The Balanced Adherence Metric: A new spin on current methods for calculating medication adherence using pharmacy claims data.

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The Balanced Adherence Metric (BAM): A new spin on current methods for calculating adherence with pharmacy claims data.

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PURPOSE/OBJECTIVE:
While Proportion of Days Covered (PDC) quantifies adherence (from claims data) in patients with complex regimens, it may not accurately quantify other important dimensions of adherence. Single interval adherence (e.g., Medication Possession Ratio) and refill timing behaviour (delay to refill) also provide meaningful information. Our objective was to combine them into a single metric which would account for these additional facets of adherence, but presented using a single value that was simple to interpret.

METHODS:
Nine months of pharmacy claims data from 4780 patients with hypertension, high cholesterol or both was used. PDC, MPR and Delay to Refill were calculated using the statistical package R. Delay to Refill was expressed as the proportion of time patients refilled their prescriptions early/on time.

RESULTS/OUTCOMES:
The mean PDC and MPR were near or within the optimal range (PDC = 73.9%, MPR= 90.6%). Patient refills were early/on time an average of 37.0% of the time. Together these metrics suggested that patients were adherent over the study interval, but we often refilling their prescriptions late. This poor adherence behaviour was not evident from inspection of the PDC and MPR distributions. In an effort to unify these metrics, we computed the weighted geometric mean of all three metrics (termed the Balanced Adherence Metric). The resulting metric showed a bimodal distribution of adherence, with a mean of 68.0%.

IMPLICATIONS:
Our study has shown that a mathematical combination of currently available adherence metrics may be more beneficial than either metric alone in objectively assessing adherence. Interpretation of the BAM is identical to that of PDC and it is simple to calculate with modern statistical software. The BAM and other similar weighted metrics may provide a more accurate and complete picture of adherence derived from claims data.