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Understanding the Increasing Role and Value of the Professional Case Manager

A National Study From the Commission for Case Manager Certification: Part 1

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ABSTRACT

Purpose: The purpose of the national role and function study was to identify the essential activities and necessary knowledge areas for effective professional case management practice from the perspective of those currently functioning in such roles in various care settings and across diverse professional disciplines.

Primary Practice Settings: The national study covered the diverse case management practices and/or work settings across the full continuum of health and human services.

Methodology and Sample: This cross-sectional descriptive study used the practice analysis method and online survey research design. It employed a purposive sample of case managers, in which an open participation link was e-mailed to nearly 60,000 case managers, both certified and not yet certified. A total of 5,416 responses were received, of which 2,810 were found to be acceptable for consideration in the study. A representative group of individuals engaged in case management completed the survey in sufficient numbers to meet the requirements for conducting meaningful statistical analyses including subgroup comparisons.

Results: The study identified the common activities (6 domains) and knowledge areas (5 domains) necessary for competent and effective performance by professional case managers, as highlighted in this article, which is the first of a 2-part series on the 2019 role and function study. The results informed the needed update of the test specifications for the Certified Case Manager (CCM) certification examination, as will be delineated in Part II of this article series. The update was necessary because case management practice has continued to evolve and to ensure the examination reflects current practices.

Implications for Case Management Practice: The study identified essential activities and knowledge topics at both the micro- and macro levels that define competent and effective professional case management practice, also referred to as the substantive evidence of practice. It helps keep the CCM credentialing examination evidence-based and maintain its validity for evaluating the competency of professional case managers. In addition, the findings document how the practice has evolved over the past 5 years since the conduct of the last national study. Moreover, findings inform the development of programs and curricula for the training and advancement of case managers. The study instrument also is beneficial for further research into professional case management practice—most importantly linking the roles and functions of case managers to client care outcomes.

Key words: *activity, care coordination, case management, certification, factor analysis, function, index of agreement, knowledge, practice analysis, role, survey research, test specifications*

Across the health care spectrum, the drive to improve cost-effectiveness, safety, and quality in care delivery continues. This is congruent with the growth in value-based and accountable care models, in which health care organizations, physicians, and other providers are reimbursed on the basis of outcomes achieved, compared with the cost of delivering those outcomes (NEJM Catalyst, 2017). As the emphasis on value in care delivery increases, there is an even greater need for health care organizations to mitigate financial and reimbursement risks, such as to adhere to Medicare's Hospital Readmissions Reduction Program and value-based reimbursement methods (Centers for Medicare & Medicaid Services, 2019). Value, however, speaks to more than just cost reductions. Pursuit of the "triple aim" (and more recently, the quadruple aim) in health care continues to be an imperative: to improve the experience of care, achieve better health of individuals and populations, and reduce the per capita cost of care, while ensuring clinicians' engagement and satisfaction

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(Institute of Healthcare Improvement, 2019). At the center of these demands and expectations is the professional case manager.

The 2014 role and function study (results of which were published in late 2015 and early 2016) observed that the demands encompassed by the triple aim translated to greater expectations for and emphasis on outcomes, efficiency, cost-effectiveness, and safe delivery of health and human services, while also underscoring the importance of patient-centered care, care coordination, care/case management, ethical and legal practice, and care transitions (Tahan, Watson, & Sminkey, 2015). Now, 5 years later, the role of the professional case manager is further highlighted, particularly in the context of value-based care models. In addition, as health care organizations seek to become accredited, there is a benefit to employing professional case managers, particularly those who demonstrate their competency by achieving nationally recognized credentials such as the Certified Case Manager (CCM) credential. For example, within accountable care organizations and patient-centered medical or health homes, greater emphasis has been placed on interdisciplinary teams working together to achieve desirable outcomes for safe, quality, cost-effective, and affordable care. The professional case manager, as a key member of such interprofessional teams, has been shown to be uniquely prepared to impact the experience of both the patient and the health care organization. Furthermore, as the 2014 role and function study determined, the case manager is often responsible for monitoring, measuring, and evaluating the outcomes achieved by teams composed of physicians (and other providers), nurses, and other clinicians against specific goals. Examples of these goals are reducing utilization of scarce and costly resources and improving safety and quality of care (Tahan et al., 2015). The 2019 role and function study, as explained in detail herein, further affirmed the importance of evaluating and measuring quality and outcomes, while adhering to legal, ethical, and nationally recognized practice standards.

Like each of the national practice surveys conducted by the Commission for Case Manager Certification (CCMC) in 1994, 1999, 2004, 2009, and 2014, the latest (2019) survey illustrated how the current and continuously evolving demands placed on professional case managers underscore the importance of credentials: educational background, certification, and experience. As case managers demonstrate their competence in essential activities and key knowledge areas for practice, they provide assurance to the various health care stakeholders, especially consumers (i.e., patients or clients), that they are well qualified for their roles. To avoid misinterpretation, activities in the context of the role and function study are the day-to-day tasks or interventions case managers engage in when providing care for patients who may be known as "clients" or "residents" in some practice settings. The knowledge areas refer to what case managers must know and the skills they must demonstrate to competently and effectively perform these day-to-day tasks.

One widely accepted way to demonstrate competency is through national certification. A key component of the certification process is the development of the certification examination itself, ensuring that it is meaningful, evidence-based, and substantiated by and relevant to current practice. This process requires a rigorous, scientifically valid national field research study, which is also referred to as a practice analysis or role and function study. The CCMC conducts the role and function study on a regular and ongoing basis (every 5 years) to ensure that the CCM certification examination process and content remain relevant within the constant evolution of the practice in the ever-transforming health care environment.

The CCMC was established in 1992, making it the first and largest nationally accredited organization that certifies professional case managers today. Ensuring that the CCM examination is empirically based allows the CCMC to maintain its accreditation by the National Commission for Certifying Agencies. The CCMC's 25-year history of conducting national role and function studies and the rigor of its certification process are of vital importance to professional case managers and other practitioners in health and human services. Most important, however, are safeguarding the public interest and protecting the consumers of case management services. In this regard, the scientific research forms the basis of the integrity of the certification examination and assures the public that persons holding the CCM have demonstrated advanced knowledge and competence in areas most

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essential to current case management practice. With the backing of a scientific, evidence-based national study, the CCM credential is increasingly recognized in the field, including as a condition of employment for many case managers. In the latest (2019) role and function survey, approximately 40% of survey respondents reported that their employers require certification—a percentage that has held roughly steady from the previous role and function study.

This article is the first of a two-part series on the 2019 national role and function study. The first part details the importance of such a study to the field of professional case management, the conduct and scientific rigor of the practice analysis by surveying a few thousand practicing case managers, and the evaluation of the relevance of essential activities and knowledge domains compared with current practice. What emerges is a detailed picture of the current state of case management practice; this includes the typical practice of a case manager, years of experience, professional background, work setting, and more. Part II, to be published in the July/August 2020 issue of this journal, will examine the findings of the role and function study as an evidence base to inform the structure and design of the CCM certification examination.

The Role and Function Study/Practice Analysis

The objectives and process of the role and function study have been well documented over the years (Tahan & Campagna, 2010; Tahan, Downey, & Huber, 2006; Tahan, Huber, & Downey, 2006; Tahan et al., 2015). As with prior role and function studies, the 2019 study used the practice analysis survey method to describe case management practice and delineate the roles and functions of professional case managers and the related and necessary knowledge areas for practice. This method ensures that procedures are in place to obtain descriptive information about micro tasks performed by case managers and the important individual and minute knowledge topics and skills needed to adequately perform those tasks (Tahan, Downey, et al., 2006).

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The conceptual perspective on the case manager's role and function study has its roots in the classic role theory of Thomas and Biddle (1966). A profession consists of a system of roles that are socially defined and structurally interdependent. Similarly, the professional case manager exhibits behaviors (i.e., tasks) in the social context of providing health and human services to clients and their support systems, in partnership with other health and support service providers, in a specific level of care or across multiple settings. The case manager and these other individuals impact each other's contribution to the total care provision for a client as each brings his or her own specialized knowledge (professional background discipline), skills, functions, tasks, competencies, and role responsibilities, based on the position or title each holds in this social structure of care provision. Considering that the term "role" is highly abstract and refers to a set of expected behaviors exercised in a social structure (i.e., the health care delivery environment) and applying specific knowledge areas, it is the norm in role and function studies that the practice analysis is conducted at the micro level of these behaviors and knowledge topics; therefore, the detailed descriptions of the individual activities and knowledge areas of the case manager's role are shared in the two-part article. Roles, functions, activities, and knowledge occur in a hierarchical order where role is the most abstract and a single activity or area of knowledge is the most concrete (see Table 1).

The practice analysis study design involves a multimethod approach consisting of individual and

TABLE 1
Differentiating Role, Function, Activity, and Knowledge

	Description	Example
Role	A general conceptual or abstract term that refers to a set of behaviors that are associated with a position in a social structure and that can be given a specific label such as a job title.	Professional case manager
Function	A grouping of specific, expected, and interrelated activities or behaviors within a role. The activities within a grouping usually share a common goal and purpose. They are performed to achieve a certain outcome and to meet the expectations of the role.	Assessment of the client's needs or developing the client's case management plan of care
Activity	A discrete action, task, or behavior executed by the person who has assumed the role to meet the goals of the role.	Complete a client's interview or identify the client's actual problems
Knowledge area	A grouping of facts, information, skills, and abilities necessary for the effective execution of a role.	Health care rules and regulations or standards of case management practice
Knowledge topic	A single and distinct fact, a piece of information, or a concrete skill applied in the execution of an activity or task.	Principle of beneficence or motivational interviewing

group meetings with subject matter experts, survey instrument development, and data collection from a large number of practicing professional case managers using the role and function survey instrument developed for the purpose of this national study (Tahan et al., 2015). As in prior years, the current study addressed the following three main research questions:

1. What are the essential activities/domains of practice of professional case managers?
2. What are the knowledge areas necessary for effective case management practice?
3. Is there a need to revise the blueprint of the CCM certification examination? And if so, what modifications are warranted?

This first article in the two-part series addresses research Questions 1 and 2, whereas the second part will focus on answering research Question 3 in addition to other key conclusions that impact the continued evolution of the case management practice.

In early January 2019, CCMC representatives and the Prometric staff, who were engaged to support the conduct of the role and function study, held a project planning meeting. During this meeting, they agreed on the study purpose and discussed the selection of members for the Subject Matter Experts Task Force and the Test Specifications Committee. They also agreed on meeting dates, logistics, timelines, and procedures of the survey delivery for data collection and analyses. A representative group of 14 subject matter experts from the professional case management community served on the Subject Matter Experts Task Force and another 12 individuals served on the Test Specifications Committee. Some of the experts functioned on both forums to ensure continuity of the work while seeking the perspectives of new/additional experts who were not involved in the initial task force and the survey instrument design. This mix of experts is a best practice in job analysis studies. Appointments to each of these groups ensured that these subject matter experts represented the various regions within the United States, as well as diverse practice settings of case management, professional disciplines, and educational backgrounds of case managers, and different types of client populations served by case managers. Such diversity was essential to ensure the development of a current, relevant, and practice-based role and function survey instrument.

