

# Vouchers for chronic disease care

Jennifer J Watts and Leonie Segal

## Abstract

This paper explores the economic implications of vouchers for chronic disease management with respect to achieving objectives of equity and efficiency. Vouchers as a payment policy instrument for health care services have a set of properties that suggest they may address both demand-side and supply-side issues, and contribute to equity and efficiency. They provide a means whereby health care services can be targeted at selected groups, enabling consumer choice of provider, and encouraging competition in the supply of health services. This analysis suggests that, when structured appropriately, vouchers can support consumers to choose services that will meet their health care needs and encourage competition among providers. Although they may not be appropriate across the entire health care system, there are features of vouchers that make them a potentially attractive option, especially for the management of chronic disease.

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**VOUCHERS PROVIDE** a mechanism for governments to intervene in health care markets, supporting access to services, consumer sovereignty and supply-side competition. We analyse the potential role of vouchers to address aspects of market failure and to complement public funding strategies in chronic disease management. The necessary or sufficient features of markets for vouchers in health care, the segments of the health care market where they will

## What is known about the topic?

Vouchers provide an entitlement or grant to individual consumers, either directly or indirectly through taxation or subsidy, that confers on them some purchasing power among a set of goods and services.

## What does this paper add?

This paper proposes that a voucher-type funding arrangement will provide a means of overcoming the distortions created through the public funding of certain services and practitioners over others that is particularly relevant in markets for chronic disease management, without the limitations on consumer choice that occur under single fundholder arrangements.

## What are the implications for practitioners?

Vouchers, as a means of paying for publicly funded non-medical services for the management of chronic disease, include greater consumer choice and competition among providers. Vouchers, in encouraging appropriate care and discouraging inappropriate care, should contribute not only to allocative efficiency, but also to equity (both horizontal and vertical) and service accessibility.

be most useful, and issues around implementation that would contribute to the success of vouchers as a component of funding policy are also addressed.

## Funding distortions in chronic disease management

Government intervention in health care markets through funding and other mechanisms to address aspects of market failure, such as imperfect information, externalities and concerns about equitable access to health care is almost universal. However, government intervention can exacerbate distortions in resource allocation. This occurs in particular where governments have intervened by subsidising one type of service provider over another, irrespective of evidence of effectiveness and/or cost effectiveness. This

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occurs, for instance, under universal health insurance systems which cover selected practitioners but not others, or have an uncapped budget to cover some services, while strictly limiting access to others. This results in a relative under-utilisation of services or providers not covered by universal insurance, but also the use of providers that are “core funded” to deliver a range of services, even where another occupational group may be more appropriate. For instance, in Australia under the public and universal health insurance system of Medicare, medical services and pharmaceuticals are core funded with no budget ceiling, expanding to meet all expressed demand, while other clinical services such as dental, allied health and nurse practitioners are funded in a very limited way. This has created distortions in access to health care and in the allocation of health care resources.<sup>1</sup>

This problem of public policy failure is likely to be greatest in relation to chronic disease management, where consumer choices are influenced by subsidised prices and the supply response is distorted by funding arrangements. For example, fee-for-service payment systems provide incentives for health care providers to promote consumer demand for their services, especially where consumers face a zero or subsidised price. The increase in consumption of services will be influenced by the type of services under the fee-for-service schedule, and a consumer preference for more immediate benefits. Preventative primary care services necessary for cost-effective management and prevention of chronic disease are likely to miss out.<sup>2</sup>

The dominant response to this problem has been the adoption of single fundholder models, in which a fund manager has control over all health care resources for an individual and seeks to purchase the optimal mix of services on their behalf. This inevitably involves limitations on consumer choice of provider, which carries inefficiencies, in the disempowerment of consumers and their capacity to influence the provider response.<sup>3</sup> This is the model adopted in the United Kingdom, initially as GP fundholding and then expanded into Primary Care Trusts, and in the United States as managed care, or New

Zealand through Regional Health Boards and patient enrolment with primary care physicians.<sup>4</sup> Impediments to the adoption of single fundholder models are usually context specific but may include entrenched division of funding for health care between different levels of government and other funders, including the private sector, a culture of fee-for-service payments to clinicians, a consumer preference for choice of provider, and the lack of a tradition of patient enrolment.<sup>5</sup> While these hurdles may not be insurmountable, consideration of alternative means to encourage the more efficient delivery of chronic disease management and prevention is warranted.

