and weight. Self-reports tend to underestimate the prevalence of obesity, but evidence suggests that self-report does not differ between immigrant and US-born Mexican Americans, except for those who are underweight.8 Migration is a transnational process that is likely to have a range of health effects in both sending and receiving countries, including diet. Given that obesity is a risk factor for the major causes of mortality in this country, growing rates among Mexican Americans is of public health and clinical urgency.

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andoffs in hospitals have been widely recognized by both regulators and researchers as a locus of potential communication failure, with substantial risks to patient safety and quality of care.1,2 By conservative estimate, there are over half a billion patient handoff discussions annually in US hospitals. Most empirical studies have been performed in shift-change settings, where most handoffs occur, and where it is typical that responsibility for multiple patients is transferred during a single handoff session. However, theoretical analysis in the literature is entirely focused on how best to hand off a single patient.3-5 As a result, research has overlooked what has been labeled the portfolio problem: how best to allocate across multiple patients the scarce time available for a handoff session.6

In the first study of this issue, to our knowledge, we used video recordings of 262 patient discussions in 23 handoff sessions among experienced attending physicians in the intensive care unit (ICU) of a tertiary medical center. We found that first-discussed patients received about 50% more time than those discussed last in a session. This occurred despite the order of cases being effectively random and therefore unrelated to severity or complexity of illness.

Methods. We recorded 23 end-of-week handoff sessions that occurred just prior to the transfer of responsibility for the 21-bed ICU. The unit was staffed by 2 teams, each led by an outgoing attending physician who handed off to an incoming one. Our study was approved by the Queen’s University ethics board (Kingston, Ontario, Canada) and included 10 highly experienced physicians with a median of 9 years as an attending physician.

The procedure followed in this ICU was to discuss patients in bed-list order, not according to severity. We confirmed this in interviews and determined that ICU bed assignment itself did not relate to acuity or complexity. With unpredictable patient arrivals and all rooms equally equipped, the discussion order of the cases was effectively randomized, making severity of illness or other patient characteristics unrelated to discussion order.

Our main measures of interest were constructed from the videos: the number of patient discussions in each session, the ordinal position of each discussion in its session, and its duration. To determine whether our hypothesized negative relationship of order and length of discussion was statistically significant, we computed the Kendall τ rank order coefficient within each session. To
determine the magnitude of the portfolio effect, we used 3 distinct methods: comparing means for early and late discussions, monotonic regression, the method most appropriate for ordinal predictors, and linear regression, a common technique for approximating such relationships. Details on participants, methods, and analyses (eTables and eFigures) are available in the online supplement (http://www.archinternmed.com).

Results. We observed 262 patient discussions. The mean (SD) session duration was 142.73 (98.20) seconds. A median session had 11 discussions (range, 6-23 discussions).

Kendall τ correlations were negative for 19 sessions. Their overall mean (SD) was −0.186 (0.302) (median, −0.282). With no standard significance test for this complex situation, we performed a Monte Carlo test,7 a 100'000-replication random replacement simulation using our data set’s exact structure of sessions and of patients per session. It determined that the observed pattern of correlations would occur by chance with $P < .001$.

To determine the magnitude of the portfolio effect, we used 3 approaches that produced highly similar estimates. To facilitate comparison, we converted absolute duration to the proportion of the session at which the patient discussion occurred.

We compared the mean (SD) fraction of a session used by discussions occurring first (0.119 [0.065]) and last (0.077 [0.064]) (Wilcoxon signed rank test; $P < .04$). Monotonic regressions performed separately for each session size yielded weighted-average estimates (details are in the online supplement) for first and last shares of total time of 0.126 and 0.075. Approximation by linear regression for our median session-size estimated shares of 0.118 and 0.071. The 3 approaches closely agree, as does a fourth analysis, reported in our online supplement, using a linear mixed-effects model to control for intrasession correlation. The average time allocated declined steadily with increasing ordinal position. For example, in a median-size session the first discussion used at least 50% more time than the last.

The portfolio effect is summarized in the Figure, showing the relationship of proportion of session to relative position in session for the pooled 262 cases together with a least-squares fitted line.