The Subject Matter Experts Task Force held a 2-day meeting in March 2019 to develop the role and function survey instrument, which was later used for data collection for this national study. Activities conducted during the meeting included a review and, as needed, revision of the major domains, individual tasks within each activity domain, and individual knowledge topics within each knowledge domain. The task force members determined what was necessary for inclusion in the survey instrument based on expected competent performance of professional case managers in a variety of settings and professional disciplines. An expert in professional case management practice and a scientist on the roles and functions of case managers, the primary author of this article, in collaboration with the Prometric staff, facilitated the 2-day meeting. This expert ensured the open sharing of, and dialogue about, the varied viewpoints of the participants regarding the domains and individual items included in the survey. The subject matter experts brought their tacit knowledge, experiences, and backgrounds in the practice of professional case management into these discussions and ultimately the conclusions made. Building consensus on final recommendations was a main objective of this forum, resulting in accurate delineation of simple, clear, concise, and duplication-free items on the survey instrument and within each of the activity and knowledge domains.

The expert and scientist who facilitated the 2-day meeting had developed a draft survey instrument from which the subject matter experts could begin their work. The draft survey instrument was based on previous instruments used by the CCMC in prior role and function studies, expert opinion, and a select review of recent relevant literature. The scientist and task force members agreed to maintain the six activity and five knowledge domains from the 2014 role and function study; however, updated details of the items and associated structure within each of these domains reflected current practice of professional case management.

The task force members also discussed, and revised as warranted, the survey rating scales and demographic (i.e., background and general information) questions. Following the meeting, the Prometric staff constructed the draft online survey, which covered the six tasks/essential activity domains and five knowledge domains (as listed later in this article).

After refinements were incorporated, as appropriate, the survey instrument was prepared for a pilot test using a secure online data collection platform. Eighteen professional case managers, also from diverse practice settings and professional health disciplines, participated in the pilot test of the survey instrument. These professionals had no previous involvement in the development of the instrument. They reviewed it for relevance, completeness, clarity, and currency and offered suggestions for improvement as they deemed necessary. On the basis of this review, the survey was then revised and finalized. The pilot test participants found the instrument highly relevant and complete and offered minimal nonsubstantive suggestions. Thereafter, the subject matter experts reviewed the suggestions and finalized the survey instrument to consist of 247 items, inclusive of demographics and background (see Table 2).

TABLE 2
Role and Function Survey Instrument Composition

Survey Section	No. of Items
Background and demographics	19
Activity domains (six)	138
Delivering case management services	61
Managing utilization of health care services	21
Accessing financial and community resources	14
Evaluating and measuring quality and outcomes	16
Delivering rehabilitation services	13
Adhering to ethical, legal, and practice standards	13
Knowledge domains (five)	90
Care delivery and reimbursement methods	37
Psychosocial concepts and support systems	23
Quality and outcomes evaluation and measurement	11
Rehabilitation concepts and strategies	10
Ethical, legal, and practice standards	9
Total	247

The 2019 Case Manager's Role and Function Study Instrument

As with the CCMC's past survey instruments, the final case manager role and function survey instrument used in the 2019 study contained five sections, described as follows. The instrument comprised theoretical domains, applying those that were used in the 2014 survey.

- *Section 1—Background and demographic questions (19 items)*: Survey participants were asked to provide general background information pertaining to each participant individually, including primary job title, percentage of time spent in providing direct case management services to patients/clients, primary workplace setting, number of years performing professional case management work, professional background/discipline, whether the participant is certified as a CCM, practice location (geography) in the United States, highest academic education degree achieved, age, gender, and ethnicity. None of these questions were mandatory, allowing participants to skip any questions they did not feel comfortable answering.
- *Section 2—Essential activities (138 items)*: The activity statements were organized across six theoretical domains as described in Table 2, with each item starting with an action verb.

Survey participants were asked to rate each of the essential activity statements using two rating scales that focused on importance and frequency. First, for importance, they responded to the question, "How important is performance of this task/activity in your current position?" using a 5-point rating scale (rating of 0 = *of no importance*, 1 = *of little importance*, 2 = *moderately important*, 3 = *important*, and 4 = *very important*). Then, for frequency, they responded to the second question, "On average, how frequently do you perform this task/activity in your current position?" referring them to consider answering based on an average day of work and using a 5-point rating scale (0 = *never*, 1 = *seldom*, 2 = *occasionally*, 3 = *often*, and 4 = *very often*).

- *Section 3—Knowledge areas (90 items)*: The knowledge and skill domains were organized across five domains, also as described in Table 2. Items within each of these domains differed from those of essential activities by starting with a noun compared with an action verb.

The knowledge statements, like the essential activity statements, were also rated using two scales: one for importance and one for frequency. For importance, survey participants were asked to answer the question, "How important is this knowledge to performance of your job responsibilities in your current position?" using a 5-point scale (0 = *of no importance*, 1 = *of little importance*, 2 = *moderately important*, 3 = *important*, and 4 = *very important*). As for frequency, they were asked to answer the question, "On average, how frequently do you use this knowledge in your current position?" also referring them to consider answering based on an average day of work and using a 5-point scale (0 = *never*, 1 = *seldom*, 2 = *occasionally,* 3 = *often*, and 4 = *very often*).

- Section 4—*Domain comprehensiveness and test content recommendations*: After survey participants rated each of the essential activities and knowledge statements for a specific content (domain) area, they rated the adequacy and comprehensiveness of the content, using a 5-point scale (0 = *very poorly*, 1 = *poorly*, 2 = *adequately*, 3 = *well*, and 4 = *very well*). Participants were also asked whether any of the essential activities or knowledge statements were missing and, if so, to submit additional essential activities or knowledge statements using a designated free-text area on the survey.

For each of the five knowledge domains, participants were asked to suggest, in their opinion, how many test questions should be included in each of the domains on the CCM certification examination. Participants answered on the basis of a scenario of 100 questions to make it easier for them to determine the amount per domain. Because certification examinations test knowledge rather than tasks and activities, participants were restricted to answer this section for the knowledge domains only.

- *Section 5—Other comments*: Survey participants were provided the opportunity to comment on the following questions: "How do you expect your work role to change over the next 5 years? What tasks will be performed, and what knowledge will be needed to meet changing practice demands?" These questions were optional and provided the participants the opportunity to share any thoughts as they desired.

The research team disseminated the role and function survey instrument via an e-mail invitation with an open survey link to almost 60,000 professional case managers directly or indirectly involved in care provision to clients and their support system. This purposive, nonrandomized sample of potential participants consisted of both board-certified and not-yet-certified case managers. The survey invitation with the open link was also posted on the CCMC's website and shared on CCMC social media forums including LinkedIn. Two continuing education credits were offered for completing the survey. Data collection commenced in June 2019 for a period of 3 weeks. After reminder e-mails, the submission deadline was extended for another week for a total of 4 weeks. The e-mail invitation to participate in the study and the introductory page of the survey instrument communicated adherence to ethical conduct of research involving human subjects. It also assured prospective participants of the following: (a) voluntary completion and submission of the survey; (b) that it was anonymous and did not require sharing of any personal or identifiable information; (c) privacy and confidentiality of data collection, analysis, and storage procedures; and (d) that final reports would only reflect the findings in the aggregate form.

Data Analysis

As with prior surveys, researchers took steps to ensure anonymity, confidentiality, and privacy of the study participants. They segmented the analysis into sections (e.g., demographics, activity or knowledge items, and subgroups based on practice settings or professional disciplines). They then computed descriptive statistics for the demographic survey questions and in analyzing responses to each essential activity and knowledge statement, inclusive of mean importance and frequency ratings (Tahan et al., 2015). The researchers also reviewed the demographic questions and determined which comparative subgroup analyses were appropriate for examining significant similarities or differences between subgroups, specifically on importance and frequency ratings of essential activity and knowledge statements.

Because some of the demographic questions, such as job title and work setting, included an "other" option, the research team reviewed all the "other" responses to reclassify them, where appropriate, to one of the formed subgroups. Despite this activity, not every "other" response was attributable to a subgroup and therefore some remained unclassified. The proposed subgroups were then reviewed for appropriateness with CCMC representatives who also were experts in the case management field. This activity of data management was necessary because survey participants reported more than 35 different job titles and 30 work settings; this activity addressed not only feasibility of analyses for such a large number of subgroups but also availability of enough participants in each subgroup to contribute to appropriate conclusions. Combining job titles and work settings based on perceived similarities and the opinion of the expert researcher (and other subject matter

experts) resulted in a manageable number of relevant subgroups for meaningful analyses. This subgrouping activity resulted in 11 groups based on job titles and another 11 based on work settings. For example, one subgroup consisted of case management educators within a case management program whether in an academic or practice setting. In addition, the subgroups created on the basis of the participant's communicated location (state) of practice consisted of the nationally recognized "nine regions" within the United States as opposed to an analysis of subgroups based on each state of practice. This led to the reduction of the subgroups for manageable comparative analysis and examination of differences based on geographic location.

Researchers applied the index of agreement (IOA) test statistic to examine the degree of the similarities (or differences) that existed among the subgroups relevant to their perception of importance and frequency ratings on essential activities and knowledge areas.

Role and Function Study Results

Characteristics of the Study Sample

Although 5,416 participants responded to the survey during the 4 weeks of data collection, 2,606 responses were excluded because they did not meet the 55% survey completion requirement for inclusion in the study. The remaining 2,810 survey responses were included in the final study sample. Although the current study sample is considered a large national sample appropriate for practice analysis studies, the researchers noted that the number of eligible responses in the 2019 survey was lower than that in prior surveys: 4,165 in 2004, 6,909 in 2009, and 7,668 in 2014. However, on the basis of the analysis of the survey responses and the sizes of the subgroups created, it was determined that a representative group of individuals engaged in case management completed the 2019 survey in sufficient numbers to meet requirements for conducting meaningful statistical analysis. This was evidenced by review of the responses for each of the background and general information questions, as well as confirmation by the Test Specifications Committee.

Answers to the background and demographic questions (see Table 3) revealed that nearly half of respondents (47.24%) were care/case managers, 9.58% were managers/supervisors, 5.44% were care/case coordinators, and 4.85% were director of case management/care management/care coordination. Other titles reported included utilization reviewer/manager (4.88%), social worker (4.59%), consultant (2.18%), staff/clinical nurse (1.55%), case management educator (1.29%), quality management specialist (1.29%), and rehabilitation counselor/vocational evaluator/disability specialist (0.70%).

The most common primary work/practice settings were health plan/insurance company/reinsurance (29.36%) and hospital/acute care/hospital system (22.14%), a trend that was consistent with the 2014 role and function study. Workers' compensation insurer/agency was the setting for 8.89% of respondents, followed by independent/private case or care management company (6.18%), ambulatory/outpatient care/primary care/urgent care clinic (5.41%), and government agency (2.67%). The array of case management practice settings may be more evidence of a value-based care approach across health and human services, which emphasizes the role of the professional case manager in mitigating financial risks and improving quality and outcomes. Generally, the distribution of the 2019 study sample by practice setting was similar to that of the 2014 study.

Also consistent with the 2014 role and function study, nearly half of survey respondents (46.48%) said their organizations do not require case managers to work on weekends compared with 49.10% in 2014. Among the remainder, 40% said they were required to work on weekends whereas 13.52% were to work on-call-only on weekends compared with 37.44% and 13.46%, respectively, in 2014. However, by combining the number of those working on weekends with those on call, the conclusion (consistent with 2014 survey results) is that case management practice is no longer a 5-day operation for more than half of respondents.

Half of survey respondents (50.48%) reported that their organizations do not have case managers who work on legal holidays in contrast to 53.05% in 2014, whereas one third of respondents (33.3%) were required to work on holidays compared with 27.07% in 2014 and 16.22% were to work on-call-only for holidays compared with 19.87% in 2014. These results seemed consistent with 2014 survey findings and confirm a continued rising trend compared with 2009 study findings (Tahan et al., 2015). As with the requirement to work on weekends, this further supports the trend that case management practice has been expanding beyond the traditional 5-day operation.

