



RESEARCH REPORT

Payment Methods and Benefit Designs: How They Work and How They Work Together to Improve Health Care

# Diagnosis Related Groups–Based Payment to Hospitals for Inpatient Stays

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Payment reform promises to substitute value for volume. Yet, value- and volume-based approaches typically are implemented together. All payment methods have strengths and weaknesses, and how they affect the behavior of health care providers depends on their operational design features and, crucially, on how they interact with benefit design. Those seeking greater value for their health care dollar are also turning to innovation in benefit design, which also typically involves the implementation of more than one approach at a time—each with its own strengths, weaknesses, and effect on consumer health care behavior. Although payment and benefit design each has received significant attention independently, the intersection between the two has received little if any. The Urban Institute partnered with Catalyst for Payment Reform to explore how established and proposed payment methods and benefit design options work on their own and together. We also examined how payment and benefit design can be blended to improve health care delivery. This chapter is one of the nine payment methods discussed in the report *Payment Methods: How They Work*. All reports and chapters can be found on our project page: [Payment Methods and Benefit Designs: How They Work and How They Work Together to Improve Health Care](#).

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# Diagnosis Related Groups–Based Payment to Hospitals for Inpatient Stays

## Background

Diagnosis related groups (DRGs) provide a flat per-discharge (or per-death) payment that varies based on diagnoses, severity, and whether and what procedures were performed. DRGs are used for two purposes: In some systems, DRGs are a measure for assessing hospitals' case mixes and activities. In other systems, including Medicare, DRGs are used as an additional payment method. The basic setup for DRG-based hospital payment includes the following elements:

- a patient classification system to group patients with similar clinical characteristics and relatively homogeneous resource consumption into hundreds of DRGs;

- hospital cost information used to determine DRG weights, usually based on relative average treatment costs of patients falling within each DRG;
- a standard monetary conversion factor, used to convert DRG weights into base payment rates for each DRG;
- actual payment rates, obtained by adjusting the DRG base rates for structural differences across hospitals (e.g., wage rates, teaching status, rural area designation) and further resource-consumption variables (e.g., length of stay, readmissions, use of high-cost drugs or services).

Hospitals are paid based on the number and the type of DRGs they produce. The approach assumes that hospitals treat a random variation of patients such that, on average, patients who are more costly than their DRG payment rate are offset by patients who are less costly. Creating more DRG categories to reflect severity differences would decrease perhaps-unrealistic assumptions about random variation, as this would more accurately account for the systematic variations in costs associated with different clinical conditions.

Different payers adopt different DRGs to affect the actual incentives hospitals face. These differences do not alter basic incentives but rather represent operational differences. For example, across countries and payers most DRG weights and payments are based on average costs. However, it is possible to introduce normative rather than empirically based standards for modifying empirically derived weights thought to distort behavior.

Most DRG payment systems include outlier payments as insurance against incentives to avoid or prematurely discharge costly or potentially costly patients (called “outlier cases,” based on length of stay or actual computed costs). Outlier payments also protect hospitals from losses related to a “bad draw” of exceptionally costly patients relative to their DRG payment rates. To prevent a skew in calculation of average DRG costs, most DRG systems exclude outlier cases from the determination of average costs and provide separate outlier payments—these payments usually kick in only after a cost or length of stay threshold, generally far higher than the average for the DRG, is reached. Outlier payment therefore reflects to a limited extent the actual cost incurred by the hospital for extreme cases, rather than the cost of an average case, to balance the cost-containing objectives of DRGs with practical concerns about payment fairness.

# Key Objectives

Medicare adopted DRGs as an alternative to so-called cost-based payment to fundamentally change hospitals' incentives to reduce costs associated with an inpatient stay. Given that a prospective payment based on a patient's principal diagnosis, the hospital has an incentive to eliminate unnecessary services and to reduce the length of stay. In contrast to the United States, many developed countries introduced DRGs not as a replacement for cost-based reimbursement, but rather as a substitute for hospital global budgets to promote and reward hospital activity. Under some forms of global budgeting, hospitals with a guaranteed budget could adopt a complacent attitude about attracting patients, thereby producing queuing or waiting periods for elective services.

