

Spring 4-17-2017

2nd Place Contest Entry: Patient Activation Among Diverse Populations: A Systematic Review

Megan Kenney

Chapman University, kenne200@mail.chapman.edu

Follow this and additional works at: <https://digitalcommons.chapman.edu/undergraduateresearchprize>

 Part of the [Community Health and Preventive Medicine Commons](#), [Health Services Research Commons](#), [Medical Humanities Commons](#), [Other Public Health Commons](#), and the [Public Health Education and Promotion Commons](#)

Recommended Citation

Kenney, Megan, "2nd Place Contest Entry: Patient Activation Among Diverse Populations: A Systematic Review" (2017). *Kevin and Tam Ross Undergraduate Research Prize*. 16.

<https://digitalcommons.chapman.edu/undergraduateresearchprize/16>

This Essay is brought to you for free and open access by the Leatherby Libraries at Chapman University Digital Commons. It has been accepted for inclusion in Kevin and Tam Ross Undergraduate Research Prize by an authorized administrator of Chapman University Digital Commons. For more information, please contact laughtin@chapman.edu.

Essay:

The purpose of this systematic review was to present the research on patient activation among diverse populations. Patient activation is a measure of an individual's knowledge, skill, and confidence in managing his or her own health and health care. Research in this field has increased over the last fifteen years as patient activation has been recognized as a promising solution for current health care obstacles. A variety of research exists analyzing patient activation in numerous settings. The goal of this review was to integrate the most current findings on patient activation in these diverse populations.

The EBSCO search engine through the Leatherby Libraries was used to collect the articles for this review. The article selection process was performed in two rounds. First, an advanced search was conducted through the EBESCO engine. The keywords used for the search were "patient activation." The quotation marks were imperative as they ensured that the keywords were used sequentially in the results. The search was limited to scholarly (peer-reviewed) journals only. The published date was restricted to January 2007 through March 2017. The articles were scanned for relevance to the review: an overview of patient activation among diverse populations. There was no restriction on population or country of publication. Primary research articles were required to utilize the Patient Activation Measure (PAM) for collecting quantifiable patient activation data. A total of 32 articles met the above criteria. The second round of article selection involved searching the references of the initial 32 articles using the keyword "activation." Performing the secondary search among the initial 32 articles allowed for inclusion of articles that provided imperative data relevant to the review, that may not have otherwise been recovered. It also ensured that potential data referenced in the initial articles was cited from the original source. Only the keyword "activation" was needed to obtain relevant articles. The second search produced 30 articles meeting the previously mentioned criteria. Overall 62 journal articles were included in this review. A total of 54 primary research articles, six retrospective analyses, and two systematic reviews were selected. In addition to the articles used for the formal review, 11 further references were included for supporting epidemiological data.

The selected articles were then thoroughly reviewed using the TRAAP method. First, all of the articles met the criteria for timeliness as they were published within the last ten years. Two landmark articles from 2004 and 2005 were included as they possessed integral information regarding the PAM. Second, all articles were required to meet the relevance of the paper: an overview of patient activation among diverse populations. To control this, utilization of a unified measurement system, the PAM, was required of all primary research articles. For comparative purposes, it was important to only include data from articles employing the same system of measurement. Two articles, however, were included for background purposes that measured outcomes after a patient activation intervention. Third, to control for authority, all of the articles selected were peer-reviewed and from respectable journals.

There was no concern over lack of authority from any sources. Fourth, reviewing the statistical methods of each articles ensured the accuracy. Articles that used unreliable statistical methods to produce misleading results were excluded. Lastly, the purpose of each article was intricately assessed. While nearly all of the articles highlighted positive results, only one conflict of interest was found. A notable author holds stake in the company that licenses the PAM. This conflict of interest was noted on all of the resulting articles and thus taken into account when writing the review. The supporting data from other authors upholds the findings of this particular researcher and therefore her findings were not dismissed. None of the declared funding was shown to potentially influence the results of the articles.

The EBSCO search engine provided the most relevant articles to be used in this review. The “full text finder” was incredibly useful and no articles were excluded because of an inability to retrieve the full text. The interlibrary loan would have been utilized had any articles been unavailable. No additional library resources were needed, or thus used, for this review.

