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Healthcare rationing or waste avoidance?**

Racjonowanie opieki medycznej czy unikanie marnotrawstwa?

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Summary

While the goals to which financial resources for healthcare are destined cause questions regarding fair spending, their size must give rise to reflection on reasonable spending. The rationality of spending should comprise both effectiveness (achievement of the best result at minimum cost) and thriftiness, i.e., waste avoidance.

Any waste of resources would result from the actions (or lack of actions) of legislative authorities, state or local authorities and healthcare entities directly or indirectly created by these bodies. Healthcare professionals are also responsible for waste spending including each physician individually and the whole physician community as they should be fully aware of problem and its significance.

Streszczenie

O ile cele, na jakie przeznaczane są środki na służbę zdrowia, skłaniają do pytań o sprawiedliwe ich wydawanie, to ich wielkości zmuszają do stawiania pytań o wydawanie racjonalne. Racjonalność musi uwzględnić zarówno sprawność, rozumianą jako osiąganie najlepszego efektu możliwie najmniejszym kosztem, jak i oszczędność, określaną jako unikanie marnowania środków.

Za możliwe marnotrawstwo odpowiedzialne są przede wszystkim odpowiednie władze (ustawodawcze, rządowe i samorządowe) oraz utworzone przez nie (bezpośrednio lub pośrednio) jednostki służby zdrowia. Odpowiedzialni są również pracownicy służby zdrowia, w tym przede wszystkim lekarze. Odpowiedzialność ta dotyczy zarówno każdego pojedynczego lekarza, jak i całego środowiska.

The magnificent development of medicine in the XX[th] century caused that it has become one of the major and most important branches of the global economy. Depending on the adopted system, the amount of public and private funding destined in 2011 for healthcare in OECD countries varied between 5.9% (Estonia) and 17.7% (USA) of GDP (gross domestic product). In Poland the amount was 6.9% of GDP (including public funding as low as 4.5% of GDP), i.e., markedly less than the average of all OECD countries (9.3% of GDP).

As can be seen, the magnitude of health spending in the U.S. markedly differs from that of other countries. If the current trend continues, health expenditure will grow to approximately 20% of GDP in 2020. Other countries can be roughly divided into two groups: one with health spending between 11.9% of GDP (Holland) and 8.9% of GDP (Australia), and the other with health expenditure between 7.9% of GDP and 5.9% of GDP (Estonia).

Considering the size of GDP and a country's population, total health spending varies between $1.2 billion in Estonia and $3 trillion in the U.S. The average per capita is from several hundred dollars in Poland to 10,000 dollars in the U.S. Health spending in Poland amounts to approximately PLN 100 billion a year ($25 billion), i.e., much less than $1,000 per capita.

REASONABLE SPENDING: DIFFERENCE BETWEEN RATIONING AND WASTE AVOIDANCE

While the goals to which the above mentioned financial resources are destined cause questions regarding fair

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spending, their size must give rise to reflection on reasonable spending. The rationality of spending should comprise both effectiveness (achievement of the best result at minimum cost) and thriftiness, i.e., waste avoidance.

The concepts of effectiveness and thriftiness partly overlap since efficient spending largely depends on waste minimization. In ethical and economic debates there has been a shift from an ethics of rationing healthcare resources to an ethics of waste avoidance (2). Although rationing is necessary from the economic point of view, it is "psychologically" difficult. These psychological difficulties stem from the professional virtue of the medical profession; physicians understand fidelity to the patient quite literally, i.e., they treat each patient individually without taking into account the costs thus disregarding the fact that even the wealthiest nations' financial resources are not unlimited. Therefore, in healthcare funded by the progressive tax system, physicians owe loyalty to patients as a collective organism, i.e., a physician, contrary to a lawyer, must be aware of the needs of all patients, not only those who are under their direct care. The discrepancy between the loyalty to an individual patient and loyalty to a collective organism generates tension, which is difficult to overcome. Contrary to "rationing", the principle of "waste avoidance" does not generate such tension; it also seems acceptable for the majority as it does not deprive anybody of anything. It does not mean the concept of "waste avoidance" does not give rise to a number of question and doubts. However, the doubts are not related to the principle itself, much rather to the meaning of the word "waste". For the purpose of this text, "waste" will refer to misspending financial resources, i.e., using the available funds for interventions that do not benefit patients. To avoid all possible misunderstanding or doubts, it should be emphasized that fair remuneration of doctors, nurses and other healthcare employees cannot be considered misspending. Quite the opposite, such remuneration should be regarded as a good and appropriate investment. Again, however, what remains to be established is the meaning of the word "fair".

Irrespective of circumstances, avoiding wastage of financial resources appears to be the most important component of rational spending thereof. It is not surprising the United States have been at the forefront of investigation and description of resource wastage. As already mentioned, the U.S. is the country with the highest per capita health spending in the OECD; hence, the biggest amount of money is probably also wasted.