## Strengths

- Because the payment amount per principal diagnosis is fixed, hospitals have strong incentives to reduce costs per stay.
- Payers can achieve savings over time because hospitals' responses to DRG incentives lower average costs per case, which in turn permits lower DRG payment levels.
- Hospitals may improve care quality because they will typically improve internal care pathways and reduce lengths of stay (longer stays can be associated with greater iatrogenic harm and hospital-acquired infections).
- DRGs may be more market-oriented than other hospital payment systems because hospitals may improve quality and efficiency by treating patients for which the hospital has a competitive advantage.
- Having a uniform, standard classification system facilitates transparency and permits interhospital comparisons by payers and consumers.
- DRGs eliminate the need to review the appropriateness of every service provided during a patient's stay, so monitoring can focus on the appropriateness of the stay.
- Most health systems and an increasing number of U.S. payers now use DRGs; new approaches to promoting quality and cost containment can be transferred into improved DRG model designs.

- Hospitals paid under DRGs by Medicare would see a common payment model if private payers adopted the same approach, thereby eliminating conflicting incentives with per diems (the predominant method of hospital payment used by insurers).

## Weaknesses

- With a fixed payment per case, hospitals retain an incentive to increase the number of patients hospitalized, even when outpatient management is acceptable or preferred.
- Hospitals benefit from increasing revenues per patient, most easily achieved by changing coding practices of diagnoses and procedures (“DRG creep”) or by providing services that lead to reclassification of patients into higher-paying DRGs.
- In comparison to other methods for paying hospitals, DRGs are more complex, requiring coding expertise, data systems, and active oversight of coding by payers.
- In commonly used DRG designs, performing a surgical procedure produces a substantially higher payment net of cost for the same diagnosis without a procedure. Thereby, clinical decision-making is potentially skewed to favor procedures when medical management might suffice.
- Hospitals have an incentive to select profitable, low-cost patients (“cream-skimming”) in each DRG and transfer or avoid unprofitable, higher-cost patients.
- Hospitals may discharge prematurely, compromising quality yet rewarding hospitals if the patients are readmitted (unless the DRG design does not permit a new payment for readmission within a specified time period, e.g., 30 days).
- Hospitals may transfer patients to other hospitals or postacute care facilities, generating overpayments from the artificially low length of stay. Payers can follow Medicare’s lead by reducing the payment when such a transfer occurs early in a hospital stay, though that adds yet more administrative complexity.

# Design Choices to Mitigate Weaknesses

Many design issues determine the precise incentives hospitals experience under DRG payment systems. Innovative approaches have been developed over time and can be adapted for broader use:

- A transfer policy, under which short-stay discharges to another facility result only in a partial DRG payment, with the amount prorated length of stay. Similarly, DRG payments might not be made for very short stays, called “observation” stays in the United States, with the patients considered as outpatients. (However, the U.S. experience with observation days suggests this approach has its own problems and remains a work in progress.)
- Separate payments might be made for certain services that should not be assigned to specific DRGs because doing so would discourage their provision (e.g., costs associated with teaching).
- As a response to the broad incentive under DRGs to increase admissions, payers can set quasi-hospital budgets or volume thresholds that put predetermined limits on payments. Or, for volume increases above the baseline, payments can be reduced to approximate variable, rather than average, hospital costs.
- DRGs impart incentives for premature early discharge, often compromising quality and increasing readmissions. Accordingly, payers can forgo making a new DRG payment for patients readmitted for the same problem within a DRG-specific duration after discharge (as Germany). This form of warranty policy has a few potential variations.
- Payers can continually recalculate both DRG weights and monetary conversion factors to prevent DRG payments diverging substantially from underlying costs of production; such cases distort behavior, producing DRG “winners” and “losers.” One proposal would adjust the payment rate for a DRG when volume increases sharply—an indicator that the payment rate for that DRG may be excessive.
- Quality might be improved if payers deny placement into the higher paying DRGs for hospital-acquired conditions. Medicare uses this approach with mixed results.
- DRG weights might be modified to encourage desired behavior. That is, payments can be adjusted to provide a small “penalty” for providers performing a procedure associated with patterns of inappropriate care.