We propose that a voucher-type funding arrangement will provide a means of overcoming the distortions created through the public funding of certain services and practitioners over others that is particularly relevant in markets for chronic disease management, without the limitations on consumer choice that occur under single fundholder arrangements. Vouchers have the potential to not only provide an entitlement to a specific service but also to inform consumers of the range of services that might be available for a given disease. This provision of information pertaining to services is particularly relevant where consumers have some knowledge of their disease. It can empower them in their subsequent choices of both services and providers, and where consumers are able to choose a provider this inevitably promotes competition among providers. In this way, vouchers can both support consumer sovereignty and a more efficient supply response to the problem of chronic disease management and prevention. Although we propose a system of publicly funded vouchers under a universal health insurance system for the management of chronic disease, a similar arrangement could be funded through private insurance markets.

### **Vouchers for purchasing chronic disease care**

Vouchers provide an entitlement or grant to individual consumers, either directly (for exam-

ple “food stamps”) or indirectly through taxation or subsidy, that confers on them some purchasing power among a set of goods and services that is restricted.<sup>6</sup>

### **Characteristics of health care markets consistent with the use of vouchers**

The minimum characteristics that health care markets need to exhibit to support the use of vouchers are: i) clearly defined criteria for diagnosis and disease severity to determine eligibility; ii) agreed protocols for management, ideally based on high quality clinical and economic evidence; iii) tightly defined management protocols (at least in terms of use of clinician services) that are common across groups of consumers, which are not highly idiosyncratic; iv) clinical need that is largely predictable; v) an eligible group of providers, with eligibility determined through accreditation; vi) the capacity for consumers to make informed choices about alternative providers; and vii) potential for provider responsiveness, which requires the possibility of multiple providers able to meet consumer demand.

Although vouchers are unlikely to be useful in relation to health care markets where need is largely unpredictable and in some cases entirely random, for example emergency services, critical care, or “elective” health care services, there are other examples of health care markets where the above conditions are likely to be met. These include primary prevention (for example vaccination in high-risk groups, or where significant risk factors have been identified); early case finding through screening (for example cervical cancer or breast cancer screening); chronic disease management, especially where defined management protocols have been published with supporting evidence; and perinatal care where service need is relatively predictable, including the ante- and post-natal periods.

### **Role of information in chronic disease markets**

Access to adequate information that enables consumers to make informed choices is a necessary assumption underlying a market's ability to

achieve an efficient allocation of resources. In health care markets generally this assumption may not hold, however consumer sovereignty with respect to information relevant to health care needs is likely to differ across health care markets. On the assumption that consumers have some information pertaining to their disease, then it could also be assumed that consumers are able to make an informed choice with respect to their provider and primary care treatment. This recognition of the consumer's own knowledge-base relevant to chronic disease was supported by Wilson in the following statement, “By living with and learning to manage a long term illness many people develop a high degree of expertise and wisdom”.<sup>7</sup> (p. 771) This has led to the conclusion that many people with chronic disease have developed an understanding of their disease that enables them to participate in decisions concerning their own health care.<sup>7-9</sup> By recognising and acknowledging the consumer's own knowledge with respect to their disease, their choice of treatment and management decisions are likely to be compatible with maximising consumer utility in the short term. Where consumer utility is consistent with long-term health then, in the long run, individual health outcomes will be maximised.

