon, it was surgically set and plated. The following afternoon, he was discharged on crutches. Over the 48 hours there, he “consumed” four meals, surgical bandages, dressings, staples and gloves, the surgical plate, pain medications, anesthesia, a soft cast, and a few other items, such as a disposable toothbrush. He retains the crutches. Over those 48 hours, he also had face-to-face exchanges with 21 health professionals: doctors, nurses, technicians. Another 10 professionals (unseen)

⁵⁸ Rebecca R. Roberts, Paul W. Frutos, Ginevra G. Ciavarella, Leon M. Gussow, Edward K. Mensah, Linda M. Kampe, Helen E. Straus, Gnanaraj Joseph, and Robert J. Rydman, “Distribution of Variable vs. Fixed Costs of Hospital Care,” *Journal of the American Medical Association*, Vol. 281, No. 7, February 17, 1999, pp. 644-649.

were involved: radiologists, lab technicians, and operating room personnel. Roughly 30 health professionals (not counting cleaners, cooks, and administrators) attended to him. The physical capital (ambulance, hospital room, etc.) and the human capital (EMTs, doctors, nurses, technicians) represent fixed costs. The costs of “consumables,” by comparison, are minor.

Over a year’s time then, the majority of costs for health care services—84 percent—are inflexible.⁵⁹ On an annual basis, these costs are unresponsive to whether we use them or not. Only about 16 percent of health care costs are “consumed.” They also vary at any time. So tackling health care costs from “use,” or the consumer end, cannot produce the dramatic reductions that are envisioned. This point is fundamental.

We are not claiming that use plays no part in costs. We are claiming that the preponderant factor in costs is the “capacity” that is in use. In fact, the term “use” is usually used pejoratively to imply “unnecessary use.” Over the long term, “use” is a reflection of “need” within the population served. Need and capacity are closely linked.

When health care services are used, they are not used up. Medical knowledge and skills can be used as much as needed, yet still remain. Most health care is like that. Terms like “use” or “consume” are beside the point. Most costs pay for health professionals to deliver care with a high degree of medical knowledge and skills. Trying to save money by keeping patients out of the hospital is like trying to save money on schools by keeping kids home for the day.

A simple example: consider an MRI scanner. The capital cost is about \$3.5 million, amortized over a period of years. The MRI is staffed by a radiologist and technicians. Those fixed costs are about \$500,000, plus annual amortization. An HMO patient needs an MRI scan.

- (1) Permission from a clerk is required. Permission falls under what we call patient-end control.

⁵⁹ *Ibid.* This study centered on hospitals’ fixed costs. We extrapolated the physicians’ practices and other services; so we expected some variance but not enough to disqualify the point.

- (2) Whether or not the clerk grants permission, the annual fixed costs remain the same. Curbing unnecessary use has little effect on annual fixed costs.
- (3) The fewer patients using the MRI scanner, the higher per patient charge will be to “retire” the annual fixed costs (or, the more patients, the lower the charge per patient). The real effect of such use-or-not-use decisions is to move charges among payers or, if annual fixed costs are not met, to shift them to those who can pay.
- (4) The basic question is not: can we reduce use? But is there enough need in the population to support the annual fixed costs of an MRI service? Or, is this MRI service the right capacity? If it’s more than we need, it’s costing us more than necessary. If it’s less than we need, capital investment in another MRI scanner is necessary.

**Excess
capacity,
not use,
is the driver
of health
care costs.**

Chipping away at the “use” or patient end won’t alter the MRI’s annual fixed costs or save a lot of money. Another example:

For some years now, the Montpelier School Board has wrestled with a drop in enrollment (“utilization”). At the end of 2004, the board voted to close Main Street Middle School and build a wing on the high school for middle school students (in effect reducing “capacity”). Reducing capacity also means cutting staff. The costs will be publicly financed by city taxpayers and the state. The board’s decision was made in the face of strong opposition from many in the community.⁶⁰

Capacity

Any discussion of costs must begin with capacity. If instead we begin, as managed care did, with “use” or individual utilization, we find that the techniques of cost management can be very expensive. The evidence is also insufficient that managed care reduces total costs. Decreased utilization can save money but only over the long term. The immediate link that we want to investigate is between “costs” and “capacity.” The two are directly related. If one goes up, the other goes up; if one goes down, the other goes down.