The purpose of this systematic review was to present the research on patient activation among diverse populations. In writing a systematic review, it is an author’s outmost job to critically analyze the data. Primary research statistical methods are used to quantify and ensure relevance of the data. In a systematic review, the author must act as the analytical engine and only present relationships that are appropriate. The TRAAP method is imperative for ensuring that the data incorporated creates a coherent essay reflecting the research purpose. This review serves to consolidate the current data on patient activation for use of future researchers to expand upon and generate additional research questions.

3. Summary and Bibliography Instructions

Please provide a 250-500 word abstract of your paper/project along with a complete works cited list, reference list, or bibliography in APA, MLA, Chicago, or other recognized style. Do not submit your entire paper!

Summary:

The purpose of this article was to review the current research regarding patient activation among diverse populations. Patient activation is defined as an individual's knowledge, skill, and confidence in managing his or her own health and health care. A total of 62 articles were used in this review (54 primary research articles, six retrospective analyses, and two systematic reviews). Articles were obtained using the EBSCO search engine through the Leatherby Libraries at Chapman University. Preliminary and secondary searches were conducted using the keywords "patient activation." Only articles published within the last ten years (2007 to 2017) were included to ensure the most current data was examined. Two landmark studies from 2004 and 2005 were included as well. All articles were required to meet the relevance of the paper: an overview of patient activation among diverse populations. Additional articles related to the patient activation measure as well as the theory, outcomes, and interventions of patient activation were included. The selected articles presented data from normal, low socioeconomic status and minority, older adult, chronically ill, obese, diabetic, HIV positive, mentally ill, neurological, orthopedic surgical, hospitalized, clinical, and parental populations. Patient activation was significantly associated with a wide range of positive health outcomes and clinical markers. Higher patient activation scores were related to lower healthcare costs, beneficial health behaviors, and improved confidence in health management. Emphasizing patient activation bodes a more sustainable future health care system.

References:

- Alegria, M., Polo, A., Gao, S., Santana, L., Rothstein, D., Jimenez, A., . . . Normand, S. L. (2008). *Evaluation of a patient activation and empowerment intervention in mental health care* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000253665200004&site=eds-live>
- Alemayehu, B., & Warner, K. E. (2004). The lifetime distribution of health care costs. *Health Serv.Res.*, 39(3)
- Alexander, J. A., Hearld, L. R., Mittler, J. N., & Harvey, J. (2012). *Patient-physician role relationships and patient activation among individuals with chronic illness* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000303800200017&site=eds-live>
- Alvarez, C., Greene, J., Hibbard, J., & Overton, V. (2016). The role of primary care providers in patient activation and engagement in self-management: A cross-sectional analysis. *BMC Health Services Research*, 16, 1-8. doi:10.1186/s12913-016-1328-3
- Andrawis, J., Akhavan, S., Chan, V., Lehil, M., Pong, D., & Bozic, K. J. (2015). Higher preoperative patient activation associated with better patient-reported outcomes after total joint arthroplasty. *Clinical Orthopaedics and Related Research*, 473(8), 2688-2697. doi:10.1007/s11999-015-4247-4
- AuYoung, M., Ponce, N. A., Duru, O. K., Bustamante, A. V., Mangione, C. M., & Rodriguez, H. P. (2016). Patient activation is inconsistently associated with positive health behaviors among obese safety net patients. *Journal of Immigrant and Minority Health*, (6), 1489. doi:10.1007/s10903-015-0285-y
- Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior*, 31(2), 143-164. Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=eric&AN=EJ828413&site=eds-live>; <http://dx.doi.org/10.1177/1090198104263660>
- Begum, N., Donald, M., Ozolins, I. Z., & Dower, J. (2011). *Hospital admissions, emergency department utilisation and patient activation for self-management among people with diabetes* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000293825400029&site=eds-live>
- Blakemore, A., Hann, M., Howells, K., Panagiotti, M., Sidaway, M., Reeves, D., & Bower, P. (2016). Patient activation in older people with long-term conditions and multimorbidity: Correlates and change in a cohort study in the united kingdom. *BMC Health Services Research*, 16, 1-11. doi:10.1186/s12913-016-1843-2
- Bolen, S. D., Chandar, A., Falck-Ytter, C., Tyler, C., Perzynski, A. T., Gertz, A. M., . . . Windish, D. M. (2014). Effectiveness and safety of patient activation interventions for adults with type 2 diabetes: Systematic review, meta-analysis, and meta-regression. *Journal of General Internal Medicine*, 29(8), 1166-1176. doi:10.1007/s11606-014-2855-4
- Brenk-Franz, K., Hibbard, J. H., Herrmann, W. J., Freund, T., Szecsenyi, J., Djalali, S., . . . Gensichen, J. (2013). *Validation of the german version of the patient activation measure 13 (PAM13-D) in an international multicentre study of primary care patients* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000325423500040&site=eds-live>
- Chubak, J., Anderson, M. L., Saunders, K. W., Hubbard, R. A., Tuzzio, L., Liss, D. T., . . . Reid, R. J. (2012). Predictors of 1-year change in patient activation in older adults with diabetes mellitus and heart disease. *Journal of the American Geriatrics Society*, 60(7), 1316-1321. doi:10.1111/j.1532-5415.2012.04008.x

