CAPITATION FORMULAE FOR INTEGRATED HEALTH SYSTEMS: A POLICY SYNTHESIS

Executive Summary

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This summary is provided in both official languages. The full report is only available in English.

Executive Summary

This policy synthesis was commissioned
We defined a set of desirable characteristics of funding mechanisms designed to allocate health care resources among populations in keeping with relative needs: validity, acceptability, resistance to manipulation, flexibility, avoidance of perverse incentives and feasibility. These characteristics were used as criteria against which alternative approaches were assessed.

The development and implementation of health care capitation formulae require policy choices with respect to the following:

- needs adjustment versus risk adjustment;
- the process for formula development;
- generic versus program-specific formulae;
- adjusters included in the capitation formula;
- management of outside-use (for enrolled populations) and cross-boundary flows (for geographically-defined populations);
- mechanisms to reduce incentives for cream-skimming or risk avoidance where there is competition among capitated providers or between capitated and fee-for-service providers; and
- strategies to counter the incentive to underservice.

Needs Versus Risk Adjustment (See Section 1)

Capitation formulae have two main purposes: risk adjustment, i.e., to ensure that capitation payments are adequate to cover predictable future expenditures on insured health services provided to enrollees, and needs adjustment, i.e., to ensure that funding is consistent with the relative needs for services of enrolled or geographically-defined populations.

In keeping with the objectives of Canada’s health care system, we believe the emphasis should be on needs rather than risk adjustment in
developing capitation formulae for the Canadian setting. For health care funding allocations to geographically-defined populations, risk adjustment is irrelevant. For enrolled populations, the aim of funding mechanisms should be to align allocations with population need (needs adjustment), not merely to cover predictable expenditures (risk adjustment).

**Recommendation 1:** That needs adjustment rather than risk adjustment be the basis for developing capitation formulae in Canada.

### Process for Formula Development

(See Section 10.6)

The development of capitation formulae is both a political and a technical task. For the process to be effective, policy objectives must be clear; there must be continuing and close collaboration between policy makers and technical experts in the development of the formula; and there must be meaningful involvement of other major stakeholders. The first two of these conditions will help to ensure that the formula reflects policy intentions. Stakeholder participation can enhance the identification and resolution of potential problems and the acceptability of the capitation formula.

**Recommendation 2:** That the process of formula development incorporate a clear definition of policy objectives, continuous working relationships between policymakers and technicians, and stakeholder participation.

### Generic Versus Program-Specific Formulae

(See Sections 7 and 10.4)

As discussed, capitation formulae may be either generic or program-specific. For example, Alberta has a single capitation formula for funding allocations to regional health authorities, whereas Saskatchewan has separate formulae for acute institutional care, institutional supportive care, home-based services and new health initiatives. Program-specific formulae may, in some situations, be more acceptable because of a transparent relationship between the adjusters included in the formula and need for services offered by the program. However, unless capitation funded organizations are free to re-allocate funds among programs, their ability to deploy resources efficiently is constrained. It is possible to compute funding allocations on a sector by sector basis and yet allow transfers of resources across sectors, as is done in Saskatchewan. It is also possible to favour sectors that are perceived to be underdeveloped by establishing regulations that allow reallocation to, but not from, certain programs. For example, in Saskatchewan, funds can be transferred from institutional care to home-based care but not vice versa. Even where inter-sectoral reallocations are permitted, the very existence of sector- or program-specific ‘budgets’ may inhibit such reallocations. Decision makers may feel, and providers or provider organizations within the sector may claim, that the computed capitation funds ‘belong’ to that sector or program. Segmented, non-transferrable budgets provide opportunities for cost-shifting among sectors. On the other hand, program-specific capitation formulae can be used as a policy tool to ensure that adequate resources are available for high needs sub-populations that might otherwise be disadvantaged, recognizing that this approach disenfranchises local decision makers by retaining decision making authority in the Ministry of Health.
Choice of Adjusters
(See Sections 4.1 and 10.6)

The available evidence on the validity of adjusters and formulae beyond age and sex is sparse and inconclusive. Furthermore, the appropriateness and validity of adjusters can be expected to vary across settings (jurisdictions, enrolled versus geographically-defined populations, and services or programs covered). However, certain statements can be made with some confidence: age and sex adjustment, while insufficient, will almost always be an appropriate starting point for health care capitation formulae; on the continuum of ‘gameability’, sex and mortality lie at one end and utilization-based data (including diagnostic information) and patient survey data lie at the other. The extent to which gaming actually occurs when potentially manipulable adjusters are used in capitation formulae is not known and should be a research priority.