⁶⁰ *Times Argus* September 9, 2004, and December 17, 2004.

Costs That Will Go Up & Costs That Will Go Down

↑ UP

- Care for the uninsured
- Care for the underinsured
- Quality control
- Information technology
- Short-term costs for chronic disease

↓ DOWN

- Administration
- Workers compensation
- Secondary illnesses
- Overuse of medical care
- Charity care
- Long-term costs for chronic disease

Costs shift
from those
who cannot pay
to those
who can pay.

What is capacity? Capacity is a measure of how much health care a facility can provide. The determining factors of capacity are the size of the facility itself (fixed costs) and the size of its professional staff (all-but-fixed costs). If health care is costing too much, you have to decrease the fixed and all-but-fixed costs (that is, reduce the capacity). If too little health care is available, you have to increase these costs (that is, increase the capacity). Capacity is critical to understanding health care costs.

Curbing “capacity” saves a lot of money. Capacity is one of the principal drivers of medical care costs. Excess capacity is a driver of unnecessary costs. Capacity is measured across the health care infrastructure. When there’s more capacity (too many staffed beds in a hospital) than need, cost per patient goes up.

Imagine that a hospital in Vermont chooses to expand. It builds a new wing and staffs it with doctors and nurses. Setting aside the one-time construction costs, ongoing costs will include the increase in overhead for the new wing and the increase in medical staff. To meet the increase in fixed and all-but-fixed costs, the hospital must have paying patients. If it doesn’t, then it must advertise for them. If it can’t find enough new patients, a couple of choices remain. The hospital could give up the new wing and the new staff OR increase its charges to current patients in order to spread the costs around—the cost shift.

Spreading costs around doesn't mean only to current patients. When charges go up for a large enough group—as this hospital's patients—insurance companies are going to raise rates to offset the new charges. That means premiums for the rest of us go up, whether we go to that hospital or not.

Fletcher Allen is a perfect example in Vermont of having too much capacity. We know this because it is advertising for patients in New York State. If this need isn't met, higher costs will trickle down to all Vermonters. Capacity then is a managed response to population-based planning. Managing capacity is fundamental to curbing costs.

To reduce the rate of rise in future health care costs requires more closely matching the capacity with the population's needs. Other fragmentary approaches may emerge, but they are less efficient and bound to cause unintended consequences.

Capacity is a reliable guide to important aspects of health care. But where does capacity come from? What guides capacity? The population shares in the health care services, so capacity is measured at the population level.

Health care's
 “infrastructure”
 is its capacity
 measured by
 medical
 facilities and
 services.

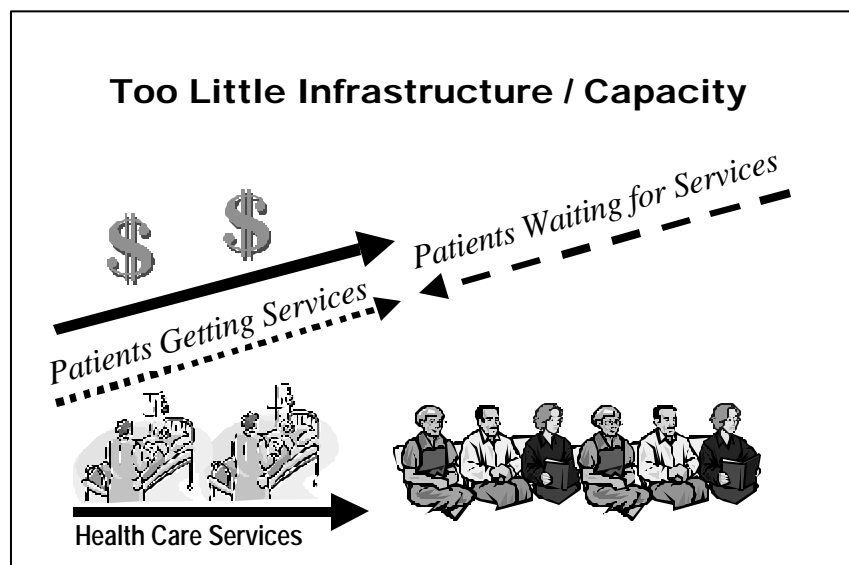
Capacity has been shaped over many years. It continues to evolve and will continue into the future. Capacity, in other words, is a *process*. Capacity is set in motion by the health care needs of all Vermonters. Vermont's health care infrastructure is what it is right now. But the infrastructure's capacity responds to changing needs within the population. The shortage of flu vaccine in 2004 will likely cause a surge of unplanned need, for instance. The infrastructure is probably flexible enough to accommodate this need, but other changes within the Vermont population will require more permanent additions or subtractions to the infrastructure's capacity. For instance, an aging population requires more nursing home capacity.