- Death and mortality. (2017). Retrieved from <https://www.cdc.gov/nchs/fastats/deaths.htm>
- DeCamp, L. R., Leifheit, K., Shah, H., Valenzuela-Araujo, D., Sloand, E., Polk, S., & Cheng, T. L. (2016). Cross-cultural validation of the parent-patient activation measure in low income spanish- and english-speaking parents. *Patient Education and Counseling*, 99(12), 2055-2062. doi:10.1016/j.pec.2016.07.003
- Deen, D., Lu, W. H., Rothstein, D., Santana, L., & Gold, M. R. (2011). *Asking questions: The effect of a brief intervention in community health centers on patient activation* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000293546900018&site=eds-live>
- Deen, D., Lu, W. H., Weintraub, M. R., Maranda, M. J., Elshafey, S., & Gold, M. R. (2012). *The impact of different modalities for activating patients in a community health center setting* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000310420900029&site=eds-live>
- Dixon, A., Hibbard, J., & Tusler, M. (2009). *How do people with different levels of activation self-manage their chronic conditions?* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000208001800005&site=eds-live>
- Donald, M., Ware, R. S., Ozolins, I. Z., Begum, N., Crowther, R., & Bain, C. (2011). The role of patient activation in frequent attendance at primary care: A population-based study of people with chronic disease. *Patient Education and Counseling*, 83(2), 217-221. doi:10.1016/j.pec.2010.05.031
- Finkelstein, E. A., Trogon, J. G., Cohen, J. W., & Dietz, W. (2009). *Annual medical spending attributable to obesity: Payer- and service-specific estimates* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000269646100058&site=eds-live>
- Fowles, J. B., Terry, P., Xi, M., Hibbard, J., Bloom, C. T., & Harvey, L. (2009). Measuring self-management of patients' and employees' health: Further validation of the patient activation measure (PAM) based on its relation to employee characteristics. *Patient Education & Counseling*, 77(1), 116-122. doi:10.1016/j.pec.2009.02.018
- Gleason, K. T., Tanner, E. K., Boyd, C. M., Saczynski, J. S., & Szanton, S. L. (2016). Factors associated with patient activation in an older adult population with functional difficulties. *Patient Education and Counseling*, 99, 1421-1426. doi:10.1016/j.pec.2016.03.011
- Goldberg, R. W., Dickerson, F., Lucksted, A., Brown, C. H., Weber, E., Tenhula, W. N., . . . Dixon, L. B. (2013). *Living well: An intervention to improve self-management of medical illness for individuals with serious mental illness* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000313299500010&site=eds-live>
- Goodworth, M. R., Stepleman, L., Hibbard, J., Johns, L., Wright, D., Hughes, M. D., & Williams, M. J. (2016). Variables associated with patient activation in persons with multiple sclerosis. *Journal of Health Psychology*, 21(1), 82-92. doi:10.1177/1359105314522085
- Graffigna, G., Barello, S., Bonanomi, A., Lozza, E., & Hibbard, J. (2015). Measuring patient activation in italy: Translation, adaptation and validation of the italian version of the patient activation measure 13 (PAM13-I). *BMC Medical Informatics & Decision Making*, 15, 1-13. doi:10.1186/s12911-015-0232-9
- Green, C. A., Perrin, N. A., Polen, M. R., Leo, M. C., Hibbard, J. H., & Tusler, M. (2010). Development of the patient activation measure for mental health. *Administration and Policy in Mental Health and Mental Health Services Research*, (4), 327. Retrieved from

