Research Evidence on the Effectiveness of the Patient-Centered Medical Home

There is significant effectiveness research that suggests that increased adoption of the Patient-Centered Medical Home, and increased use of it by patients, should yield significant measurable benefits. This research supporting the Patient-Centered Medical Home comes from:

- research evaluating the impact of patient affiliation with a primary care practice on patient health and expenditures, and
- research performed to evaluate the Chronic Care Model.

A summary of some of the research findings follows below.

Primary Care Practice Orientation Research Findings

Dr. Barbara Starfield of Johns Hopkins University, and many others, have researched the impact of a primary care-oriented health care system on health care outcomes, costs, and equity. Dr. Starfield's research has found that a greater orientation towards primary care results in lower per capita health care costs and better outcomes. Conversely, a specialist-oriented health care system (like that of the U.S.) is associated with higher costs and poorer outcomes.

Her research and that of others has shown that adequate access to primary care provides the following specific health and economic benefits [15]:

- reduced all-cause mortality and mortality caused by cardiovascular and pulmonary diseases[16];
- less use of emergency departments and hospitals[17, 18];
- better preventive care[19];
- better detection of breast cancer, and reduced incidence and mortality caused by colon and cervical cancer[20, 21, 22];
- fewer tests, higher patient satisfaction, less medication use, and lower care-related costs[23,24] and
- reduced health disparities, particularly for areas with the highest income inequality, including improved vision, more complete immunization, better blood pressure control, and better oral health[25, 26, 27].

Finally, and important to employers, there is evidence that primary care-oriented health care results in increased patient satisfaction.[28]

Chronic Care Model Research Findings

As noted earlier, the Chronic Care Model, like the Patient-Centered Medical Home, brings focus to how the primary care practice should restructure and reorient itself in order to provide improved clinical care to its patients. Considerable research has been performed and reported on the application of elements of the Chronic Care Model. A summary of the literature can be found at *www.improvingchroniccare.org/index.php?p=Chronic_Care_Model_Literature&s=64.*

In addition, evaluation research funded by Robert Wood Johnson Foundation and performed by RAND and the University of California at Berkeley as part of a four-year study of three Chronic Care Model collaboratives can be found at *http://rand.org/health/projects/icice/index.html.*

While the findings have varied from study to study, in part based on variation in the scope and focus of the research, studies have generally found that the application of elements of the Chronic Care Model improves quality of care and patient health status, and reduces costs. One effort to combine information on the Chronic Care Model from 112 different studies to derive an overall estimate of a treatment's effect ("meta analysis")[29] yielded the following results:

> *interventions that contain one or more elements of the CCM improve clinical outcomes and processes for patients with chronic illness*

and

> *multi-faceted interventions incorporating multiple elements of the Chronic Care Model have a greater impact on outcomes than single or simpler interventions designs incorporating a more limited number of model elements*

A second study[30] focused specifically on cost impact and found the following:

Congestive Heart Failure studies

- *3 positive for reduced health care use/costs*
- *2 negative for reduced health care use/costs*

Asthma studies

- *8 positive for reduced health care use/costs*
- *5 negative for reduced health care use/costs*

Diabetes studies

- *7 positive for reduced health care use/costs*
- *2 negative for reduced health care use/costs*

The research also found:

- Savings are achievable through reduced inpatient days and fewer ER visits.
- Targeting higher risk patients results in more significant cost improvements.
- Cost benefits of temporary programs may be short-lived.
- Financial savings require aligned incentives, and a favorable business case means savings **must accrue** to the same organization paying for chronic care improvements.

While there is no research on the effectiveness of the Patient-Centered Medical Home *as specifically defined* by the PCPCC Joint Principles or by the NCQA PPC-PCMH recognition standards, the above summary shows that there is plentiful research on core elements of each that demonstrate effectiveness in terms of both cost and quality.

This research should assure those employer purchasers who feel understandable caution about investing in a new concept such as the Patient-Centered Medical Home that the concept is, to a considerable degree, proven.

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