The challenge in making adjustments for local cost variations is to distinguish between cost variations related to input costs and those related to variations in efficiency or needs for care.

Recommendations:
3) That, in general, generic formulae covering all included programs and services are preferable to program-specific formulae.
4) That program- or sector-specific formulae with segregated funding be considered only as a policy tool to support disadvantaged or vulnerable programs or sub-populations.
5) Based on current research evidence, we do not believe there are grounds for recommending a specific set of needs adjusters beyond age and sex for use in health care capitation formulae. However, because age and sex incompletely adjust for health care need, additional needs adjusters will be deemed appropriate in many circumstances. The selection of such adjusters should be based on acceptability to policymakers and stakeholders and a demonstrable relationship to need for the services covered by the capitation formula.
6) Capitation formulae should include adjustments for geographic variation in costs of health care inputs where these can be demonstrated to be non-trivial.

Important considerations in choosing adjusters include costs associated with data collection and management as well as costs and potential effects on provider morale of surveillance to identify or counter gaming. In selecting adjusters, the search should be for sets of variables that provide a coherent representation of health care need. The temptation to settle for readily available but inadequate adjusters should be resisted. Attention is needed to issues of reliability, stability, sensitivity, and bias.

Because the validity of adjusters and the formulae that incorporate them is likely to be context-specific, appropriate validation of potential adjusters and formulae should be undertaken prior to implementation. Two general approaches to validation deserve consideration: 1) comparison to a reference
standard allocation methodology based on the best available measure of health care need (e.g., health status); 2) specification of a model to explain health care expenditures that includes (and controls for) a full range of non-need related factors that influence health care expenditures.

Following implementation, systematic evaluation and review of the formula’s acceptability, performance, and validity are required to deal with developments in technology, changes in practice patterns in response to new evidence, and changing relationships between adjusters and health care need.

Management of Outside-Use (for enrolled populations) and Cross-Boundary Flows (See Section 4.3)

In situations where patients have freedom to choose among competing health care providers, charge-backs to provider organizations for the cost of outside-use of services covered by the capitation payment serve two purposes. They avoid double payment by the funder and offer an incentive to the provider to be accessible and responsive to patient expectations. The situation is complicated by the fact that some outside-use is either appropriate or unlikely to be influenced by the actions of the capitated provider. Given this ambiguous situation, the devil is in the details of the specific charge-back arrangements. The incentive for accessibility and responsiveness needs to be balanced against the constrained abilities of providers to control outside-use. This issue is being addressed in the context of Ontario’s Primary Care Reform pilot projects through negotiations involving the Ministry of Health, the Ontario Medical Association, and potential pilot sites. A number of strategies to overcome mutual dissatisfaction with the approach to charge-backs in the HSO program have been proposed for the global capitation pilot projects.

Theoretically, costs of outside-use could be borne by one or more of the following: the patient, the provider with whom the patient is rostered, the outside provider, or the funder (in Canada, the provincial Ministry of Health). To assign financial responsibility for outside-use to patients would promote differential access to care based on financial means. For emergency services and services provided while patients are traveling or temporarily resident (not simply commuting) outside their normal geographic area of residence, the costs of outside-use are most appropriately borne by the funder. In other circumstances, the costs of outside-use could be borne by two or more of the following: the funder, the capitated provider, or the provider of outside service. While, in principle, a case can be made for the provider of outside service bearing some financial responsibility, this would be difficult to implement in the absence of a system of universal rostering with a primary care provider (which could be independent of funding method). Without universal rostering, a primary care provider of outside service could not easily know that the patient was rostered elsewhere. Capitated providers should be expected to play a role in educating their patients about appropriate use of services and, to whatever extent possible, should be supported in doing so by being provided with information about

Recommendations:
7) Capitation adjusters should be chosen and formulae developed based on rigorous measurement principles.
8) Validity assessment of adjusters and formulae should be undertaken prior to implementation.
9) Systematic and regular evaluation and review are required following implementation.
outside-use by their rostered patients.