<http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edsgao&AN=edsgcl.231716898&site=eds-live>

- Greene, J., & Hibbard, J. H. (2012). *Why does patient activation matter? an examination of the relationships between patient activation and health-related outcomes* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000302869300010&site=eds-live>
- Greene, J., Hibbard, J. H., Sacks, R., Overton, V., & Parrotta, C. D. (2015). When patient activation levels change, health outcomes and costs change, too. *Health Affairs (Project Hope)*, 34(3), 431-437. doi:10.1377/hlthaff.2014.0452
- Harvey, L., Fowles, J. B., Xi, M., & Terry, P. (2012). *When activation changes, what else changes? the relationship between change in patient activation measure (PAM) and employees' health status and health behaviors* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000307914700027&site=eds-live>
- Hibbard, J. H., Collins, P. A., Mahoney, E., & Baker, L. H. (2010). The development and testing of a measure assessing clinician beliefs about patient self-management. *Health Expectations*, 13(1), 65-72. doi:10.1111/j.1369-7625.2009.00571.x
- Hibbard, J. H., Greene, J., & Overton, V. (2013). *Patients with lower activation associated with higher costs; delivery systems should know their patients' 'scores'* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000315206900005&site=eds-live>
- Hibbard, J. H., Greene, J., & Tusler, M. (2009). *Improving the outcomes of disease management by tailoring care to the patient's level of activation* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000267292600003&site=eds-live>
- Hibbard, J. H., & Mahoney, E. (2010). *Toward a theory of patient and consumer activation* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000276667700014&site=eds-live>
- Hibbard, J. H., Mahoney, E. R., Stockard, J., & Tusler, M. (2005). Development and testing of a short form of the patient activation measure. *Health Services Research*, 40(6), 1918-1930. Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=rzh&AN=106002926&site=eds-live>
- Hibbard, J. H., Stockard, J., Mahoney, E. R., & Tusler, M. (2004). *Development of the patient activation measure (PAM): Conceptualizing and measuring activation in patients and consumers* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000226710600017&site=eds-live>
- Hibbard, J. H. (2017). Patient activation and the use of information to support informed health decisions. *Patient Education and Counseling*, 100, 5-7. doi:10.1016/j.pec.2016.07.006
- Hibbard, J. H., & Cunningham, P. J. (2008). How engaged are consumers in their health and health care, and why does it matter? *Research Brief*, (8), 1-9. Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=cmedm&AN=18946947&site=eds-live>
- Hibbard, J. H., Greene, J., Becker, E. R., Roblin, D., Painter, M. W., Perez, D. J., . . . Tusler, M. (2008). Racial/Ethnic disparities and consumer activation in health. *Health Affairs*, 27(5), 1442-1453.