More than half of respondents (56.69%) performed case management work for 11 years or more compared with 58.07% in 2014. Specifically, 16.38% reported working 11–15 years in the field, followed by 15.79% working 16–20 years, 12.46% working 21–25 years, and 12.06% working 26 years or more. In addition, 23.22% reported working 6–10 years in the field and 16.05% have been in the field for

TABLE 3
Background and Demographics (Total Sample = 2,810)

Category	*n* (%)
Job title	
Administrator	25 (0.92)
Care/case coordinator	147 (5.44)
Care/case manager	1,277 (47.24)
Case management educator	35 (1.29)
Consultant	59 (2.18)
Director of case management/care management/care coordination	131 (4.85)
Health coach	15 (0.55)
Insurance benefits manager	12 (0.44)
Manager/supervisor	259 (9.58)
Nurse advocate/navigator	26 (0.96)
Quality management specialist	35 (1.29)
Rehabilitation counselor/vocational evaluator/disability specialist	19 (0.70)
Social worker	124 (4.59)
Staff/clinical nurse	42 (1.55)
Transitional care nurse/discharge planner	14 (0.52)
Utilization reviewer/manager/bill auditor/insurance benefits manager	132 (4.88)
Workers' compensation specialist	26 (0.96)
Other	328 (12.13)
Missing	104
Total	2,810 (100.00)
Primary work/practice setting	
Ambulatory/outpatient care/primary care/urgent care clinic	146 (5.41)
Community residential program/long-term acute care	20 (0.74)
Disease management agency/program	38 (1.41)
Education/college, university, or health care facility	23 (0.85)
Federally qualified health care center	13 (0.48)
Government agency	72 (2.67)
Health plan/insurance company/reinsurance	793 (29.36)
Home care agency	43 (1.59)
Hospice	17 (0.63)
Hospital/acute care/hospital system	598 (22.14)
Independent/private case or care management company	167 (6.18)
Independent rehabilitation company/insurance affiliate	15 (0.56)
Liability insurer	11 (0.41)
Life/disability insurer	18 (0.67)
Medical home/health home/patient-centered medical home	29 (1.07)
Mental health center/psychiatric inpatient or outpatient	16 (0.59)

(*continues*)

TABLE 3
Background and Demographics (Total Sample = 2,810) (*Continued*)

Category	*n* (%)
Military treatment facility	8 (0.30)
Rehabilitation facility (acute/subacute)	58 (2.15)
Skilled nursing facility/long-term care facility	19 (0.70)
Telephonic	
Third party administrator	56 (2.07)
Veterans Health Administration agency	21 (0.78)
Wellness organization	11 (0.41)
Workers' compensation insurer/agency	240 (8.89)
Other	269 (9.96)
Missing	109
Total	2,810 (100.00)
Professional background/discipline	
Social work	301 (11.17)
Counseling	34 (1.26)
Therapy (occupational, physical, respiratory)	15 (0.56)
Nursing	2,216 (82.23)
Vocational rehabilitation/disability management	42 (1.56)
Other	87 (3.23)
Missing	115
Total	2,810 (100.00)
% of time spent daily in direct case management services	
0% to no involvement	370 (13.70)
1%–10%	309 (11.44)
11%–20%	130 (4.81)
21%–30%	128 (4.74)
31%–40%	104 (3.85)
41%–50%	137 (5.07)
51%–60%	133 (4.92)
61%–70%	147 (5.44)
71%–80%	296 (10.96)
81%–90%	289 (10.70)
91%–100%	658 (24.36)
Missing	109
Total	2,810 (100.00)
Years of experience in case management	
<1	17 (0.63)
1–2	92 (3.40)
3–5	434 (16.05)
6–10	628 (23.22)
11–15	443 (16.38)
16–20	427 (15.79)
21–25	337 (12.46)
26–30	195 (7.21)
31–35	87 (3.22)
36–40	31 (1.15)

(*continues*)

TABLE 3
Background and Demographics (Total Sample = 2,810) (*Continued*)

Category	*n* (%)
≥41	13 (0.48)
Missing	106
Total	2,810 (100.00)
Employer requires case managers work on weekends	
Yes	1,080 (40.00)
No	1,255 (46.48)
On-call-only	365 (13.52)
Missing	110
Total	2,810 (100.00)
Day of weekend work (other than on call)	
Saturday	154 (14.35)
Sunday	6 (0.56)
Both Saturday and Sunday	913 (85.09)
Missing	7
Total	1,073 (100.00)
Employer requires case managers work on legal holidays	
Yes	895 (33.30)
No	1,357 (50.48)
On-call-only	436 (16.22)
Missing	122
Total	2,810 (100.00)
Employer requires certification in case management	
Yes	1,047 (38.98)
No	1,639 (61.02)
Missing	124
Total	2,810 (100.00)
Employer offers monetary compensation for certification in case management	
Yes	835 (31.04)
No	1,855 (68.96)
Missing	120
Total	2,810 (100.00)
Employer determined daily hours of operations for case management	
8	1,777 (65.77)
10	336 (12.44)
12	235 (8.70)
16	75 (2.78)
24	154 (5.70)
Other	125 (4.63)
Missing	108
Total	2,810
Case manager's daily number of hours worked	
<8	153 (5.65)
8	2,183 (80.61)

(*continues*)

TABLE 3
Background and Demographics (Total Sample = 2,810) (*Continued*)

Category	*n* (%)
10	291 (10.75)
12	50 (1.85)
>12	31 (1.14)
Missing	102
Total	2,810 (100.00)
Holds the CCM credential	
Yes	2,600 (96.94)
No	82 (3.06)
Missing	128
Total	2,810 (100.00)
Years of CCM certification	
<5	1,094 (44.56)
5–10	575 (23.42)
11–15	296 (12.06)
16–20	273 (11.12)
21–25	131 (5.34)
≥26	86 (3.50)
Missing	355
Total	2,810 (100.00)
Highest academic degree	
Nursing diploma	131 (4.84)
Associate degree	394 (14.55)
Bachelor's degree	1,267 (46.79)
Master's degree	873 (32.24)
Doctorate degree	43 (1.59)
Missing	102
Total	2,810 (100.00)
Age	
≤25 years	1 (0.04)
26–30 years	41 (1.52)
31–35 years	163 (6.03)
36–40 years	225 (8.32)
41–45 years	248 (9.17)
46–50 years	372 (13.75)
51–55 years	448 (16.56)
56–60 years	569 (21.04)
61–65 years	452 (16.71)
66–70 years	138 (5.10)
<70 years	48 (1.77)
Missing	105
Total	2,810 (100.00)
Gender	
Female	2,564 (94.82)
Male	116 (4.29)

(*continues*)

TABLE 3
Background and Demographics (Total Sample = 2,810) (*Continued*)

Category	*n* (%)
Nonbinary	7 (0.26)
Prefer not to answer	13 (0.48)
Other	4 (0.15)
Missing	106
Total	2,810 (100.00)
Ethnicity	
American Indian or Alaska Native	12 (0.44)
Asian	101 (3.73)
Black or African American	224 (8.27)
Hispanic or Latino	92 (3.40)
Native Hawaiian or other Pacific Islander	5 (0.18)
Prefer not to answer	68 (2.51)
Two or more ethnicities or multiethnic	39 (1.44)
White (non-Hispanic)	2,166 (80.01)
Missing	103
Total	2,810 (100.00)
Current location of practice	
The United States and its territories	2,677 (99.44)
Outside the United States	11 (0.41)
Outside the United States but at a US military installation	4 (0.15)
Missing	118
Total	2,810 (100.00)
Number of states of practice	
Multiple states and/or territories	838 (31.39)
Single state or territory	1,832 (68.61)
Missing	140
Total	2,810 (100.00)
Region territory of case management practice	
New England	159 (5.96)
Mid-Atlantic	373 (13.97)
East North Central	472 (17.68)
West North Central	146 (5.47)
South Atlantic	605 (22.66)
East South Central	192 (7.19)
West South Central	284 (10.64)
Mountain	168 (6.29)
Pacific	271 (10.15)
Missing	140
Total	2,810 (100.00)

Note. CCM = Certified Case Manager.

3–5 years. With nearly 44% in the field for 10 years or less, compared with nearly 42% in 2014, and a little over 20% involved for 5 years or less, compared with 19% in 2014, it appears that ongoing efforts to address workforce readiness must continue to take hold to proactively ensure that qualified candidates are available to fill an ongoing and growing number of professional case management positions. Although we have seen a slight and slow increase of those in the field for 10 years or less, additional growth is necessary to curtail professional management workforce challenges. To meet this growing demand, professional organizations and associations directly or indirectly involved in case management practice need to continue their efforts to address the aging workforce and succession in the case management field. Innovative strategies in workforce planning and management designed by both employers and professional associations must be implemented to overcome workforce readiness concerns.

Roughly consistent with 5 years ago, 39% of respondents in the 2019 survey said that certification in case management is required to practice at their organizations/facilities compared with 40.36% in 2014 (Tahan et al., 2015). This steady rate shows a solid base for recognition of case management certification by employers and a gain from 35.9% of employers in the 2009 study. In addition, nearly one third of survey respondents (31%) reported that there is an additional monetary reward/compensation offered for certification in case management, which is roughly consistent with the 30% of respondents in the 2014 survey, and 26.7% in 2009. Over the years, more employers have come to recognize the value of board-certified case managers, for their positive impact on the quality and safety of care and on the economics of health care.

Consistent with the prior role and function study findings, the most commonly reported professional background for case managers is nursing. Although far in the majority, nurses account for a smaller percentage: 82.23% in the 2019 survey compared with 88.78% in 2004. As evidence of the case management field is becoming increasingly professionally diverse, 11.17% of survey respondents identified themselves as social workers, nearly double the percentage in 2014 (5.84%). Other professional backgrounds reported in the 2019 survey include vocational rehabilitation/disability management (1.56%) and licensed professional clinical counselor, licensed professional counselor, psychologist (1.26%), compared with 0.63% and 1.13%, respectively, in 2014. The vast majority of respondents in the 2019 survey (97%) held the CCM credential, whereas 3% did not. Of those who reported being CCM credentialed, nearly half (44.56%) have been credentialed for less than 5 years compared with 32.47% in 2014. This finding reflects the success of outreach to increase awareness of case management and the importance of certification. Of the remainder, 23.42% have been credentialed for 5–10 years, 12.06% for 11–15 years,

Although we have seen a slight and slow increase of those in the field for 10 years or less, additional growth is necessary to curtail professional management workforce challenges. To meet this growing demand, professional organizations and associations directly or indirectly involved in case management practice need to continue their efforts to address the aging workforce and succession in the case management field. Innovative strategies in workforce planning and management designed by both employers and professional associations must be implemented to overcome workforce readiness concerns.

11.12% for 16–20 years, and 8.84% for 21 years or more. Asked to identify all the other credentials currently held by participants other than the CCM, 25.96% reported registered nurse-board certified, 3.11% certified rehabilitation registered nurse, and 2.4% licensed graduate social worker. In addition, 36% held no other certifications other than CCM and 64% held multiple certifications including the CCM credential.