Another factor in shaping capacity is Vermont's CON administered by BISHCA. The process could be more rigorous but does attempt to discourage building more capacity than is needed. No process is available to control situations like Fletcher Allen's excess capacity. But, in general, CON plays a role in why Vermont's overall health care costs are lower than the national average.⁶¹

⁶¹ Vermont Health Care Expenditure Analysis, BISHCA, 2002.

The link between capacity and need is not perfect, because no perfect way exists to assess health care needs in a population—even a small population like Vermont’s. On the general population level, however, health care needs emerge a bit more accurately than one might expect. Some health categories have fairly predictable use patterns: 7 percent of Vermonters have diabetes, 25 percent have high blood pressure, and 5 percent have heart disease. These percentages form a reasonable guide to the capacity needed.

The population’s need for health care should determine the capacity of its health care services. This link is particularly important, because it emphasizes that health care extends beyond our personal needs. It’s a collective need—Vermont’s whole population impacts the capacity of health care services. The important realization is that we all play a *statistical*, rather than an individual, role in shaping the capacity of our health care services. Whether we have insurance or not, or are healthy or not, or go to the doctor or not are not the determining factors.



Why is this? If we’re healthy, why can’t we just forget about health care until we fall ill? First of all, we are a statistical member of Vermont’s population, which renders the occurrence of health care needs that, in turn, act as a rough

Health care
belongs
on the same list
as other
shared services
like police,
highways,
libraries,
and schools.

guide to the capacity of the health care services provided. Second of all, for these services to exist, they must be used pretty much all the time. In effect, while we are healthy, we depend on a statistical segment of Vermont's population to be sick enough to use the services. In this respect, Vermont's health care services are *shared* by us whether we are well or ill.

Later in this section, we make the point that an understanding of health care and its problems is best achieved at the population level and not the individual level. This point is especially important in paying for health care.

The Services

In Vermont, health care services are distributed at a local, then regional, then statewide basis. Beyond that are out-of-state services. Starting from the local level, each step up embraces a larger geographical area, includes a larger population, and generally provides more and different kinds of health care services that are unavailable at lower levels.

The most important features of Vermont's health care services are the following:

- (1) As we track services from the local to the regional to the state to the out-of-state levels, health care becomes increasingly intensive and usually more costly.
- (2) The more intensive the care, the fewer patients under treatment.⁶²
- (3) The reason why the State of Vermont has no heart, liver, lung, or bone marrow transplant units is because the population does not manifest enough need to support them.

Below is an outline of Vermont's health care services at the local, regional, and statewide levels, plus some out-of-state connections. The services at each level are not meant to be exhaustive, but rather indicative of the type of service.

⁶² Fletcher Allen's trauma unit had a relatively small number of patients on a yearly basis in a highly skilled, labor-intensive, and expensive environment.

THE OUTLINE

LOCAL PHYSICIANS

- Primary Care (checkups, vaccinations, diagnosing and treating acute and chronic illness, such as diabetes, back pain, high blood pressure, high cholesterol, sinus infections, etc.; minor surgical procedures, pap smears, simple orthopedic procedures, such as setting fractures, eye care, dental care, etc.).
- Home Care.
- Nursing Home.

REGIONAL FACILITIES

- Community Hospitals (congestive heart failure, complicated pneumonia, emergency care, surgery, intensive care unit (ICU), obstetrics, mammography screening, CT scan, cancer care, etc.).
- Drug Rehabilitation.
- Dialysis Units.
- Magnetic Resonance Imaging (MRI) Scanners.

STATEWIDE (OR CENTRAL) HOSPITALS

- Fletcher Allen Medical Center (ICU, neo-natal ICU, coronary stent procedures, neurosurgery, trauma care, burn treatment unit, heart surgery, cancer care, skin grafts, hand surgery, emergency care, etc.).
- Dartmouth-Hitchcock Hospital in New Hampshire, and Albany Medical Center in New York, also function as Vermont statewide hospitals, offering the most intensive care procedures. Vermont, however, has no jurisdiction over them.
- PET Scanners.