It was estimated that, in 2011, wasteful spending in U.S. healthcare ranged from 21 to 47% of national health expenditures, the midpoint estimate being 34% (3).

I believe there are three major categories of waste in healthcare, including the following:

1. Administrative waste

Factors which, according to the American estimates, account for almost a half (45.2%) of the waste in health spending can be defined as administrative waste.

1a. Administrative complexity

The first among administrative waste subcategories is administrative complexity that consists of excess spending due to inefficient rules and overly bureaucratic procedures. Administrative complexity occurs both at the central level (legislative and governmental) and within agencies dealing with accreditation of healthcare organizations, insurance companies, other payers (public and private) and other entities that influence healthcare organization. According to various estimates, annual waste resulting from the organizational erroneousness and shortcomings in healthcare delivery in the United States ranges from $107 billion to $389 billion (average $248 billion), which equals to 27% of all wasted funds. Hence, administrative complexity is perhaps the biggest single factor responsible for waste in health spending (5, 6).

1b. Pricing failure

Administrative waste also includes failure to price medical services correctly. American analysts believe pricing failure results from lack of price transparency and inadequate competition. Inadequate prices can be caused by inflation of services' costs or "nonchalant" attitude to the idea of fair profit. It is estimated that, in the U.S., pricing failure adds $84-178 billion annually (average $131 billion) in the wasteful spending thus accounting for approximately 14.4% of all waste in health spending (5, 7).

1c. Failures of care coordination

In between administrative and physicians' services there emerges another cause of wasteful spending, i.e., lack of coordination in both the diagnostic and treatment processes. Inaccurate coordination is caused by organizational fragmentation of the healthcare system and the resultant long waits for outpatient or hospital care as well as examinations being performed in nonstandard conditions entailing a need for repeat procedures. Lack of coordination also causes hospital readmissions, decline in the patient's functional status and hence need for assistance. Failures of care coordination can increase costs by $25 billion to $45 billion annually (average $35 billion) (8, 9).

2. Clinical waste

Another 35% of wasteful spending in the U.S. is more directly associated with the actions of healthcare practitioners, i.e., physicians and other health are professionals. Healthcare funds can be wasted both due to failure of care delivery and because of ordering diagnostic tests and treatments that provide no health benefit. These are two aspects of a major and unsolved problem that has become even more challenging with progress in medical technology. Failure to deliver timely care frequently results in its inefficiency while ordering unnecessary tests and procedures is a classic example of wasteful spending.

2a. Failures of care delivery

Failure to deliver timely care, inadequate care, management options that do not meet professionally recognized and approved guidelines or standards of

medical practices well as failure to observe the safety rules when dealing with a patient cause financial losses which, in the U.S., are estimated at $102-154 billion (average $128 billion), i.e., approximately 14% of all waste in health spending (5, 10).

2b. Overtreatment

Overtreatment is a very controversial category of wasteful spending. The prefix "over-" means "beyond an agreed or desirable limit". The controversies are associated with the definition of such a limit. Irrespective of doubts, which are unavoidable, the word "overtreatment" refers to medical interventions which, according to the state-of-the-art, are unlikely to result in the patient's benefit or are against their preferences. All procedures or services so provided are redundant. Considering the specific character of medical services, all unnecessary actions put patients in danger of adverse effects and complications and are therefore harmful. Overtreatment can also result from overzealous diagnostic tests ("overdiagnosis") which fail to help the patient, and, in the case of false positives, may lead to more tests and complications (2).

"Overtreatment" also includes unnecessary or excessive use of antibiotics, hasty surgical interventions when watchful waiting would be a more reasonable option and futile treatment at the end of a person's life that may be against recognized medical knowledge or the patient's expectations/preferences (including hospice and home care). Berwick and Hackbarth estimated that the U.S. health system wasted between $158 billion and $226 billion (average $192 billion) on overtreatment in 2011 accounting for approximately 20.9% of all waste in health spending (3).

3. Fraud and abuse

The last type of waste is collectively referred to as fraud and abuse including several forms of corruption. It is estimated that this category of wasteful spending accounts for approximately 20% of all waste in health spending in the U.S. and includes mainly fake medical bills, i.e., overcharges or billing for unperformed services.