As for educational background of the study participants, 80.62% held a bachelor's degree or higher (46.79% bachelor's degree, 32.24% master's degree, and 1.59% doctoral degree), a nearly 10-percentage point gain from 2014. In addition, 14.55% held an associate degree (down from 20.7% in 2014) and 4.84% a nursing diploma (down from 9% in 2014). The increase in advanced degrees reflects a higher bar of qualifications for those serving in professional case management roles today. This increase may be slightly attributed to the noted rise in the number of social workers who participated in this survey and who usually hold a bachelor's degree or higher. In addition, because nursing has continued to be the dominant professional discipline for case managers at 82.23% in this study, the increase in the advanced academic preparation of case managers may be reflective of the direct result of nursing's focus on achieving 80% of baccalaureate-prepared nursing workforce by 2020 as part of the Institute of Medicine's recommendations on the Future of Nursing Report published in 2010.

More than half of survey respondents (54.31%) were between 51 and 65 years of age compared with 61.24% in 2014, with the largest group being 56–60 years of age (21.04%, compared with 24.69% in 2014). Another 16.71% were between 61 and 65 years of age and 16.56% were between 51 and 55 years of age, compared with 14.33% and 22.22%, respectively, in 2014. In addition, 13.75% reported being between 46 and 50 years of age (13.74% in 2014) and another 9.17% between 41 and 45 years of age (10.27% in 2014). Those who were 40 years and younger accounted for 15.9% compared with 10.04% in 2014, which is a hopeful sign of younger professionals being attracted to the field. Nonetheless, with nearly 45% older than 55 years, it raises a concern about the need for workforce succession planning in the field. Case management is not an entry-level role; rather, it is a specialty or advanced practice almost always requiring prior experience in one's background professional discipline before transitioning to the role of professional case manager. Those who become case managers have had a number of years in prior roles, such as nursing, social work, or vocational rehabilitation. Consistent with prior studies, respondents reported that case management is largely learned on the job (43.45% of respondents), with another 9.91% describing their training as self-directed/self-taught. However, one third of respondents (33.62%) reported learning via conferences and seminars, plus on-the-job training, indicating a growing number of offerings to help support the professional development of case managers today in diverse ways other than on-the-job training. In addition, 5.84% reported learning based on an academic degree or certificate-granting formal

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educational programs. Despite the increase from 3.14% in 2014, this rise in preparation based on academic programs continues to be insufficient to address workforce challenges.

Like the findings of the 2014 study, the vast majority (94.82%) reported their gender as female, and 80% were White (non-Hispanic). Other ethnicities reported were also consistent with the 2014 findings, including 8.27% Black or African American, 3.73% Asian, 3.40% Hispanic or Latino, 1.44% two or more ethnicities, 0.44% American Indian or Alaska Native, 0.18% Hawaiian or other Pacific Islander, and 2.51% preferred not to answer. Geographically, the largest percentage (22.66%) of study participants practiced in South Atlantic region of Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia. In addition, the East North Central region (Illinois, Indiana, Michigan, Ohio, and Wisconsin) accounted for 17.68% and the Mid-Atlantic (New Jersey, New York, and Pennsylvania) came in at 13.97%, whereas the West South Central and Pacific regions came at 10.64% and 10.15% respectively.

Essential Activities and Knowledge Areas

The data analyses consisted primarily of descriptive statistics: mean, frequencies, and standard deviations. Results reported by CCMs and non-CCMs were combined because of the small sample of non-CCMs (82 participants) and the strength of agreement between the two groups in terms of their ratings of activities and knowledge statements. The strength of agreement about the practice of case management among these two subgroups was measured using the IOA, which showed an IOA of 0.95 for tasks/activities and 0.89 for knowledge. These were considered high agreements being greater than the 0.80 cutoff point for acceptability; this also meant that the two groups agreed in their perception of case management practice (tasks, behaviors, or activities) 95% of the time and 89% of the time on the application of the knowledge for practice. The descriptive statics and test of agreement among the various subgroups created on the basis of the demographic variables assisted in answering the research Questions 1 and 2: "What are the essential activities/domains of practice of professional case managers?" and "What are the knowledge areas necessary for effective case management practice?" The results were consistent with findings from the data analyses of descriptive statistics in prior years (Tahan & Campagna, 2010; Tahan et al., 2015). As with the 2004, 2009, and 2014 role and function studies, the most recent (2019) study applied criterion for interpreting the mean importance ratings based on the 5-point rating scale. This criterion would ensure that only validated essential activities and knowledge statements were used to answer the three research questions described earlier. The cut point value for accepting or rejecting a statement was set at the 2.50 mean importance rating, which is the midpoint between moderately important and important (Tahan, Huber, et al., 2006). This criterion was also consistent with the CCMC's past role and function studies. Findings from data analyses performed for the frequency of executing such activities and application of the knowledge topics were used to inform the interpretation of the results where the importance ratings were borderline/slightly lower than what is considered acceptable (i.e., <2.50 but >2.39).

Among the essential activities (see Table 4), all 61 statements within "delivering case management services" domain showed an importance rating of 2.5 of higher, as were all 14 statements of "accessing financial and community resources" and all 13 statements of "adhering to ethical, legal, and practice standards" domains. Within the "managing utilization of health care services" domain, 20 out of 21 statements received the requisite 2.5 mean importance rating value, as did 14 out of 16 statements in the "evaluating and measuring quality and outcomes" domain. However, and as was seen in the past role and function studies, results were mixed for the items comprising the "delivering rehabilitation services" domain, with only six out of 13 statements achieving a 2.5 or higher mean importance rating,

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TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings

			Importance			Frequency			
	Essential Activity Domains and Items	No. of Respondents	Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/ Fail Test
	1. Delivering case management services								
1	Identify cases that meet criteria for case management services (e.g., acute or chronic medical and behavioral health conditions, polypharmacy, social determinants of health issues)	2,796	3.43	1.09	86.16%	3.12	1.28	76.74%	P
2	In the case finding process, use information from analytic tools (e.g., screening tools, readmission information, length of stay, predictive modeling, high-dollar reporting, risk stratification)	2,802	3.12	1.24	76.73%	2.86	1.38	68.66%	P
3	Review information from various sources about the client (e.g., diagnosis, history, language, medications, health insurance status, social determinants of health)	2,787	3.68	0.75	93.65%	3.53	0.94	88.58%	P
4	Conduct a comprehensive intake interview	2,788	3.32	1.25	82.60%	2.93	1.46	71.15%	P
5	Perform a client assessment using established case management processes and standards	2,730	3.36	1.18	84.29%	3.04	1.40	74.34%	P
6	Use client engagement techniques (e.g., motivational interviewing, counseling, coaching, behavioral change) in the delivery of health care/case management service	2,799	3.28	1.20	82.53%	2.99	1.38	73.09%	P
7	Assess the client's understanding, readiness, and willingness to engage in case management services	2,796	3.34	1.20	84.37%	3.06	1.38	75.24%	P
8	Assess the client's social, educational, psychological, and financial/economic status (e.g., income, living situation, insurance, benefits, employment)	2,802	3.43	1.08	86.44%	3.15	1.29	77.42%	P
9	Assess the client's social, emotional, and financial support systems (e.g., family, friends, significant others, community groups)	2,795	3.41	1.10	86.08%	3.12	1.31	77.06%	P
10	Assess the client's language and communication needs	2,795	3.45	1.08	87.33%	3.14	1.31	77.54%	P
11	Assess the client's current use of community resources	2,784	3.29	1.14	82.11%	3.00	1.33	72.59%	P
12	Assess the client's health and language literacy, especially relevant to health status	2,796	3.39	1.10	86.12%	3.02	1.31	74.28%	P
13	Assess the client's current and past physical, medical, emotional, cognitive, psychosocial, and vocational functioning compared with the client's baseline function	2,795	3.43	1.03	87.48%	3.11	1.28	77.32%	P
14	Assess the client's health education needs	2,786	3.35	1.10	84.82%	3.02	1.31	74.50%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