For the purchase of chronic disease care a “direct voucher” providing entitlement to a specific service but enabling the consumer the choice of provider could meet the desired objectives of access, consumer choice and competition. The voucher is both prescriptive, in that the set of services that can be purchased is restricted, and proscriptive, in that the subsidised consumer can be given a choice of providers, consistent with meeting objectives of consumer sovereignty.<sup>6</sup> The restricted set of services to be covered by the voucher could be based on evidence of effective and/or cost-effective management for a given disease. For example a “diabetes package” would include vouchers for foot care, eye examinations, dietary management and diabetes education, the number and frequency of which are based on published clinical practice guidelines. Defining a prescribed set of services is consistent with meet-

ing objectives of social efficiency; while enabling choice of providers (the proscriptive element of the package) is consistent with consumer sovereignty and increasing consumer satisfaction. A necessary condition for the latter is that consumers have enough information to make an informed choice about the goods or service they are purchasing.

An additional benefit is that vouchers that are disease specific and provide for certain services will also have the effect of informing consumers of available services in the market. For example, once provided with a set of vouchers for services specific to their disease, consumers will not only be informed of the availability of these services but will also have an incentive to utilise such services. Where services are known to be cost effective, consumption of these services must be consistent with improving efficient health care delivery at the disease level.

### ***“Structured choice model” for vouchers in chronic disease markets***

Vouchers provide a means by which governments (or other funders) can intervene in markets for chronic disease management with the objective of assisting that market to achieve social or allocatively efficient outcomes, but leaving the choice of actual services purchased to the individual consumer. Where they enable consumers to choose a provider, competition is encouraged in a capped funding environment.<sup>10</sup> Such a voucher program has been described as a “structured choice model”.<sup>11</sup> The program is structured so that the provider or funder of the voucher (for example government in a public funding environment) determines the set of services that qualify for the voucher. In the context of chronic disease management, this restricted set of services would be available to eligible consumers, with service categories, number of services and eligibility defined with reference to disease-specific clinical practice guidelines, ideally supported by evidence from cost-effectiveness studies. A process similar to the requirement for pharmaceuticals to demonstrate evidence of cost effectiveness before qualifying for public subsidy could be envisaged. In this way,

the funder can prescribe disease-specific services for ongoing management and prevention of chronic disease that meet the criteria of cost effectiveness.

In some circumstances cost-effectiveness data may be relevant to both the service itself and a specifically qualified service provider, in which case the only choice is that of the individual provider; in other cases a cost-effective service may be available from a range of service professionals, providing patients with more choices. Hence a structured choice model can prescribe designated cost-effective services but also incorporate some choice of provider to the consumer. Although limited, consumer choice is desirable to the extent that it has the potential to promote provider competition.

### **Implementation issues in the context of chronic disease management**

The objective of introducing vouchers for chronic disease management in primary and secondary care is to promote efficiency in the management of chronic diseases through promoting access to evidenced-based cost-effective care. We briefly explore here implementation issues in the application of a voucher system to support chronic disease management.

#### ***Defining eligible consumers***

The potential for adverse selection and “cream skimming” means that the system of determining consumer eligibility needs to be a set of objectively defined and measurable characteristics that can be used to differentiate among recipients.<sup>6</sup> Adverse selection occurs where recipients are able to sort themselves into a group that entitles them to more services compared with someone else with similar needs. A second issue related to the identification of eligible consumers is that of “cream skimming”, where providers are able to identify and avoid more costly consumers and services. Although adverse selection and cream skimming are potential problems associated with vouchers, risk adjustment according to disease grading would reduce the potential for both.

Disease-based eligibility would normally be determined by agreed clinical diagnostic criteria for defining disease categorisation. Such classification could be used to define disease status, including multiple comorbidities and clinical risk factors. This might give rise to, or make use of, a system of disease registers where diagnosis is clinically based and/or supported with appropriate investigative procedures or diagnostic tests. Disease registers require good data that are linked across health sector jurisdictions, both public and private and in the acute and primary care sectors.