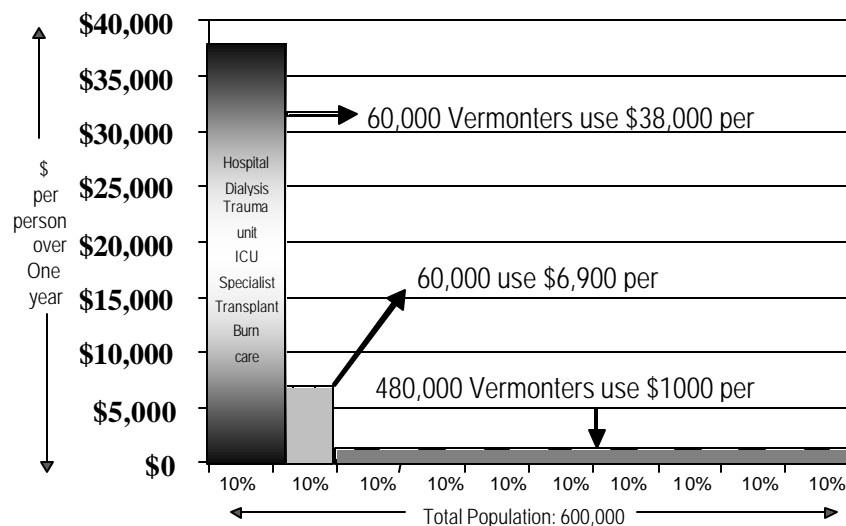
OUT OF STATE ONLY

- Transplants (heart, liver, lung, bone marrow, kidney).
- Rare Disease Treatments.
- Barometric Chambers (carbon monoxide poisoning, gangrene).
- Highly Specialized Surgical Procedures (conjoined twins, pediatric heart surgery, and others).

Looking at this outline of services, the reader may arrive at a surprising insight into health care costs and how they are distributed. This insight will lead us back to the point that services are both gauged and supported financially at the population level rather than the individual level. The outline supports our discussion of the direct links among costs, capacity, need, and population.

A further point emerges that is very important to financing health care. As you move up the intensity scale from local to regional to state to out-of-state, the number of patients needing a procedure are fewer while costs are greater. The same is true of a number of other procedures. The existence of a trauma unit in Vermont tells us several things. Our population is sufficient to support a trauma unit, which means that enough trauma patients will emerge each year from our population, and that our population is willing to bear the costs.

Most Expensive Services Used by Fewest People



For a clearer picture, imagine an individual Vermonter. We'll call him—not to be too original—John Smith. We imagine Smith and his medical biography to be entirely ordinary. The costs in parentheses are approximate and on today's scale of charges.

- Smith is born at his regional Vermont hospital (\$10,000). He has some minor problems in the delivery and has to stay a few extra days. He pays periodic visits to his pediatrician, receiving vaccinations and routine checkups (\$400).
- At age 12, he develops appendicitis, which causes a perforation. The initial evaluation is made by his pediatrician at the local level, who sends him to his regional hospital for an appendectomy. A week of hospitalization is required due to complications (\$10,000).
- At 20, he falls skiing and suffers a complicated fracture of his right leg. He is sent to the nearest regional hospital where he undergoes surgery to set the fracture (\$5,000).
- Smith, now in adulthood, is a good patient. He drinks very little, does not smoke, exercises regularly, and eats a balanced diet. He sees his local primary physician for routine checkups (\$1,000).
- Other than normal colds and several flu episodes, Smith's health record is uneventful until he reaches 50, when he develops high blood pressure. Given his healthy lifestyle, he is surprised. He goes on medication prescribed at the local level (\$600 per year for his medications).
- Smith is asked to see his primary physician four times a year to monitor his condition and overall health (\$1,500 a year for routine care).
- In his late 50s, he begins to suffer vision problems and has bilateral cataracts removed by a specialist at a hospital in the next county (\$2,000).
- At 65, Smith is diagnosed with prostate cancer. An abnormality is detected by his primary physician and he is sent to his regional hospital for further tests. He is diagnosed with prostate cancer and undergoes a prostate removal (\$17,000) and radiation therapy (\$25,000).
- At 70, Smith suffers a heart attack with no warning signs. He is hospitalized for a week in his regional hospital. He receives thrombolytics (clot-busting medicine), a stent (tube inserted in the heart artery to prevent clogging), and multiple tests before being discharged. He is put on two more medicines plus aspirin: one for borderline cholesterol, and one as a precaution against another heart attack. He

undergoes intensive cardiac rehabilitation at his regional hospital (\$38,000).