The magnitude of the cross-boundary flow issue for geographically-defined populations is a function of the size of the geographic area, the boundary definitions, and, perhaps more importantly, the extent to which the full range of services and programs covered by the capitation funding is available within the geographic area. The administrative and transaction costs involved in tracking costs and transferring funds related to cross-boundary flows can be minimized by matching the scope of services included in a capitation funding arrangement with the geographic units funded. Potential inefficiencies related to cross-boundary flows can be minimized by creating mechanisms whereby capitated organizations purchase services from outside providers at negotiated prices.

(See Section 4.2)

Needs adjustment methodologies are incapable of fully capturing variation in needs for health care at the individual level. Consequently, health care managers and, particularly, providers will usually have more complete information for estimating health care need and future expenditures than is incorporated in the needs adjustment formula. No matter how sophisticated the needs-adjustment methodology, there will always be an incentive for cream-skimming and risk avoidance where there is competition among capitated providers or between capitated and fee-for-service providers. Specific strategies are required to counter this incentive. These could include blended funding arrangements combining capitation and fee-for-service payment, mandatory risk pooling in which health care organizations prospectively identify a small proportion of their members whose costs are paid from a central pool, and ‘carving out’ high needs enrollee groups whose health care services would be funded by a separate capitation arrangement or by some other mechanism such as fee-for-service or program funding. Although primarily designed to protect capitated organizations against unpredictable ‘catastrophic’ costs, stop-loss arrangements will also have a blunting effect on the incentive to risk select.

Recommendations:

10) For enrolled populations, charge-backs for non-emergency outside-use should be shared among the provider with whom the patient is enrolled, the outside provider, and the provincial funding agency. Patients should not bear financial responsibility for outside-use.

11) The scope of services included in capitation funding for geographically-defined populations should reflect, without being rigidly determined by, the scope of services available within the geographic area.

12) To the extent possible, boundaries should be defined to reflect established patterns of health service use.

Cream-skimming and Risk Avoidance
Capitation funding of health care organizations and health care providers carries with it an incentive to underservice or stint on care because payment is unrelated to the quantity of services provided. The extent to which underservicing occurs under capitation funding is not known. Empirical research addressing this issue should be a research priority. Concern about underservicing is heightened when primary care providers are in a position to increase their personal income by constraining the use of referred services such as specialty care or diagnostic testing. This can occur when primary care providers hold budgets for referred services and can convert savings on referred care to personal income or when they receive bonuses for limiting expenditures on referred services. Even in the absence of stinting on appropriate referred care, patients’ recognition that their health care provider would benefit financially by denying them access to potentially beneficial services might have damaging affects on the provider-patient relationship. The approach taken to this problem under GP fundholding in the U.K. was to maintain separate capitation funding streams for GP income and the purchase of community and hospital care, and to regulate that savings from reduced expenditures on purchased services could not be applied to GP income.

The incentive to stint on care can be mitigated by combining capitation with other funding streams in a blended funding model. These could take a variety of forms, including separate funding for programs targeting high need populations or retrospective payment based on services provided (such as fee-for-service or payment-per-case). The objective of the latter approach would be to balance the competing incentives in such a way that the provider has little to gain by offering services with limited or no potential for health benefit nor from withholding potentially beneficial services. Denmark offers an example of this approach applied to the funding of general practice.

Empirical evidence is lacking regarding health care providers’ behavioural responses to combinations of capitation payment and payments based on services delivered. Research is needed to examine the effect of different levels of capitation and volume-based payment on stinting and the provision of services with marginal benefits.

Recommendations:
14) That capitation funding mechanisms be designed such that primary care providers cannot obtain personal financial benefit from reduced expenditures on referred services.
15) That, for enrolled populations, capitation funding be blended with other funding streams.