doi:10.1377/hlthaff.27.5.1442

- Hibbard, J. H., Greene, J., Shi, Y., Mittler, J., & Scanlon, D. (2015). Taking the long view: How well do patient activation scores predict outcomes four years later? *Medical Care Research & Review*, 72(3), 324-337. doi:10.1177/1077558715573871
- Hibbard, J. H., Mahoney, E. R., Stock, R., & Tusler, M. (2007). Do increases in patient activation result in improved self-management behaviors? *Health Services Research*, 42(4), 1443-1463. doi:10.1111/j.1475-6773.2006.00669.x
- HIV in the united states: At A glance. (2016). Retrieved from <https://www.cdc.gov/hiv/statistics/overview/ataglance.html>
- Hung, M., Carter, M., Hayden, C., Dzierzon, R., Morales, J., Snow, L., . . . Samore, M. (2013). *Psychometric assessment of the patient activation measure short form (PAM-13) in rural settings* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000316762600007&site=eds-live>
- Ibe, C., Bowie, J., Roter, D., Carson, K. A., Lee, B., Monroe, D., & Cooper, L. A. (2016). Intensity of exposure to a patient activation intervention and patient engagement in medical visit communication. *Patient Education and Counseling*, doi:10.1016/j.pec.2016.12.016
- Johnson, M. L., Zimmerman, L., Welch, J. L., Hertzog, M., Pozehl, B., & Plumb, T. (2016). Patient activation with knowledge, self-management and confidence in chronic kidney disease. *Journal of Renal Care*, (1), 15. doi:10.1111/jorc.12142
- Lara-Cabrera, M., Salvesen, Ø., Nettet, M. B., De, I. C., Iversen, V. C., & Gråwe, R. W. (2016). The effect of a brief educational programme added to mental health treatment to improve patient activation: A randomized controlled trial in community mental health centres. *Patient Education and Counseling*, 99, 760-768. doi:10.1016/j.pec.2015.11.028
- Lorig, K., Ritter, P. L., Laurent, D. D., Plant, K., Green, M., Jernigan, V., & Case, S. (2010). *Online diabetes self-management program A randomized study* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000279304300024&site=eds-live>
- Lubetkin, E. I., Lu, W., & Gold, M. R. (2010). Levels and correlates of patient activation in health center settings: Building strategies for improving health outcomes. *Journal of Health Care for the Poor and Underserved*, (3), 796. Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edspmu&AN=edspmu.S1548686910300039&site=eds-live>
- Magnezi, R., Glasser, S., Shalev, H., Sheiber, A., & Reuveni, H. (2014). Patient activation, depression and quality of life. *Patient Education and Counseling*, 94(3), 432-437. doi:10.1016/j.pec.2013.10.015
- Maindal, H. T., Sokolowski, I., & Vedsted, P. (2009). Translation, adaptation and validation of the american short form patient activation measure (PAM13) in a danish version. *BMC Public Health*, 9, 209-209. doi:10.1186/1471-2458-9-209
- Maranda, M. J., Deen, D., Elshafey, S., Herrera, M., & Gold, M. R. (2014). Response to a patient activation intervention among spanish-speaking patients at a community health center in new york city. *Journal of Health Care for the Poor and Underserved*, (2), 591. Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edspmu&AN=edspmu.S1548686914200118&site=eds-live>
- Marshall, R., Beach, M. C., Saha, S., Mori, T., Loveless, M. O., Hibbard, J. H., . . . Korhuis, P. T. (2013).

- Patient activation and improved outcomes in HIV-infected patients. *Journal of General Internal Medicine*, (5), 668. Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edsgao&AN=edsgcl.328327823&site=eds-live>
- Mitchell, S. E., Gardiner, P. M., Sadikova, E., Martin, J. M., Jack, B. W., Hibbard, J. H., & Paasche-Orlow, M. (2014). *Patient activation and 30-day post-discharge hospital utilization* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000330955500020&site=eds-live>
- Mosen, D. M., Schmittiel, J., Hibbard, J., Sobel, D., Remmers, C., & Bellows, J. (2007). Is patient activation associated with outcomes of care for adults with chronic conditions? *Journal of Ambulatory Care Management*, 30(1), 21-29. Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=rzh&AN=106123346&site=eds-live>
- Ngooi, B., Packer, T., Kephart, G., Warner, G., Koh, K., Wong, R., . . . Lim, S. P. (2017). Validation of the patient activation measure (PAM-13) among adults with cardiac conditions in singapore. *Quality of Life Research*, 26(4), 1071-1080. doi:10.1007/s11136-016-1412-5
- Obama, B. (2016). United states health care reform: Progress to date and next steps. *JAMA: Journal of the American Medical Association*, 316(5), 525-532. doi:10.1001/jama.2016.9797
- Packer, T. L., Kephart, G., Ghahari, S., Auduly, Å., Versnel, J., & Warner, G. (2015). The patient activation measure: A validation study in a neurological population. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 24(7), 1587-1596. doi:10.1007/s11136-014-0908-0
- Pennarola, B. W., Rodday, A. M., Mayer, D. K., Ratichek, S. J., Davies, S. M., Syrjala, K. L., . . . Parsons, S. K. (2012). *Factors associated with parental activation in pediatric hematopoietic stem cell transplant* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000302438100004&site=eds-live>
- Preventative medicine. Retrieved from <http://www.acpm.org/page/preventivemedicine>
- Prey, J. E., Qian, M., Restaino, S., Hibbard, J., Bakken, S., Schnall, R., . . . Masterson Creber, R. (2016). Reliability and validity of the patient activation measure in hospitalized patients. *Patient Education and Counseling*, 99, 2026-2033. doi:10.1016/j.pec.2016.06.029
- Rademakers, J., Nijman, J., van, d. H., Heijmans, M., & Rijken, M. (2012). *Measuring patient activation in the netherlands: Translation and validation of the american short form patient activation measure (PAM13)* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000311085900001&site=eds-live>
- Rask, K. J., Ziemer, D. C., Kohler, S. A., Hawley, J. N., Arinde, F. J., & Barnes, C. S. (2009). *Patient activation is associated with healthy behaviors and ease in managing diabetes in an indigent population* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p.uid&db=edswsc&AN=000268306800007&site=eds-live>
- Remmers, C., Hibbard, J., Mosen, D. M., Wagenfield, M., Hoyer, R. E., & Jones, C. (2009). Is patient activation associated with future health outcomes and healthcare utilization among patients with diabetes? *Journal of Ambulatory Care Management*, 32(4), 320-327. doi:10.1097/JAC.0b013e3181ba6e77