	Essential Activity Domains and Items	No. of Respondents	Importance			Frequency			
			Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/ Fail Test
15	Assess the client's relationships with key stakeholders (e.g., client support system, referral source, care providers, payers, employers)	2,796	3.23	1.12	81.40%	2.94	1.31	72.07%	P
16	Verify the client's health history and condition (e.g., medical, psychosocial, vocational, financial, medications) with the client and other stakeholders	2,795	3.40	1.05	86.69%	3.12	1.27	77.28%	P
17	Assess the client's level of readiness for change and involvement in lifestyle behavior changes	2,800	3.22	1.18	81.00%	2.88	1.36	69.61%	P
18	Assess respite and support needs of the client's caregiver(s) (e.g., fatigue, burnout)	2,791	3.01	1.27	74.96%	2.59	1.43	60.20%	P
19	Identify multicultural, spiritual, and religious factors that may affect the client's health status	2,794	3.10	1.21	76.95%	2.71	1.38	63.29%	P
20	Identify the client's care needs and concerns (e.g., gaps in care, problem list)	2,798	3.45	1.05	87.53%	3.18	1.26	78.72%	P
21	Prioritize the client's care needs and concerns	2,793	3.48	1.05	88.40%	3.21	1.27	80.10%	P
22	Engage the client's active participation in the development of their short- and long-term health goals	2,793	3.33	1.18	84.03%	3.01	1.39	74.23%	P
23	Consider both of the client's behavioral and nonbehavioral health issues and concerns in the provision of case management services	2,801	3.31	1.08	84.33%	2.99	1.29	73.86%	P
24	Identify barriers that affect the client's engagement throughout the provision of case management services	2,799	3.43	1.05	87.32%	3.13	1.27	77.93%	P
25	Incorporate the influence of the client's multicultural, spiritual, and religious factors in the development of the plan of care and service delivery	2,796	3.15	1.16	79.18%	2.77	1.35	65.44%	P
26	Establish comprehensive case management plan of care, including goals, objectives, interventions, outcomes, and their associated time frames, in collaboration with the client and key stakeholders	2,801	3.33	1.16	83.72%	3.00	1.38	73.23%	P
27	Consider referral source requests and the client's health benefit limitations in the development of the client's case management plan of care	2,794	3.31	1.13	83.79%	3.03	1.33	74.74%	P
28	Develop goals that identify the client's safety needs in the case management plan	2,797	3.35	1.15	84.77%	3.03	1.37	74.24%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Essential Activity Domains and Items	No. of Respondents	Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/ Fail Test
29	Develop interventions that address barriers to goal achievement	2,784	3.38	1.12	85.78%	3.07	1.34	75.88%	P
30	Document case management assessment findings and plan of care (e.g., goals, objectives, interventions, outcomes, and their associated time frames)	2,798	3.42	1.14	85.70%	3.14	1.36	77.15%	P
31	Communicate case management assessment findings and plan of care to the client and key stakeholders (e.g., providers, payers, employers)	2,794	3.36	1.13	84.65%	3.10	1.32	75.97%	P
32	Implement the case management plan of care	2,791	3.41	1.17	86.06%	3.11	1.40	76.70%	P
33	Establish working relationships with the client's referral sources and interdisciplinary care team	2,797	3.44	1.04	87.59%	3.16	1.24	78.65%	P
34	Coordinate care with key health care providers	2,791	3.51	1.00	89.47%	3.21	1.22	79.97%	P
35	Discuss with the client and the health care team potential costs of treatment options, including cost comparisons and alternative services	2,793	3.00	1.26	73.58%	2.59	1.42	58.70%	P
36	Educate the client regarding health condition, care choices, and resources	2,800	3.37	1.16	85.50%	3.04	1.37	74.81%	P
37	Counsel the client on coping with health condition and care intervention options	2,792	3.22	1.21	81.20%	2.84	1.41	68.48%	P
38	Coordinate health and human/ social services for the client's safe transition along the continuum of care	2,793	3.26	1.20	82.49%	2.86	1.40	68.96%	P
39	Advocate for clients (e.g., address health care needs, negotiate extracontractual benefits)	2,788	3.38	1.11	84.79%	3.02	1.3345	73.01%	P
40	Notify the client/decision maker and/or the authorized client representative of the conclusion of case management services	2,797	3.19	1.30	79.94%	2.82	1.49	68.06%	P
41	Integrate the delivery of care interventions to meet the client's diverse needs (e.g., behavioral and mental health, medical care, social services)	2,796	3.32	1.16	84.19%	2.98	1.36	73.09%	P
42	Communicate the client's progress in achieving the goals, objectives, and outcomes of the case management plan of care to the client and key stakeholders (e.g., providers, payers, employers)	2,793	3.26	1.21	81.99%	2.96	1.39	72.12%	P
43	Document the client's progress with the case management plan of care (e.g., goals, objectives, outcomes, necessary modifications)	2,804	3.37	1.17	84.95%	3.06	1.39	75.47%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Essential Activity Domains and Items	No. of Respondents	Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/ Fail Test
44	Modify the client's case management plan of care and services (e.g., home health) to meet the client's changing needs and condition	2,803	3.35	1.20	84.87%	3.00	1.42	73.71%	P
45	Maintain ongoing communication with the client and key stakeholders (e.g., providers, payers, employers)	2,803	3.42	1.10	86.73%	3.13	1.32	77.75%	P
46	Evaluate the client's understanding of care and health instructions (e.g., verbalize, demonstrate, teach back)	2,799	3.34	1.21	84.39%	2.98	1.42	73.91%	P
47	Clarify the client's care and health instructions	2,786	3.33	1.19	84.35%	2.99	1.39	73.51%	P
48	Reinforce care and health instructions given by the involved providers	2,793	3.32	1.20	84.10%	2.97	1.41	72.84%	P
49	Facilitate the client's empowerment through the development of self-management and health engagement skills	2,799	3.25	1.22	82.21%	2.87	1.43	69.38%	P
50	Develop a plan for the client's transition to the next level of care, provider, or setting	2,797	3.29	1.22	82.62%	2.92	1.42	70.66%	P
51	Evaluate capability and availability of the client's caregiver(s) to provide the needed services post-encounter/episode of care	2,799	3.24	1.24	81.78%	2.87	1.44	69.43%	P
52	Identify when case management services are no longer indicated for the client	2,799	3.19	1.30	80.24%	2.85	1.49	68.96%	P
53	Discuss the need to conclude case management services with the client and stakeholders	2,802	3.00	1.34	74.20%	2.62	1.50	61.33%	P
54	Notify the client/decision maker and/or the authorized client representative of the conclusion of case management services	2,796	3.04	1.36	75.46%	2.63	1.54	61.94%	P
55	Conclude case management services	2,788	3.05	1.36	75.86%	2.67	1.53	63.60%	P
56	Document case closure (e.g., rationale, discharge summary, transfer summary, cost savings)	2,783	3.20	1.31	79.45%	2.81	1.52	67.70%	P
57	Facilitate the completion of the client's transition of care summary	2,792	2.99	1.40	73.64%	2.54	1.57	59.22%	P
58	Communicate the client's summary of care to providers (e.g., physician, case managers, social worker, nurse, counselor) at the time of transition to the next level of care	2,798	3.09	1.33	76.09%	2.66	1.50	63.07%	P
59	Follow up on the client post-episode of care (e.g., hospitalization, clinic visit, telephonic triage call)	2,792	3.03	1.42	75.00%	2.54	1.59	59.86%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Essential Activity Domains and Items	**No. of Respondents**	**Mean**	**Standard Deviation**	**% Importance[a]**	**Mean**	**Standard Deviation**	**% Frequency[b]**	**Pass/ Fail Test**
60	Follow up with the client to assure the availability and delivery of services arranged prior to the transition from a care encounter	2,794	3.04	1.40	75.70%	2.57	1.57	61.31%	P
61	Respond to post-transition inquiries from stakeholders at the next level of care, especially regarding the client's condition and case management plan of care	2,790	3.00	1.37	74.70%	2.55	1.52	58.87%	P
	2. Managing utilization of health care services								
1	Review documentation in the client's health/medical record for determination of medical necessity and benefit coverage (e.g., coverage, exclusions, extracontractual provisions)	2,798	3.19	1.28	79.52%	2.81	1.49	67.67%	P
2	Analyze the client's case management plan of care for cost-effectiveness including feasibility of implementation	2,802	2.92	1.37	71.70%	2.51	1.52	58.00%	P
3	Perform utilization management activities using recognized criteria, guidelines, and health benefit plan language	2,793	2.83	1.48	69.03%	2.34	1.64	53.63%	P
4	Obtain required preauthorization or notification of services based on payer requirements	2,796	2.84	1.53	69.89%	2.28	1.66	52.19%	P
5	Coordinate the client's health insurance benefits	2,763	2.72	1.54	65.18%	2.21	1.63	49.23%	P
6	Monitor utilization management activities using recognized criteria, guidelines, and health benefit plan language	2,797	2.79	1.52	67.43%	2.34	1.65	53.81%	P
7	Participate in appeals of service denials or adverse determinations	2,794	2.54	1.57	60.24%	1.92	1.61	40.02%	P
8	Collaborate with the physician advisor or medical director in mitigating service denials and adverse determinations	2,797	2.67	1.55	64.75%	2.08	1.62	45.06%	P
9	Identify clients who would benefit from alternate levels of care (e.g., subacute, skilled nursing, home care) including availability of health insurance benefits for that level	2,800	2.98	1.40	73.21%	2.52	1.54	57.05%	P
10	Determine when an extracontractual or exception benefit is indicated for the client	2,793	2.53	1.57	60.58%	1.94	1.60	41.10%	P
11	Discuss appropriateness of level of care with the health care team	2,785	3.10	1.32	77.02%	2.74	1.47	65.11%	P
12	Advocate for the provision of health and human/social services in the least restrictive and most appropriate setting	2,793	3.09	1.35	76.41%	2.72	1.50	63.70%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Essential Activity Domains and Items	**No. of Respondents**	**Mean**	**Standard Deviation**	**% Importance[a]**	**Mean**	**Standard Deviation**	**% Frequency[b]**	**Pass/ Fail Test**
13	Identify client cases with potential for under/overutilization of health care services (e.g., avoidable encounters with health care services such as readmissions to the hospital or emergency department)	2,806	3.08	1.32	77.26%	2.65	1.47	62.34%	P
14	Educate the client about utilization of resources in accordance with established criteria (e.g., clinical, financial) and regulatory requirements (e.g., discharge notice)	2,803	2.88	1.43	71.64%	2.43	1.54	56.12%	P
15	Educate the health care team about utilization of resources in accordance with established criteria (e.g., clinical, financial) and regulatory requirements	2,797	2.87	1.41	70.47%	2.46	1.52	56.76%	P
16	Assess the client for needed interventions and level of care (e.g., observation status, acute, rehabilitation)	2,791	2.94	1.44	72.73%	2.52	1.58	59.17%	P
17	Identify actual and potential delays in service and care progression	2,785	3.04	1.35	75.69%	2.63	1.51	62.03%	P
18	Mitigate identified delays in service and care progression	2,795	2.90	1.43	71.81%	2.44	1.55	56.54%	P
19	Evaluate the cost-effectiveness of treatments and services	2,794	2.76	1.47	67.04%	2.24	1.56	49.91%	P
20	Use cost-effective strategies in the delivery of case management services	2,798	2.93	1.41	73.02%	2.52	1.53	59.64%	P
21	Negotiate services to optimize the utilization of available resources and/or benefits to meet the client's health care needs	2,784	2.26	1.66	53.34%	1.53	1.61	31.80%	F
	3. Accessing financial and community resources								
1	Incorporate the client's health insurance benefits (e.g., covered treatments, carve-outs) into the development of the case management plan	2,798	2.86	1.48	71.19%	2.42	1.60	56.49%	P
2	Identify the potential need/ eligibility for private and public sector funding sources for services (e.g., Medicaid, charitable funds, State Waiver Programs, Affordable Care Act, Veterans Health Administration benefits)	2,801	2.84	1.48	70.80%	2.33	1.58	52.92%	P
3	Educate the client on private and public sector funding sources and limitations of services	2,796	2.74	1.50	67.45%	2.24	1.59	50.18%	P
4	Facilitate the client access to programs, services, and funding (e.g., SSI, SSDI, Medicare, Medicaid, Affordable Care Act, Veterans Health Administration benefits)	2,800	2.76	1.51	68.36%	2.19	1.58	48.92%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Essential Activity Domains and Items	**No. of Respondents**	**Mean**	**Standard Deviation**	**% Importance[a]**	**Mean**	**Standard Deviation**	**% Frequency[b]**	**Pass/ Fail Test**
5	Coordinate language interpreter services	2,780	3.12	1.33	77.59%	2.35	1.49	49.06%	P
6	Coordinate the client's social services needs (e.g., housing, transportation, food/meals, financial support, charitable resources, assistance with medication expenses)	2,796	3.04	1.37	75.57%	2.48	1.51	56.93%	P
7	Coordinate resources that meet the respite and support needs of the client's caregiver(s)	2,793	2.73	1.48	66.49%	2.061	1.5421	43.20%	P
8	Identify cases that would benefit from additional types of services (e.g., community resources, disease management, physical therapy, durable medical equipment, vocational services, evaluations, counseling, assistive technology)	2,796	3.29	1.20	81.83%	2.89	1.39	68.83%	P
9	Identify formal and informal community resources and support programs	2,800	3.07	1.30	76.68%	2.63	1.44	61.51%	P
10	Research community resources applicable to the client's situation	2,792	3.01	1.34	74.68%	2.55	1.48	58.46%	P
11	Research alternate treatment programs (e.g., pain management clinic, homeopathic, community-based services/resources) based on the client's situation	2,798	2.87	1.35	70.09%	2.39	1.45	52.92%	P
12	Consult with other health care professionals (e.g., medical, vocational, rehabilitation, life care planning) based on the client's case management plan of care	2,795	3.13	1.25	78.39%	2.71	1.42	62.95%	P
13	Refer clients to formal or informal community resources and support programs based on the client's needs and situation	2,795	3.00	1.34	74.06%	2.53	1.48	57.86%	P
14	Coordinate community resources, including the services of community health workers or public health advocates to support clients' adherence to care regimen and engagement in their own health	2,793	2.86	1.44	70.03%	2.33	1.54	51.70%	P
	4. Evaluating and measuring quality and outcomes								
1	Use evidence-based practice guidelines in the development of the case management plan	2,800	3.32	1.19	83.50%	3.03	1.36	74.52%	P
2	Document the client's response to case management interventions	2,795	3.33	1.22	84.22%	3.04	1.42	75.33%	P
3	Monitor the client's progress in achieving the goals, objectives, and outcomes of the case management plan at specified time frames (e.g., direct observation, interviews, record reviews)	2,796	3.3	1.24	82.51%	2.97	1.43	72.65%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Essential Activity Domains and Items	**No. of Respondents**	**Mean**	**Standard Deviation**	**% Importance[a]**	**Mean**	**Standard Deviation**	**% Frequency[b]**	**Pass/ Fail Test**
4	Evaluate the effectiveness of the case management plan of care (e.g., goals, objectives, interventions, outcomes, and their associated time frames; cost-effectiveness)	2,803	3.26	1.24	81.13%	2.92	1.41	70.47%	P
5	Evaluate the availability and timeliness of delivered treatments and services (e.g., variances, delays in care, avoidable days)	2,794	3.17	1.28	79.38%	2.80	1.44	67.17%	P
6	Collect client-related outcomes data (e.g., clinical, financial, utilization, quality, client experience)	2,795	2.87	1.43	69.98%	2.34	1.56	52.51%	P
7	Collect health care organization/ agency-related outcomes data (e.g., clinical, financial, productivity, utilization, quality, client experience)	2,787	2.72	1.49	64.73%	2.15	1.60	46.78%	P
8	Analyze client- and health care organization/entity-related outcomes data	2,790	2.65	1.52	62.76%	2.05	1.61	44.24%	P
9	Evaluate the quality of treatments, interventions, and services	2,799	3.12	1.28	77.74%	2.73	1.43	64.73%	P
10	Evaluate effectiveness of health and human/social services received (e.g., home health, durable medical equipment, community resources)	2,796	3.04	1.33	76.18%	2.60	1.48	61.04%	P
11	Evaluate actual client outcomes in relation to expected outcomes	2,790	3.07	1.32	76.49%	2.66	1.47	62.65%	P
12	Refer appropriate cases for peer review (e.g., physician review, quality review, outliers, unusual significant occurrences)	2,799	2.92	1.40	71.56%	2.37	1.52	52.49%	P
13	Take appropriate action on client complaints or grievances	2,790	3.25	1.22	81.76%	2.63	1.45	58.53%	P
14	Prepare outcome reports in compliance with regulatory (federal, state, and local), accreditation and organization requirements	2,794	2.49	1.63	60.20%	1.76	1.68	38.93%	F
15	Participate in corrective action planning as indicated by outcome reports	2,793	2.54	1.60	61.01%	1.85	1.63	39.40%	P
16	Participate in creation and dissemination of reports about key outcome measures (e.g., clinical, financial, productivity, utilization, quality, client experience) to relevant stakeholders	2,793	2.49	1.60	59.40%	1.82	1.65	38.86%	F
	5. Delivering rehabilitation services								
1	Identify the need for specialized services to facilitate achievement of optimal level of wellness or functioning	2,797	3.03	1.34	76.58%	2.55	1.49	58.78%	P
2	Coordinate rehabilitation assessments and services	2,788	2.84	1.50	70.84%	2.24	1.62	50.87%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Essential Activity Domains and Items	**No. of Respondents**	**Mean**	**Standard Deviation**	**% Importance[a]**	**Mean**	**Standard Deviation**	**% Frequency[b]**	**Pass/ Fail Test**
3	Assess the need for environmental (e.g., worksite, home) modifications to address accessibility barriers	2,764	2.68	1.52	65.38%	2.00	1.58	42.33%	P
4	Collaborate with other health care providers to clarify restrictions and limitations related to the client's physical or vocational functioning	2,794	2.82	1.48	69.15%	2.25	1.60	50.43%	P
5	Recommend case management interventions or services based on medical or behavioral health need, workers' compensation, or disability management treatment guidelines	2,791	2.84	1.49	69.94%	2.31	1.61	53.22%	P
6	Facilitate achievement of optimal wellness, functioning, or productivity (e.g., return to work, return to school, other activities)	2,791	2.73	1.55	66.75%	2.14	1.65	48.64%	P
7	Coordinate the client's adaptive technologies (e.g., text telephone device, teletypewriter, telecommunication device for the deaf, orientation and mobility services)	2,779	2.47	1.60	59.01%	1.64	1.55	32.20%	F
8	Arrange for vocational assessment	2,792	2.16	1.66	50.86%	1.32	1.51	25.30%	F
9	Coordinate job analysis for the client	2,733	1.95	1.69	45.23%	1.16	1.53	22.86%	F
10	Implement job modification and accommodation needs based on assessment findings	2,784	1.99	1.71	46.26%	1.21	1.56	24.96%	F
11	Collaborate with legal representative, disability management company, or other agencies representing the rehabilitation client	2,790	2.13	1.68	49.39%	1.41	1.60	29.25%	F
12	Facilitate implementation of the plan of care for achieving rehabilitation goals and outcomes	2,786	2.40	1.68	58.36%	1.79	1.70	40.25%	F
13	Coordinate rehabilitation plans with the client, employer, and other stakeholders	2,784	2.35	1.68	56.79%	1.74	1.70	38.58%	F
	6. Adhering to ethical, legal, and practice standards								
1	Protect the client's privacy and confidentiality	2,797	3.92	0.43	98.39%	3.87	0.59	96.80%	P
2	Adhere to established resources of accountability (e.g., ethical standards, codes of professional conduct) that govern case management practice and other professional licensure or certification	2,796	3.89	0.51	97.71%	3.82	0.67	95.75%	P
3	Identify the client's need for ethics consult/review	2,796	3.25	1.28	80.79%	2.62	1.55	58.39%	P
4	Refer ethical concerns to appropriate body for examination	2,794	3.39	1.17	84.68%	2.46	1.56	52.62%	P