- He does well under this regimen. Then at 88, he shows definite signs of memory impairment. He forgets to take his heart medicine. His blood pressure goes out of control. He resists his family's attempts to bring someone into the home to look after him. He insists on living alone. His primary physician is consulted far more frequently (\$2,000).
- At 90, Smith suffers a stroke from controlled high blood pressure. He is sent to his regional hospital. From there, he is placed in a local nursing home. Smith remains there for the next two years. He dies peacefully in his sleep at age 92 (\$120,000).

The next biography is of a disease: diabetes, which 7 percent of the Vermont population is expected to have at some time. Type II Diabetes is the most common form of diabetes. The American Diabetes Association⁶³ describes diabetes as a condition in which *“either the body does not produce enough insulin or the cells ignore the insulin... Over time, high blood glucose levels may hurt your eyes, kidneys, nerves, or heart.”*

- Type II Diabetes emerges in John Miller, a corporate executive, at age 48. He begins feeling poorly. He loses weight, feels fatigued, and urinates more than usual. He finds himself drinking water all day long to quench his thirst. John hates going to his local family doctor but finally gives in at the urging of his wife.
- His family doctor diagnoses Type II Diabetes, high cholesterol, and high blood pressure. He recommends diet and exercise. They try that regimen for six months. John tries very hard to lose weight and begins to exercise more than he used to, but it doesn't work. He does not bring down his sugars, his blood pressure, or cholesterol to low enough levels. His doctor prescribes oral medications (\$500 per month). Visits to his physician the first year cost around \$1,000.
- He continues to try and control his health habits but never quite manages them well enough to get off his medication. After ten years, Type II Diabetes begins to take a heavier toll on his health. He suffers

⁶³ The American Diabetes Association's website is www.diabetes.org/.

86% of
health care
spending
is for
20%
of the
population.

numbness in his feet and his doctor detects kidney damage. By this time, he has been on insulin for several years. Because he does not have sensation in his feet, he develops sores from shoes that are too tight. An ulcer develops and gets infected. John ends up in his regional hospital with a foot infection, which requires surgical treatment and IV antibiotics. Despite treatment, John develops gangrene, and the surgeon amputates half of his foot (\$20,000).

- Not surprisingly, at this point, John begins to take his disease much more seriously. He makes honest efforts to control his sugars to perfect levels. His kidneys show some compromise, but he is able to delay kidney failure for several years past their expected demise. After another ten years, however, his kidney problems reach a point requiring dialysis. He goes to a free-standing regional dialysis unit (\$52,000 per year).
- John finds dialysis very confining. He has to go for treatment four hours a day, three days per week. After two years, he chooses to have a kidney transplant. No kidney transplant units exist in Vermont, so he travels to an out-of-state hospital for the transplant (\$100,000).
- Once done, he continues with local primary care visits. He also visits a specialist for followup on his kidney transplant at Vermont's state-level hospital, Fletcher Allen. He remains on diabetes medication, blood pressure medicine, and antirejection medication (\$16,043 per year).
- At 72, John develops pneumonia after contracting a common cold. He's hospitalized and given intravenous antibiotics. But his condition worsens, and he is put on a ventilator. The ventilator prolongs his life but, unfortunately, his temporary loss of oxygen during the course of pneumonia causes severe brain damage. He is put in a nursing home. He dies in his sleep within a year (\$100,000).

Our original observations are borne out: the further up the intensity scale of health care, the fewer patients but higher costs. This pattern is confirmed by studies. Their general conclusion is that the bulk of health care spending is for a small percentage of the population. The figures are that 86 percent of

health care spending is for 20 percent of the population.⁶⁴ That means 80 percent of us—504,000 in Vermont—spend very little on health care annually.

A note of caution here. Two false conclusions can be easily assumed here. One is that the 20 percent each year can be individually identified. But 20 percent is a statistical category. It does not address individuals. The chronically ill could be identified individually, but some portion of the 20 percent are propelled into the category by life events or accidents. Their identity is after the fact.