EXTRAPOLATION OF AMERICAN DATA TO POLISH CONDITIONS

The above data indicate that annual waste amounts to 21-47% of total health spending in the U.S. A question arises whether American data can be extrapolated to Polish conditions. The similarity of morbidity and mortality data seems to justify such extrapolation whereas differences in the organization of both healthcare systems and especially the enormous difference between healthcare financial resources speak against. The average health expenditure per capita in the U.S. (including uninsured inhabitants) is over ten times higher than in Poland. However, there are indications that even such scarce resources like those in Poland can be wasted. The amount of money allocated by pharmaceutical companies to drug advertising in Poland, i.e., over PLN 5 billion annually, may serve as an example. It goes without saying the money is integrated into manufacturing costs and makes up 16% of the total cost of medicines sold annually in Poland (PLN 30 billion). However, it is the marketing of over-the-counter medicines (OTCs) and the so-called dietary supplements that is extremely widespread. Since the total value of the over-the-counter market in Poland is about PLN 10 billion, the value of drug advertising equals one half of the sum. Adverse effects of OTCs constitute another harm resulting from drug advertising, which is, in fact, something more than "just" waste. It should be noted that, for several years now, Polish consumers have shown a growing interest in over-the-counter products (11).

Considering the fact that the total health expenditure in the U.S. is around $3 trillion yearly, waste spending could be estimated at $1 trillion yearly. Assuming the percentage of financial resources wasted in the Polish healthcare system is comparable to that in the U.S. (most epidemiological data are extrapolated in this way), waste in the Polish healthcare would amount to approximately PLN 21-47 billion yearly (average PLN 34 billion).

Despite the organizational contrast and enormous differences in financial resources allocated in healthcare in the U.S. and Poland, it might be interesting to attempt to determine the magnitude of wasteful health spending in Poland based on American data.

The results of the extrapolation of American data to Polish conditions are presented in table 1. To make things easier, the table shows average values given by American authors; the total annual health spending amounts to $3 trillion in the U.S. and PLN 100 billion in Poland (PLN 65 billion allocated to healthcare entities by the National Health Fund and PLN 35 billion

Tab. 1. Waste in the Polish health care estimated based on American data extrapolation

Waste category	Percent of total health care spending in the U.S.	Percent of wasteful spending in the U.S.	Wasteful spending in the U.S. (USD)	Wasteful spending in Poland (PLN)
All waste in health spending	34%	100%	910 billion	34 billion
Administrative waste: – failures of care coordination, – administrative complexity, – pricing failures	13.9% 1.2% 8.3% 4.4%	45.2% 3.8% 27% 14.4%	414 billion 35 billion 248 billion 131 billion	13.9 billion 1.2 billion 8.3 billion 4.4 billion
Failures of care delivery	4.3%	14%	128 billion	4.3 billion
Overtreatment	6.4%	20.9%	192 billion	6.4 billion
Fraud and abuse	5.9%	19.5%	177 billion	5.9 billion

out-of-pocket health expenditure, i.e., private expenditure on health).

Waste spending in Polish healthcare is commonly attributed to fraud, mainly corruption. The problem is frequently considered a political issue and awakens a lot of contrary emotions. As already mentioned, it is estimated this category of wasteful spending accounts for approximately 20% of all waste in health spending in the U.S. It is difficult to determine the extent of the problem in Polish healthcare. It might be speculated that such behaviors are less common than in the U.S. – not because of higher morale but due to significantly lower resources that do not allow billing the National Health Fund for unperformed services. However, corruption and nepotism seem more prevalent in Poland.

SPECIFIC PROBLEMS IN POLISH HEALTHCARE

Since health care resources in Poland are considerably smaller than in the U.S., the availability of specialist treatment (including hospital treatment) is limited and queues for health services have become longer. Hence, wasteful spending resulting from failure in care delivery will not be lower than in the U.S., where this category accounts for approximately 4% of the total health care expenditure and 14% of all waste in health spending.

Lower efficiency of the use of healthcare resources in Poland and hence also wasteful health spending are associated with non-optimal hospital distribution and structure, mostly pertaining to Accident and Emergency Departments. There are also problems with the definition and list of life-saving interventions, a large number of district hospitals that cannot meet the costs of maintenance and investments. Insufficient surveillance over healthcare entities results in inefficient use of expensive medical devices/equipment.

Yet another issue is a problem with the use of information technology in healthcare management and, above all, a lack of an efficient and integrated information system.

The system of setting prices for healthcare services in Poland is far from optimal. High-cost procedures are excessively used while underfunded services are severely limited. It is difficult to determine the amount of healthcare resources squandered on excessive bureaucracy including physicians being involved in non-medical administrative tasks. Providing people with fake sick notes is another thing to mention. Fake sick leaves not only cause financial losses to the employer and Polish Social Insurance Institution (Zakład Ubezpieczeń Społecznych – ZUS) but also contribute to waste in health spending.

Wasteful spending also results from unnecessary diagnostic and therapeutic actions ("overdiagnosis" and "overtreatment"). Although the scarcity of healthcare resources in Poland seems to limit this category of waste, it does not rule it out completely. Considering absolute values, the phenomena of overdiagnosis and overtreatment add less to wasteful spending than in the U.S. However, the percentages of the total healthcare expenditure in both countries may be comparable.