(*continues*)

TABLE 4
Essential Activities—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

	Essential Activity Domains and Items	No. of Respondents	Importance			Frequency			
			Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/ Fail Test
5	Document actions taken by the case manager relative to an ethical concern	2,789	3.33	1.24	83.08%	2.48	1.59	54.03%	P
6	Practice based on legal and regulatory standards (e.g., informed consent, Health Insurance Portability and Accountability Act, Americans with Disabilities Act) that govern case management practice and professional licensure or certification	2,799	3.77	0.74	94.86%	3.60	1.00	89.19%	P
7	Adhere to accreditation standards relevant to case management practice and professional licensure or certification	2,795	3.81	0.65	96.17%	3.71	0.83	92.86%	P
8	Educate clients regarding patient bill of rights	2,796	3.20	1.36	79.15%	2.64	1.58	61.39%	P
9	Document case management services and interventions with accuracy and in a timely manner to comply with state, federal, and payer/contractual obligations	2,787	3.56	1.08	89.88%	3.34	1.30	83.01%	P
10	Facilitate the completion of legal documents (e.g., advance directive, health care proxy, financial Power of Attorney, guardianship)	2,799	2.90	1.54	71.53%	2.18	1.67	48.76%	P
11	Coordinate accommodations for persons with disabilities by adhering to the Americans with Disabilities Act	2,779	2.87	1.55	70.82%	2.10	1.65	45.41%	P
12	Apply available case management standards of practice in the provision of care to the case management client	2,791	3.49	1.12	88.00%	3.26	1.32	80.78%	P
13	Apply available evidence-based care guidelines in the provision of care to the case management client	2,785	3.47	1.12	87.32%	3.23	1.32	79.72%	P

Note. F = fail; P = pass. Copyright 2019 by the Commission for Case Manager Certification. Printed with permission.
[a]Sum of importance ratings of 3 (important) and 4 (very important).
[b]Sum of frequency ratings of 3 (often) and 4 (very often).

whereas one statement was "borderline" (2.40–2.49) and six failed (<2.40). As noted in previous role and function analyses (Tahan et al., 2015), the reason may be that professional case managers do not typically spend much of their time on vocational and rehabilitation activities and such care may be necessary only for a small percentage of the client population served by these case managers. In addition, only 1.56% of survey respondents reported having a rehabilitation-related professional background and only 2.15% reported working in a rehabilitation facility. Experts would agree that professional case managers must be able to perform basic/general activities of rehabilitation such as identifying a client's need for rehabilitation services, whether medical or vocational in nature, and making the appropriate referral for in-depth assessment of needs and delivery of such services for these clients. In contrast, the specialized involvement in the comprehensive performance of the tasks/activities comprising the "delivering rehabilitation services" domain might be the role responsibility of case managers practicing in such care settings and with specialized client populations (i.e., medical and/or vocational rehabilitation).

Among the knowledge domains (see Table 5), 34 out of 37 statements in the "care delivery and reimbursement methods" domain were given an importance rating of 2.5 or greater, with three statements

TABLE 5
Knowledge Areas—Mean, Standard Deviation, Importance, and Frequency Ratings

			Importance			Frequency			
	Knowledge Domains and Items	No. of Respondents	Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/Fail Test
	1. Care delivery and reimbursement methods								
1	Accountable care organizations	2,730	2.93	1.36	71.50%	2.60	1.49	59.97%	P
2	Adherence to care regimen	2,737	3.33	1.13	84.84%	3.11	1.27	76.81%	P
3	Differences in and application of age-specific care	2,699	3.12	1.28	77.58%	2.85	1.39	67.64%	P
4	Life span considerations	2,733	2.91	1.36	71.28%	2.57	1.48	59.02%	P
5	Alternative care facilities (e.g., assisted living, group homes, residential treatment facilities)	2,734	3.01	1.35	74.25%	2.62	1.49	60.58%	P
6	Case management models, process, and tools	2,739	3.26	1.16	81.31%	3.04	1.28	72.39%	P
7	Coding methodologies (e.g., Diagnosis-Related Group, *Diagnostic and Statistical Manual of Mental Disorders, International Classification of Diseases, Current Procedural Terminology*)	2,731	2.66	1.47	63.27%	2.27	1.56	50.66%	P
8	Continuum of care/continuum of health and human/social services	2,736	3.18	1.23	79.02%	2.90	1.36	68.70%	P
9	Cost-containment principles	2,732	3.00	1.28	74.01%	2.70	1.40	63.63%	P
10	Factors used to identify the client's acuity or severity levels	2,735	3.23	1.20	80.18%	2.97	1.35	71.08%	P
11	Financial resources (e.g., waiver programs, special needs trusts, viatical settlements)	2,722	2.66	1.50	63.78%	2.17	1.57	47.46%	P
12	Goals and objectives of case management practice	2,720	3.37	1.11	84.89%	3.21	1.22	78.92%	P
13	Health care delivery systems	2,692	3.34	1.07	83.32%	3.14	1.19	76.34%	P
14	Hospice, palliative, and end-of-life care	2,718	3.02	1.39	74.61%	2.52	1.52	56.83%	P
15	Transitions of care/transitional care	2,719	3.28	1.16	81.54%	3.00	1.32	71.81%	P
16	Interdisciplinary/interprofessional care team	2,724	3.48	0.99	88.00%	3.28	1.16	81.01%	P
17	Levels of care and care settings	2,705	3.34	1.12	83.59%	3.12	1.26	75.69%	P
18	Managed care concepts	2,712	3.26	1.16	81.53%	3.04	1.29	73.31%	P
19	Management of clients with acute and chronic illnesses	2,718	3.48	1.03	88.01%	3.30	1.18	81.74%	P
20	Management of clients with disability(ies)	2,708	3.31	1.13	82.42%	2.98	1.32	70.53%	P
21	Medication safety assessment, reconciliation, and management	2,715	3.32	1.22	82.54%	2.94	1.42	69.71%	P
22	Military and veteran benefit programs (e.g., TRICARE and Veterans Health Administration)	2,709	2.41	1.58	56.44%	1.75	1.53	33.77%	F
23	Models of care delivery (e.g., patient-centered medical home, health home, chronic care)	2,708	3.09	1.30	75.52%	2.73	1.43	62.93%	P
24	Population health	2,707	2.71	1.50	63.91%	2.26	1.60	49.55%	P
25	Negotiation techniques	2,673	2.49	1.51	57.20%	1.97	1.55	40.47%	F
26	Physical functioning and behavioral health assessment	2,704	3.17	1.23	79.25%	2.86	1.39	68.04%	P