We raise the point for this reason: Floating around discussions of health care reform is the idea that, if we could only coerce the high-cost category to use less health care, we could lower costs dramatically. We could, the theory goes, if we knew who they were. But aside from the chronically ill, we often don't know.

Vermont
health care
has
shared
services
but not
shared
financing.

Even if moral and ethical concerns were omitted, how would this be done? Nearly all in the 20 percent high-cost category also fall into the life-and-death medical category. It's an idea so blinded by costs that it leaves out the human element. For instance, who would be willing to suggest that we save money by putting a premature baby on a ventilator only half the time?

A second false conclusion is that, because most of us need little health care, it's not our problem. Let the high-cost category figure out a way to pay for its health care. The recent cost figure per annum for the 80 percent low-need segment of the population is \$900. Much current discussion on health care reform is going in this direction. If we could shift responsibility for high-cost health care to those who are getting it, we could solve much of the problem.

The authors' position is that this approach is little more than wishful thinking. Shared services cannot work that way.

⁶⁴ *Medical Expenditure Panel Survey*, Agency for Health Care Research and Quality, 1999, at <http://www.ahrq.gov/data/mepsweb.htm>.

Shared Services

The very meaning of shared services is that we share in their use and in their financial upkeep. The story in Vermont right now is that we do the first but not the second. We have, give or take a little, the right amount of health care services for our population. Vermonters who need health care have access to these services. What we don't share is fair and equitable financing of these services.

Habits of thinking are difficult to break. One most pernicious habit regarding health care is to think of it from the individual point of view. This perspective is excusable when you need medical attention but not when the subject is Vermont's health care services. Several unfortunate assumptions creep in.

For one, we assume that the existence of health care services is someone else's responsibility, not ours. For another, we put the emphasis on "coverage." The assumption is that, if the individual has coverage, the rest will take care of itself. Coverage stands for payment of the individual's care. Thus, individual responsibility can seem to be the whole story.

Our argument in this book is that health care is a collective responsibility. Health care services are shared services. They are population-based; they are not individual-based. The existence of health care services depends on enough medically needy payers to emerge from Vermont's population to meet these costs. All payments for these services are an investment in tomorrow's health care being available.

"Coverage" and "investment" may sound like the same thing, but they're not. Investment carries the connotation of being directed, fiscally efficient, and responsible. Coverage is a catch-as-catch-can method. However, as practiced in Vermont and in other states, coverage is undirected, fiscally inefficient, and bears no responsibility to health care services.

Understanding that services and infrastructure are shared by all of us and so we all have a responsibility to pay for them is, in a nutshell, the heart of the problem to be solved in health care.

What Are We Paying For?

We're not
purchasing
treatments.

We're paying
to sustain
health care
services
for everyone.

We think that we're paying for the service that we get. Or that's what it looks like to us individually. But, in a real sense, we are doing something very different. We are paying our share of the costs to sustain the service's capacity for the next patient. The next patient does the same for the next patient and so on. So what we're really paying for is to have the service be available when we need it. The fact that the services are there for us means that we benefited from the patients who came before us.

Indeed, some payments are made directly at the time. However, most come later from private insurers or public insurers, like Medicaid and Medicare. If the service's sustaining costs are not met after everything is added up, then the services are ripe for the cost shift. Cost shifts, of course, are not an investment scheme but a desperate pay-as-you-go accounting in the absence of any responsible payment system.

In this situation, administrative costs to chase or deny payment for services are at least twice as high as they might be under a responsible health care system. The costs accumulate in the payer end and in the health care provider end. As things stand now, cost shifts are necessary. Under a truly efficient and integrated system, half or more of these cost shifts would be unnecessary. We are paying a lot of money that could be saved. Reliable estimates put the amount at around half a billion dollars in Vermont.⁶⁵

This cost burden falls inequitably and unfairly on the shoulders of individual Vermonters who buy health insurance, on employers who buy health benefits for employees, on employees, on taxpayers, and on the health care services and their professional staff.

To envision remedies for these inequities, we must accept the reality that these services are shared and start at the population level. Singling out individuals for a helping hand will help those individuals but will also inevitably sow disorder elsewhere in Vermont's health care sector.

⁶⁵ Woolhandler, Himmelstein, and Wolfe, *IJHS*.