Service entitlement could also be based on a defined risk category, thus where cost effectiveness has been established for certain levels of risk these consumers will be entitled to different levels and types of services. Disease-based risk adjustment means that consumers with similar needs will be entitled to a similar level of services. This means that consumers can be subsidised according to their different level of risk, where adjustments must cover a high proportion of costs to be effective and use an evidence-based framework to set both the quantity and type of service for each disease-based risk group. For example, if risk adjustment were to incorporate only age and sex, then these risk-adjusted groups are likely to contain a high variance in costs. Whereas, if risk adjustment could incorporate recognised stages of disease progression (where these are predictable), then the variance in costs between groups of consumers is likely to be reduced.

### **Defining eligible providers**

Vouchers for the primary care management of chronic disease could include medical and allied health services, health education and disease-related products. For example, individuals with diabetes would be issued with a set of vouchers that entitle them to receive care from primary care-based providers for services such as dietary management, disease education and prevention of complications associated with diabetes. The actual choice of provider would be up to the consumer, for example a voucher for foot care could be used to access services provided by a primary care physician, specialist diabetes nurse or podiatrist.

The limiting factors to provider eligibility would be established evidence of clinical effectiveness and professional accreditation and registration.

Competition among providers is primarily promoted through allowing some consumer choice of provider. Consumer-centred approaches to chronic disease management are likely to enable individuals to communicate their experiences and understanding of their disease, enabling a “partnership in treatment” approach.<sup>7</sup> Informed consumers who are selective as to their service use are likely to encourage competition among providers, particularly in regions with multiple providers of similar services. Competition may be promoted both within and across professional groups, particularly where services for chronic disease management are close substitutes. Competition in this context is about the quality of the service as judged by the consumer, including provider responsiveness to their needs, communication, and access.

An important feature is that the voucher entitles practitioners to the same compensation based on the service provided, irrespective of professional category. If voucher prices are fixed and determined by the service provided rather than the provider of the service, then competition will not result in lower prices per service. If the consumer faces a fully subsidised price for a given bundle of services then the usual moral hazard effect of subsidised prices is avoided, as consumers can consume only up to a predetermined quantity of the subsidised service. Fixed prices for a given service mean that providers will compete on the basis of the service itself, rather than by attempting to attract more consumers through price competition. Cream skinning could be minimised by not allowing providers any discretion over to whom they provide services; or preventing them from charging a consumer co-payment above the voucher price.

### **Non-transferability of vouchers**

If vouchers are based on evidence as to optimal cost-effective care for specific chronic diseases, then it is assumed that the individual's health would be improved through consumption of all

services provided for in the voucher. Although a voucher would enable individuals to access those services that would improve their health, it does not mandate that the service is actually consumed. The provision of vouchers to individuals with similar disease states will improve equity in access, and efficiency will be maximised where the services specified in the voucher are actually consumed in the defined time period. Full consumption of services can be promoted if vouchers are non-transferable and cannot be exchanged for cash, even if an individual believes they are better off with cash in a given time period. That is, consumers have no discretion in choosing cash over a service. The vouchers are for use in an identified chronic condition and cannot be exchanged for the management of acute conditions. Non-transferability of vouchers, including cash transfers, is supported by the positive externality argument underlying the proposed voucher system and “imperfect information”.

### **Capping expenditure**

By capping funding to and the quantity of vouchers for primary care services, governments or other funders maintain some control over public health care expenditure. This contrasts to the open-ended subsidy for most Medicare-funded services and differentiates Medicare from a voucher program.<sup>6</sup> Uncapped funding means that health care expenditure can increase through providers increasing charges (price effect) or by adding new medical services to be subsidised (quantity effect). We do not propose, however, that vouchers replace the current Medicare system; rather, that they are complementary to current health funding policy. This strategy is not without risk to public health care expenditure as, once a person has used all their vouchers, they will still be entitled to access subsidised services under Medicare. However, for publicly funded vouchers to be accepted by clinicians, and to maintain the universality of Medicare, we recommend that the voucher system be complementary to the existing Medicare system.