(*continues*)

TABLE 5
Knowledge Areas—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Knowledge Domains and Items	No. of Respondents	Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/Fail Test
27	Private benefit programs (e.g., pharmacy benefits management, indemnity, employer-sponsored health coverage, individually purchased insurance, home care benefits, COBRA)	2,711	2.79	1.45	67.17%	2.36	1.53	52.30%	P
28	Public benefit programs (e.g., SSI, SSDI, Medicare, Medicaid)	2,710	3.01	1.35	73.87%	2.59	1.49	59.55%	P
29	Employer-based health and wellness programs	2,700	2.55	1.54	59.30%	2.08	1.59	44.39%	P
30	Reimbursement and payment methodologies (e.g., bundled payment, case rate, prospective payment systems, value-based care, financial risk models)	2,697	2.48	1.58	57.95%	1.99	1.62	42.36%	F
31	Roles and functions of case managers in various care/practice settings	2,708	3.24	1.15	79.95%	2.96	1.29	69.99%	P
32	Roles and functions of other health care providers in various care/practice settings	2,703	3.29	1.08	81.95%	3.03	1.24	73.05%	P
33	Transitions of care/transitional care	2,693	3.28	1.15	81.69%	3.01	1.30	72.17%	P
34	Utilization management principles and guidelines	2,705	3.08	1.29	75.12%	2.74	1.44	63.95%	P
35	Collaborative/comprehensive/integrated/holistic case management services	2,696	3.19	1.21	78.56%	2.88	1.36	67.77%	P
36	Caseload considerations	2,698	3.21	1.23	79.87%	2.89	1.40	69.43%	P
37	Alternative care sites (e.g., nontraditional sites of care, telehealth, virtual care)	2,701	2.75	1.43	65.57%	2.29	1.52	49.68%	P
	2. Psychosocial concepts and support systems								
1	Abuse and neglect (e.g., emotional, psychological, physical, financial)	2,700	3.41	1.09	85.52%	2.75	1.37	61.21%	P
2	Behavioral change theories and stages	2,700	2.97	1.30	71.85%	2.48	1.43	54.14%	P
3	Behavioral health concepts and symptoms (e.g., diagnosis, dual diagnoses, co-occurring disorders, substance use)	2,685	3.10	1.22	76.01%	2.62	1.39	58.48%	P
4	Client activation and readiness to change	2,695	2.94	1.36	72.36%	2.59	1.49	59.97%	P
5	Client empowerment	2,688	3.24	1.20	81.10%	2.94	1.37	70.83%	P
6	Client engagement	2,689	3.35	1.12	84.49%	3.06	1.31	74.81%	P
7	Client self-care management (e.g., self-advocacy, self-directed care, informed decision-making, shared decision-making, health education)	2,688	3.37	1.12	85.04%	3.07	1.31	75.33%	P
8	Community resources (e.g., elder care services, transportation, fraternal/religious organizations, meal delivery services, pharmacy assistance programs)	2,696	3.18	1.26	79.01%	2.79	1.42	65.66%	P
9	Conflict resolution strategies	2,691	3.05	1.24	74.58%	2.55	1.39	55.51%	P

(*continues*)

TABLE 5
Knowledge Areas—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Knowledge Domains and Items	No. of Respondents	Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/Fail Test
10	Crisis intervention strategies	2,690	3.05	1.29	74.35%	2.40	1.45	50.41%	P
11	Client support system dynamics	2,680	3.15	1.21	79.07%	2.83	1.36	67.28%	P
12	Health coaching and counseling	2,680	3.04	1.28	74.22%	2.68	1.42	62.21%	P
13	Health literacy	2,669	3.23	1.15	80.63%	2.88	1.33	68.49%	P
14	Interpersonal communication (e.g., group dynamics, relationship building)	2,686	3.18	1.20	78.33%	2.89	1.35	68.70%	P
15	Interview tools and techniques (e.g., motivational interviewing)	2,683	3.24	1.18	80.95%	2.98	1.33	71.96%	P
16	Multicultural, spiritual, and religious factors that may affect the client's health	2,684	3.21	1.16	79.47%	2.82	1.33	65.58%	P
17	Psychological and neuropsychological assessments	2,683	3.05	1.27	74.47%	2.58	1.45	58.70%	P
18	Psychosocial aspects of chronic illness and disability	2,681	3.24	1.15	80.87%	2.87	1.34	68.38%	P
19	Resources for the uninsured or underinsured	2,681	2.96	1.44	73.18%	2.48	1.56	56.72%	P
20	Supportive care programs (e.g., support groups, pastoral counseling, disease-based organizations, bereavement counseling)	2,681	2.95	1.35	72.66%	2.46	1.47	54.73%	P
21	Wellness and illness prevention programs, concepts, and strategies	2,674	2.99	1.32	73.64%	2.54	1.45	56.92%	P
22	Social determinants of health	2,671	3.12	1.29	76.64%	2.71	1.44	62.16%	P
23	Gender health (e.g., sexual orientation, gender expression, gender identity)	2,678	2.62	1.50	61.20%	1.93	1.52	37.52%	P
	3. Quality and outcomes evaluation and measurements								
1	Accreditation standards and requirements	2,670	3.24	1.21	80.04%	2.89	1.38	67.47%	P
2	Cost–benefit analysis	2,669	2.72	1.41	64.71%	2.20	1.51	46.18%	P
3	Data interpretation and reporting	2,654	2.77	1.38	65.49%	2.30	1.51	48.99%	P
4	Health care analytics (e.g., health risk assessment, predictive modeling, Adjusted Clinical Group)	2,671	2.61	1.48	60.88%	2.12	1.57	44.76%	P
5	Program evaluation methods	2,667	2.68	1.44	63.59%	2.22	1.53	47.00%	P
6	Quality and performance improvement concepts	2,667	2.99	1.30	72.37%	2.55	1.45	57.24%	P
7	Quality indicators and applications	2,647	2.92	1.33	70.83%	2.47	1.48	54.89%	P
8	Sources of quality indicators (e.g., Centers for Medicare & Medicaid Services, URAC, National Committee for Quality Assurance, National Quality Forum, Agency for Healthcare Research and Quality, National Quality Strategy)	2,662	2.89	1.37	69.57%	2.40	1.52	53.34%	P
9	Types of quality indicators (e.g., clinical, financial, productivity, utilization, client experience of care)	2,661	2.88	1.35	69.37%	2.42	1.49	53.63%	P
10	Triple Aim/Quadruple Aim	2,647	1.94	1.67	43.18%	1.43	1.61	29.37%	F

(*continues*)

TABLE 5
Knowledge Areas—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

			Importance			Frequency			
	Knowledge Domains and Items	No. of Respondents	Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	Pass/Fail Test
11	Evidence-based care guidelines related to case management	2,667	3.19	1.23	78.93%	2.92	1.37	69.42%	P
	4. Rehabilitation concepts and strategies								
1	Adaptive technologies (e.g., text telephone device, teletypewriter, telecommunication device for the deaf, orientation and mobility services)	2,665	2.65	1.45	62.44%	1.86	1.47	34.76%	P
2	Functional capacity evaluation	2,663	2.60	1.54	62.49%	1.94	1.60	41.57%	P
3	Rehabilitation posthospitalization or acute health condition	2,660	2.85	1.45	70.19%	2.33	1.57	53.03%	P
4	Vocational and rehabilitation service delivery systems	2,663	2.38	1.58	56.14%	1.67	1.56	33.67%	F
5	Vocational aspects of chronic illness(es)	2,657	2.27	1.60	52.43%	1.59	1.54	30.93%	F
6	Vocational aspects of disability(ies)	2,652	2.31	1.60	53.85%	1.61	1.55	31.72%	F
7	Rehabilitation concepts (e.g., medical rehabilitation, substance use rehabilitation, vocational rehabilitation, return-to-work strategies)	2,661	2.54	1.57	60.65%	1.94	1.62	41.04%	P
8	Job analysis, job accommodation, and job modification	2,654	2.19	1.66	50.90%	1.47	1.60	29.86%	F
9	Life care planning	2,649	2.35	1.60	54.74%	1.65	1.58	34.16%	F
10	Work adjustment, transitional employment, and work hardening	2,650	2.20	1.66	51.09%	1.49	1.60	30.78%	F
	5. Ethical, legal, and practice standards								
1	Case recording and documentation	2,669	3.54	1.01	88.72%	3.43	1.15	84.77%	P
2	Ethics related to care delivery (e.g., principles, advocacy, experimental treatments, end of life, advance directives, refusal of treatment/ services)	2,657	3.49	1.04	87.24%	3.20	1.24	76.90%	P
3	Ethics related to professional practice (e.g., cultural and linguistic sensitivity, code of professional conduct, veracity)	2,658	3.57	0.95	89.62%	3.34	1.14	81.92%	P
4	Health care and disability-related legislation (e.g., Americans with Disabilities Act, Occupational Safety and Health Administration regulations, Health Insurance Portability and Accountability Act, Affordable Care Act, HITECH Act)	2,665	3.20	1.22	78.87%	2.83	1.40	65.50%	P
5	Legal and regulatory requirements applicable to case management practice	2,660	3.42	1.08	85.38%	3.16	1.27	76.45%	P
6	Privacy and confidentiality	2,659	3.83	0.59	96.65%	3.75	0.74	93.80%	P
7	Risk management	2,631	3.28	1.15	81.22%	2.97	1.32	69.84%	P
8	Self-care, safety, and well-being as a professional	2,656	3.56	0.93	89.34%	3.32	1.12	81.42%	P

(*continues*)

TABLE 5
Knowledge Areas—Mean, Standard Deviation, Importance, and Frequency Ratings (*Continued*)

	Knowledge Domains and Items	No. of Respondents	Importance			Frequency			Pass/Fail Test
			Mean	Standard Deviation	% Importance[a]	Mean	Standard Deviation	% Frequency[b]	
9	Standards of practice (e.g., Case Management Society of America Standards of Practice for Case Management, National Association of Social Work Standards for Case Management)	2,661	3.56	0.95	89.67%	3.40	1.10	83.64%	P

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[a]Sum of importance ratings of 3 (important) and 4 (very important).
[b]Sum of frequency ratings of 3 (often) and 4 (very often).

at "borderline" (2.40–2.49). All 23 of the statements in the "psychosocial concepts and support systems" domain were rated 2.5, as were nine out of nine statements in the "ethical, legal, and practice standards" domain. In the "quality and outcomes evaluation and measurements" domain, 10 out of 11 statements were rated at 2.50, whereas one statement failed (with a mean of <2.40). Consistent with the findings in vocational and rehabilitation essential activities and tasks domain—and as found in prior role and function surveys (Tahan et al., 2015)—only four out of 10 knowledge statements passed with a rating of 2.5 or greater whereas six failed. The four statements that passed were related to "adaptive technologies, functional capacity evaluation, rehabilitation post-hospitalization or acute health condition, and rehabilitation concepts." These recognize the importance of the case manager's general knowledge in identifying the client's need for specialized rehabilitation services and acting upon securing these services as part of the client's case management plan of care.