Comment. To our knowledge, this study of discussion order and duration is the first of its kind. It has the limitations of involving 1 site and 1 particular type of handoff. However, it is easily replicated, and, if confirmed, it suggests that shift-change handoffs and handoff training programs should include methods for explicitly controlling the allocation of scarce time across the portfolio of patients discussed. Examples of such methods include discussing the “sickest” patients first,10 or the newest first, or deliberately concluding with a block of time reserved for returning to cases requiring further discussion.

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**HEALTH CARE REFORM**

**Cost Control in a Parallel Universe: Medicare Spending in the United States and Canada**

As the United States was implementing Medicare in 1966, Canada was phasing in its own Medicare program, which covered all Canadians under provincially administered plans. While these provincial plans varied, all incorporated significant payment reforms—global budgeting of hospitals and stringent capital expenditure controls—and banned copayments and deductibles.

Before the mid-1960s, the 2 nations' health care financing systems were similar, and health care costs were comparable. Since then, overall US costs have grown more rapidly, but no study has compared spending for the elderly—the populations covered by Medicare in both nations.

**Methods.** We obtained official figures for Medicare spending for persons older than 64 years in Canada and the United States for 1971 (when Canadian Medicare became fully operational) through 2009. Since available Canadian data for 1971 through 1979 are less detailed, we focus principally on changes since 1980.

We adjusted Canadian figures for minor changes in government accounting. To avoid distorting time trends, we excluded Medicare Part D (which began in 2006). We calculated percentage changes in inflation-adjusted spending per elderly enrollee and compared actual US Medicare expenditures in each year since 1980 (and 1971) with the projected level of expenditure had US Medicare spending increased at Canada's rate. See the eAppendix for further details (http://www.archinternmed.com).

**Results.** US Medicare spending per elderly enrollee rose from $1215 in 1980 to $9446 in 2009 (an inflation-adjusted 198.7% increase). The comparable increase for Canada was 73.0% (from $2141 to $9292). Canada's higher base-year spending reflects its more comprehensive benefits, covering about 80% of seniors' total health costs, vs about 50% in US Medicare.

The Table lists actual US Medicare spending from 1980 through 2009 and projected spending and savings had US costs risen at the lower Canadian rate. Projected savings totaled $154.2 billion in 2009 and $2.156 trillion for 1980 through 2009.

Medicare hospital spending per elderly enrollee grew 44.7% in Canada vs 81.9% in the United States. Physician spending grew 100.7% in Canada vs 274.3% in the United States. Hospitals' share of total Medicare spending fell from 49.6% to 41.5% in Canada and from 68.4% to 41.5% in the United States. Spending for other services (eg, home, hospice, and skilled nursing facility care) rose from 3.9% to 23.6% of spending in the United States and from 39.7% to 44.3% in Canada.

For the 1971-2009 period, US costs rose 374.1% vs 126.3% for Canada, and estimated foregone savings were $2.9024 trillion (eFigure).

**Comment.** Medicare spending has grown nearly 3 times faster in the United States than in Canada since 1980. Had US Medicare costs risen at Canadian rates, rather than a deficit of $17.1 billion in 2009, the Medicare Hospital Trust Fund would have realized a $32.3 billion surplus. Savings on Medicare Part B would have been even larger. By 2009, the $2.156 trillion excess spending attributable to US Medicare's faster growth was equivalent to more than one-sixth of the national debt.

Several features of Canada's program help constrain costs. First, the single-payer system has simplified administration, holding administrative costs to 16.7% of overall spending in 2010. Although US Medicare's internal overhead costs are low, it remains one among many payers. Hence providers' administrative costs are inflated by having to deal with a multitude of payers and track eligibility, attribute costs, and bill for individual patients and services.

Second, Canadian hospitals receive prospectively determined global operating budgets, removing incentives to provide unnecessary care while simplifying billing and administration. However, unlike accountable care organization payment schemes in the United States, capital costs are not folded into the global budgets but distributed separately through an explicit health-planning process. Canadian hospitals cannot use operating surpluses to fund new buildings or equipment but must request separate capital appropriations. Hence, they cannot expand by overproviding lucrative services, gaming the payment system through upcoding, avoiding unprofitable patients, or cost shifting.

Third, 51% of Canada's physicians are primary care practitioners vs 32% in the United States. Primary care—