- To promote greater efficiency and enhance quality, payers might base DRG weights not simply on actual cost allocation in the different DRGs. Payers also might consider normative standards of care, that is, the cost of care for efficiently produced evidence-based care.

## Compatibility with Other Payment Methods and Benefit Designs

DRGs can readily be used in the calculation of bundled episode payments. If a payer defines an episode as the DRG does, which may be the case with hospital-based procedures, the DRG could represent the hospital portion of the bundled payment. In that way, DRGs are more useful than per diems in calculating condition- or procedure-specific bundled episode payments.

DRGs provide hospitals with stronger incentives than per diems to decrease provision of unneeded services and to promote more internal collaboration for efficiency. Yet an organization receiving population-based payments is at risk for the costs of hospitalization. Thus, payers may prefer to contract with hospitals using per diems rather than DRGs, if the payer can directly affect length of stay through its own efforts rather than relying on the hospital.

DRG payment would seem incompatible with various approaches to patient cost-sharing, because it is based on average cost for a diagnosis category rather than a patient's own experience. In some all-payer rate-setting states in the 1970s and 80s, the lack of correspondence between DRG payment amounts and individual patients' experiences created problems with cost-sharing obligations: patients with short stays or low costs, understandably, did not want to pay an averaged amount (while more costly patients benefited).

Variation in individuals' costs based on DRG case averages was considered inequitable. For that reason, Maryland's all-payer system has continued to use payment based on unit charges, in which DRGs serve as a "unit of constraint" but not the actual "unit of payment." The unit payment—approved charges—permits a closer relationship between patients' obligations and their own costs incurred, a particularly significant issue for those without insurance (i.e., "self-responsible" patients).

Many commercial payers, nevertheless, have adopted DRG payments while still using high-deductible benefit designs. For most subscribers, the cost of a hospitalization exceeds their out-of-pocket maximum. Even a short stay will blow through the deductible, whether the subscriber's portion is calculated based on the DRG's average cost or on the patient's actual experience. In practice, insured

subscribers have seemingly accepted their cost-sharing portion of an average-priced DRG without much objection, perhaps because hospital prices' complexity and lack of transparency obscure the inequity in patient's obligations with DRG payments. DRGs remain problematic for self-responsible patients because of the mismatch between average case payments and the patient's actual experience.

## The Focus of Performance Measurement

Many other countries have experienced an increase in hospital admissions in response to DRG incentives. This is likely because most other countries are all-payer systems, so they have no "safety valve" ability to make up revenue shortfalls through other payers, as is common in the United States. Accordingly, measures of appropriateness of hospitalization would help payers monitor hospitals' responses to DRGs, but these are not broadly available. More simply, payers can measure readmission rates (as is being done under Medicare) with financial penalties applied to hospitals with high readmission rates.

Although readmission rates would seem a straightforward measure to use, experience suggests even the validity of this measure is open to question. For one, reducing readmissions may also reduce admissions, such that the calculated readmission rate may miss the reductions in both the numerator and the denominator. What otherwise would have been a readmission can be redesignated as an observation stay to keep readmission rates low.

It also would be desirable for payers to measure premature hospital discharges, but such measures are not available currently.

## Potential Impact on Provider Prices and Price Increases

DRG-based payments have no inherent incentives that counter the market power of "must-have" hospitals. Medicare has the power to set DRG payment rates. Yet for private payers, hospitals with pricing power can demand higher-dollar conversions with standard DRG weights to achieve higher payments and to demand generous terms for outlier payments. Hospitals also frequently carve out particular high-volume specialized service lines from DRGs, with payment based on discounts off charges to produce greater margins.

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A [technical expert panel](#) advised the project team and reviewed the reports at different stages.

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