Although increasing access to non-medical services is likely to lead to higher demand for

these services, and consequently increased costs of primary care, capping prices for predetermined primary care services means that the resulting increase in expenditure on primary care services will be driven by a quantity effect. Downstream savings from decreased hospitalisation and emergency department visits, however, should offset this increase in expenditure. Substitution effects between service providers (medical and non-medical) should also decrease overall health care expenditure attributable to the management of chronic disease.

Vouchers can be quantified in terms of the number and type of services rather than price or monetary value. For example, for a disease such as diabetes a consumer would be allocated a number of vouchers for specific services in a given time period. The number allocated would be consistent with evidence-based clinical practice guidelines or other published evidence-based sources. This will give providers some certainty as to the type of service and the level of reimbursement. By setting a price with providers, the voucher system also provides some price control to the funding body, and hence control over health care expenditure (and the health care inflation rate). Price increases can be built into the vouchers over time, so that real prices can be maintained for services covered by the voucher. This will avoid price distortions arising from the voucher system for subsidised and non-subsidised services and should avoid shortages in primary care service provision to voucher recipients.

### **The principal benefits of vouchers**

There are five distinct benefits that can be attributed to vouchers in health care. Firstly, vouchers provide a mechanism for informing consumers about the health services that they should be accessing, including frequency of use. It is not simply about restricting access to services, but also to encourage access to cost-effective services. In contrast to a cash grant, vouchers can be used to encourage the use of cost-effective services, while supporting some consumer choice (particularly choice of service provider).

Secondly, in allowing for some consumer choice of service provider, vouchers also support limited competition among providers. This should generate a more responsive service system that better meets the needs of consumers. Competition in this context will be primarily through features of service delivery, access and quality; potentially resulting in services that are more culturally diverse and more conveniently located. In the long run, competition between providers is also likely to slow the rate of price increases, hence controlling voucher prices.

A third benefit of vouchers in health care is that they can contribute to the achievement of equity and access objectives. Vouchers are based firmly on the principle of equal access for equal clinical need (horizontal equity) and unequal access for unequal clinical need (vertical equity), regardless of income means. Vertical equity is achieved, as the system represents both a transfer from those who are well to those with chronic disease; and those whose disease has progressed further are entitled to more vouchers. Vouchers provide a mechanism to effect greater service access by the sick, or those at elevated risk, and reduced service access and use by others such as “the worried well”. Also, by allowing choice of provider it should encourage the development of services that are more culturally attuned.

Fourthly, vouchers have an additional benefit in that they provide an effective means to regulate non-medical providers. Providers can be regulated as to both the type of service they provide and the quality of the service provided. For example, registration of providers may be a pre-requisite for redeeming the voucher.

Finally, vouchers can provide a means by which public funds for health care can be capped so that health care expenditure is controlled, predominantly through limiting price inflation rather than through caps on service utilisation.

## Conclusion

The attractive properties of vouchers as a means of paying for publicly funded allied health and other non-medical services for the management

of chronic disease include greater consumer choice and competition among providers. Vouchers, in encouraging appropriate care and discouraging inappropriate care, should contribute not only to allocative efficiency, but also to equity (both horizontal and vertical) and service accessibility. By setting a price to a voucher and limiting the number of vouchers to consumers based on risk adjustment, funding bodies are able to maintain control of health care expenditure and the rate of price inflation. In short, vouchers would seem to offer a potentially valuable tool for supporting better quality chronic disease management and the use of cost-effective preventative services.

A system of publicly funded vouchers for chronic diseases can be gradually introduced as evidence accumulates in clinical diagnostic measures and cost-effective disease management. Such a gradual approach to policy introduction enables suppliers of clinical services to respond to market signals, for example recognising any time lag that may exist in clinician markets due to training and education. Arrangements that incorporate some of the features of a voucher system are currently in place; however, they do not incorporate all the desirable features of vouchers. Given the continued failure to adopt high quality chronic disease management and the ongoing inequity in access to health care and in health outcomes in the face of an exploding evidence base, it seems to be timely to explore the possible implementation of a limited voucher system.

## Competing interests

The authors declare that they have no competing interests.

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