To sum up, it is quite obvious that all categories and subcategories of waste in healthcare identified in the U.S. are also seen in Poland. A detailed analysis is beyond the scope of this review. However, there is a concept that seems the most controversial and definitely deserves further discussion, i.e., medical futility.

Futile treatment involves interventions that, instead of being life-saving, prolong life that cannot be saved and frequently also prolong the patient's suffering (12). It is an important issue in clinical practice and a topic of a hot ethical debate. There is a very fine line between treatment and futile treatment and it is therefore extremely difficult to avoid the latter. The situation gets even more complicated due to psychological impacts as well as ethical dilemmas of physicians, patients and their families. It cannot be ruled out that, in some cases, futile interventions are administered by physicians or health care entities acting out of financial self-interest (2). Irrespective of its medical, psychological, legal or ethical aspects, solving the medical futility controversy depends on physicians' professionalism including ethical attitudes, solidarity within the physician community.

It should be noted that overtreatment (including futile interventions) could rarely be classified as a medical error. Everyday, physicians face situations when they have to choose between "too much" and "too little", i.e., between over- and undertreatment. An example could be deciding on antibiotic doses in patients with similar infections but different clinical condition not to mention decisions regarding the duration of antibiotic therapy. Both overdose and excessive length of the treatment constitute a burden on healthcare resources while the patient may develop iatrogenic complications. The way of solving such dilemmas, which obviously tend to pop up in all medical specialties, constitutes the essence of medical profession.

CLOSING REMARKS

Avoiding wasteful health spending is a difficult and delicate issue since human health and life are at stake. In civilized countries the majority of healthcare is funded by the progressive tax system; the obtained resources are therefore public. Hence, spending should be regulated by a social contract and audited by a body authorized by this contract. Any waste of resources would then result from the actions (or lack of actions) of legislative authorities, state or local authorities and healthcare entities directly or indirectly created by these bodies. Healthcare professionals are also responsible for waste spending including each physician individually and the whole physician community as they should be fully aware of the problem and its significance. However, the range and degree of responsibility depends on applicable laws, which might increase or minimize wasteful spending. In my view, the idea that the principles of free market can prevent waste in the health

care system is completely erroneous or even noxious as evidenced by PLN 5 billion spent yearly in Poland on OTCs and dietary supplements marketing. Advertising non-prescription medicines has one principal purpose, i.e., to increase sales and, consequently, the profits of manufacturers. Consumers' health is of no special importance. The way OTCs are advertised creates an illusion they could be the best solution to consumers' health problems. In fact, the medicines have no health benefits; instead, they can be harmful in that their use may delay preventive, diagnostic and therapeutic actions. Furthermore, their adverse effects might result in iatrogenic pathologies without the option of putting the blame back on the physician. From the social point of view, resources allocated in OTCs advertising are not only wasted but contribute to the development of a phenomenon which could be referred to as medicalization. I believe physicians have a moral obligation to emphasize this type of wasteful spending of healthcare resources as there can be no doubts that the costs of non-prescription medicines and dietary supplements advertising markedly contribute to the ultimate price of these products.

An obvious question arises, i.e., whether the elimination of waste in healthcare is possible and, if, yes, to what degree. The above analysis clearly indicates that the answer to the first question is definitely "NO"; the objective reasons for this negative answer may be minimalized but not completely eliminated. Nevertheless, all efforts should be taken to most effectively manage limited health care resources.

An analysis of the American estimates clearly reveals that wasteful spending of healthcare resources could be the most effectively reduced through improvements in healthcare organization. In the U.S., administrative waste constitutes almost a half of all waste in health spending. The duty for securing such improvements lies primarily with the relevant authorities and institutions while efficient implementation requires true engagement of physicians and especially those who organize services at different levels of each healthcare system.

Physicians have the greatest impact on the magnitude of waste resulting from "overtreatment". This is the most difficult and delicate category of wasteful spending as it is associated not only with health care organization and medical professionalism but also a whole range of psychological and emotional aspects.

A prerequisite for preventing the unnecessary performance of diagnostic and therapeutic procedures is the physician's competence and professionalism, i.e., a combination of core knowledge/skills and appropriate ethical values. Other important factors are patients' trust and educating the society not to put pressure on physicians to continue futile interventions irrespective of how good intentions the family and doctors might have.

The benefits of each and every intervention of a physician should outweigh the downsides. If the ultimate outcome of a medical intervention is considered disadvantageous, i.e., shortens the patient's life or worsens its quality, then the intervention can be summarized as harm to the patient and a waste of medical resources. If it does not benefit or harm the patient, it is "only" a waste. The issue gets complicated by the fact that the line between beneficial and risky medical interventions can be quite blurry and difficult to perceive. The skill to clearly distinguish actions that can ultimately prove beneficial, neutral or harmful to the patient is among the most difficult and the most important elements in medical practice.

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