- Ryvicker, M., Peng, T. R., & Feldman, P. H. (2012). *Patient activation and disparate health care outcomes in a racially diverse sample of chronically ill older adults* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p,uid&db=edswss&AN=000311003300020&site=eds-live>
- Sacks, R. M., Greene, J., Hibbard, J. H., & Overton, V. (2014). *How well do patient activation scores predict depression outcomes one year later?* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p,uid&db=edswsc&AN=000342616400001&site=eds-live>
- Sacks, R. M., Greene, J., Hibbard, J., Overton, V., & Parrotta, C. D. (2017). Does patient activation predict the course of type 2 diabetes? A longitudinal study. *Patient Education and Counseling*, doi:10.1016/j.pec.2017.01.014
- Skolasky, R. L., Green, A. F., Scharfstein, D., Boulton, C., Reider, L., & Wegener, S. T. (2011). *Psychometric properties of the patient activation measure among multimorbid older adults* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p,uid&db=edswsc&AN=000287965600007&site=eds-live>
- Skolasky, R. L., Mackenzie, E. J., 3rd, R. L., Wegener, S. T., Skolasky, R. L., Mackenzie, E. J., . . . Wegener, S. T. (2009). Psychometric properties of the patient activation measure among individuals presenting for elective lumbar spine surgery. *Quality of Life Research*, 18(10), 1357-1366. doi:10.1007/s11136-009-9549-0
- Skolasky, R. L., Mackenzie, E. J., Wegener, S. T., & III, R. L. (2008). Patient activation and adherence to physical therapy in persons undergoing spine surgery. *Spine (03622436)*, 33(21), E784-91. Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p,uid&db=rzh&AN=105560199&site=eds-live>
- Smith, S. G., Pandit, A., Rush, S. R., Wolf, M. S., & Simon, C. (2015). The association between patient activation and accessing online health information: Results from a national survey of US adults. *Health Expectations: An International Journal of Public Participation in Health Care and Health Policy*, 18(6), 3262-3273. doi:10.1111/hex.12316
- Solomon, M., Wagner, S. L., & Goes, J. (2012). *Effects of a web-based intervention for adults with chronic conditions on patient activation: Online randomized controlled trial* Retrieved from <http://libproxy.chapman.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&AuthType=i p,uid&db=edswsc&AN=000301925700012&site=eds-live>
- Sommers, B. D., & Bindman, A. B. (2012). New physicians, the affordable care act, and the changing practice of medicine. *Jama*, 307(16), 1697-1698. doi:10.1001/jama.2012.523
- Updated budget projections: 2016 to 2026. (2016). Retrieved from <https://www.cbo.gov/publication/51384>
- Ward, B., Schiller, J., & Goodman, R. (2014). Multiple chronic conditions among US adults: A 2012 update. *Prev Chronic Dis.*, 11
- Zill, J. M., Dwinger, S., Kriston, L., Rohenkohl, A., Härter, M., & Dirmaier, J. ö. (2013). Psychometric evaluation of the german version of the patient activation measure (PAM13). *BMC Public Health*, 13, 1027-1027. doi:10.1186/1471-2458-13-1027