Analysis of Findings by Participant Subgroups

The researchers analyzed the role and functions study data to determine how similar or different the perceptions of the various participants were relevant to their importance ratings of the essential activities and knowledge areas, using the IOA test statistic. The IOA statistic provided a method of computing the similarity in judgments between groups. In this study, it measured the extent to which subgroups agreed in their perceptions of the importance of tasks or knowledge topics (Tahan, Huber, & Downey, 2006) to the practice of professional case management. The IOA statistic is more tailored to the purpose of a practice analysis than the correlation coefficient. Although the correlation coefficient measures the relationship between the full range of possible ratings, the IOA focuses on whether two groups agree that the content should (or should not) be included in a certification examination. As one of the major purposes of this practice analysis is to identify appropriate certification examination content, the IOA has provided a statistical method to address this question at the subgroup level. Furthermore, the IOA requires a smaller sample size per group whereas the correlation coefficient requires a larger sample size to provide a reliable measure of agreement.

As with prior analyses, if the subgroups' mean importance ratings of an item were above the critical importance value (≥2.50), there would be a resulting natural agreement that the content of the item was important for case managers. In contrast, if the subgroup ratings of an item were below the critical level (<2.50), then the subgroups would be found to be in agreement that the content of the item was considered less important or unimportant, depending on how low the mean importance rating score was. Any differences in mean importance ratings among subgroups indicated that potentially there was disagreement as to whether the content was important.

The IOA scores ranged from 0 to 1, with 1 representing perfect agreement and 0 denoting full disagreement. The researchers applied the same criteria for analyzing the IOA as was described in the 2014 CCMC's role and function study of case managers (Tahan et al., 2015). The criteria were as follows:

- IOA of 1.00 = perfect agreement
- IOA ≥0.80 and ≤1 = high agreement
- IOA <0.80 and ≥0.70 = moderate agreement
- IOA <0.70 = Disagreement

Table 6 presents the findings of the IOA analyses of the various subgroups computed on the basis of the demographic and background questions and on the mean importance and frequency ratings of their respective activity statements. Details for the IOAs computed for the knowledge domains and across the various subgroups will be shared in Part II of this article series. The results ranged as follows:

- Job title: 0.05–0.95 for activities and 0.52–0.96 for knowledge

TABLE 6
Index of Agreement in Essential Activities Among Various Subgroups

Subgroup (N = Sample Size)	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7	SG 8	SG 9	SG 10	SG 11
Job title											
SG 1: Care/case coordinator, disease manager (*N* = 150)	–	–	–	–	–	–	–	–	–	–	–
SG 2: Care/case manager (*N* = 1,277)	0.80	1.00	–	–	–	–	–	–	–	–	–
SG 3: Case management educator, university educator (*N* = 35)	0.78	0.95	–	–	–	–	–	–	–	–	–
SG 4: Consultant (*N* = 59)	0.80	0.88	0.88	–	–	–	–	–	–	–	–
SG 5: Director of case management/care management/care coordination (*N* = 131)	0.77	0.93	0.90	0.85	–	–	–	–	–	–	–
SG 6: Manager/supervisor (*N* = 259)	0.88	0.77	0.76	0.80	0.73	–	–	–	–	–	–
SG 7: Nurse advocate, nurse navigator, clinical nurse/staff nurse (*N* = 72)	0.83	0.93	0.91	0.91	0.90	0.82	–	–	–	–	–
SG 8: Quality specialist (*N* = 35)	0.31	0.13	0.11	0.12	0.15	0.82	0.14	–	–	–	–
SG 9: Social worker (*N* = 124)	0.84	0.88	0.87	0.88	0.83	0.85	0.91	0.20	–	–	–
SG 10: Utilization reviewer/manager (*N* = 117)	0.38	0.46	0.45	0.36	0.48	0.40	0.42	0.63	0.41	–	–
SG 11: Rehabilitation counselor, vocational evaluator, disability specialist, physical therapist, workers' compensation specialist (*N* = 49)	0.74	0.92	0.94	0.93	0.88	0.75	0.91	0.05	0.86	0.42	–
	SG 1	**SG 2**	**SG 3**	**SG 4**	**SG 5**	**SG 6**	**SG 7**	**SG 8**	**SG 9**	**SG 10**	**SG 11**
Primary work/practice setting											
SG 1: Ambulatory clinic/outpatient care/primary care/urgent care clinic, federally qualified health care center, medical home/health home/patient-centered medical home, mental health center, mental health outpatient (*N* = 197)	–	–	–	–	–	–	–	–	–	–	–
SG 2: Disease management agency/program (*N* = 38)	0.96	–	–	–	–	–	–	–	–	–	–
SG 3: Government agency, military treatment facility, Veterans Health Administration agency (*N* = 101)	0.93	0.92	–	–	–	–	–	–	–	–	–
SG 4: Health plan/health insurance company, liability insurer, life/disability insurer, reinsurance (*N* = 825)	0.97	0.96	0.91	–	–	–	–	–	–	–	–
SG 5: Home care agency (*N* = 43)	0.93	0.96	0.88	0.95	–	–	–	–	–	–	–
SG 6: Hospital/acute care/hospital system, mental health/psychiatric inpatient center (*N* = 614)	0.93	0.95	0.87	0.96	0.96	–	–	–	–	–	–
SG 7: Independent/private case or care management company, independent rehabilitation company/insurance affiliate (*N* = 182)	0.91	0.89	0.87	0.89	0.90	0.86	–	–	–	–	–
SG 8: Rehabilitation facility (acute), rehabilitation facility (subacute) (*N* = 58)	0.93	0.96	0.88	0.96	0.99	0.86	0.89	–	–	–	–
SG 9: Third party administrator (*N* = 56)	0.91	0.91	0.86	0.92	0.94	0.91	0.91	0.95	–	–	–
SG 10: Workers' compensation insurer/agency (*N* = 240)	0.83	0.81	0.83	0.83	0.83	0.79	0.92	0.83	0.88	–	–
SG 11: Skilled nursing facility/long-term care facility, community residential program, long-term acute care (*N* = 51)	0.86	0.86	0.79	0.87	0.86	0.91	0.78	0.87	0.85	0.77	–
	SG 1	**SG 2**	**SG 3**	**SG 4**	**SG 5**	**SG 6**	**SG 7**	**SG 8**	**SG 9**	**SG 10**	**SG 11**
% of time spent in provision of direct case management services											
SG 1: 0% (not involved in direct case management services at all) (*N* = 370)	–	–	–	–	–	–	–	–	–	–	–
SG 2: 1%–10% (*N* = 309)	0.55	–	–	–	–	–	–	–	–	–	–
SG 3: 11%–20% (*N* = 130)	0.54	0.96	–	–	–	–	–	–	–	–	–
SG 4: 21%–30% (*N* = 128)	0.50	0.95	0.96	–	–	–	–	–	–	–	–

(*continues*)

TABLE 6
Index of Agreement in Essential Activities Among Various Subgroups (*Continued*)

Subgroup (N = Sample Size)	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7	SG 8	SG 9	SG 10	SG 11
SG 5: 31%–40% (*N* = 104)	0.50	0.95	0.96	0.99	–	–	–	–	–	–	–
SG 6: 41%–50% (*N* = 137)	0.51	0.96	0.96	0.96	0.96	–	–	–	–	–	–
SG 7: 51%–60% (*N* = 133)	0.51	0.94	0.95	0.98	0.99	0.96	–	–	–	–	–
SG 8: 61%–70% (*N* = 147)	0.53	0.89	0.91	0.90	0.90	0.96	0.91	–	–	–	–
SG 9: 71%–80% (*N* = 296)	0.50	0.95	0.96	0.99	1.00	0.96	0.99	0.90	–	–	–
SG 10: 81%–90% (*N* = 289)	0.51	0.93	0.95	0.96	0.98	0.96	0.97	0.92	0.98	–	–
SG 11: 91%–100% (*N* = 658)	0.51	0.93	0.95	0.96	0.98	0.96	0.97	0.92	0.98	1.00	–

	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7	SG 8	SG 9
Years of experience in case management									
SG 1: 0–2 (*N* = 109)	–	–	–	–	–	–	–	–	–
SG 2: 6–10 (*N* = 628)	0.98	–	–	–	–	–	–	–	–
SG 3: 11–15 (*N* = 443)	0.99	0.97	–	–	–	–	–	–	–
SG4: 16–20 (*N* = 427)	0.97	0.98	0.98	–	–	–	–	–	–
SG5: 21–25 (*N* = 337)	0.97	0.96	0.98	0.99	–	–	–	–	–
SG 6: 26–30 (*N* = 195)	0.96	0.95	0.96	0.97	0.99	–	–	–	–
SG 7: 3–5 (*N* = 434)	0.97	0.95	0.96	0.94	0.96	0.97	–	–	–
SG 8: 31–35 (*N* = 87)	0.95	0.94	0.96	0.95	0.96	0.97	0.96	–	–
SG 9: 36 or more (*N* = 44)	0.93	0.94	0.94	0.95	0.96	0.98	0.95	0.99	–

	SG 1	SG 2	SG 3	SG 4
Professional background/discipline				
SG 1: Licensed professional clinical counselor, licensed professional counselor, psychologist (*N* = 34)	–	–	–	–
SG 2: Registered nurse (*N* = 2,216)	0.89	–	–	–
SG 3: Social worker (*N* = 301)	0.93	0.93	–	–
SG 4: Occupational therapist, vocational rehabilitation counselor/specialist, disability manager (*N* = 47)	0.73	0.68	0.75	–

	SG 1	SG 2	SG 3	SG 4
Formal/official daily work schedule				
SG 1: <8 hr (*N* = 153)	–	–	–	–
SG 2: 8 hr (*N* = 2,183)	0.91	–	–	–
SG 3: 10 hr (*N* = 291)	0.91	0.95	–	–
SG 4: ≥12 hr (*N* = 81)	0.90	0.98	0.97	–

	SG 1	SG 2
Employer requires certification in case management		
SG 1: Yes (*N* = 1,047)	–	–
SG 2: No (*N* = 1,639)	0.96	–

	SG 1	SG 2
CCM certification status		
SG 1: Yes (*N* = 2,600)	–	–
SG 2: No (*N* = 82)	0.95	–

(*continues*)

TABLE 6
Index of Agreement in Essential Activities Among Various Subgroups (*Continued*)

Subgroup (N = Sample Size)	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6
Number of years with CCM credential						
SG 1: <5 (*N* = 1,094)	–	–	–	–	–	–
SG 2: 5–10 (*N* = 575)	0.97	–	–	–	–	–
SG 3: 11–15 (*N* = 296)	0.97	1.00	–	–	–	–
SG 4: 16–20 (*N* = 273)	0.96	0.99	0.99	–	–	–
SG 5: 21–25 (*N* = 131)	0.93	0.93	0.93	0.94	1.00	
SG 6: ≥26 (*N* = 86)	0.89	0.86	0.86	0.86	0.92	–

	SG 1	SG 2
Number of states/territories of case management practice		
SG 1: Single state or territory (*N* = 1,832)	–	–
SG 2: Multiple states and/or territories (*N* = 838)	0.96	–

	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7	SG 8	SG 9
Region or territory of case management practice									
SG 1: New England (*N* = 159)	–	–	–	–	–	–	–	–	–
SG 2: Mid-Atlantic (*N* = 373)	0.96	–	–	–	–	–	–	–	–
SG 3: East North Central (*N* = 472)	0.97	0.96	–	–	–	–	–	–	–
SG 4: West North Central (*N* = 146)	0.97	0.96	1.00	–	–	–	–	–	–
SG 5: South Atlantic (*N* = 605)	0.95	0.96	0.98	0.98	–	–	–	–	–
SG 6: East South Central (*N* = 192)	0.95	0.98	0.95	0.95	0.97	–	–	–	–
SG 7: West South Central (*N* = 284)	0.96	0.99	0.96	0.96	0.97	0.99	–	–	–
SG 8: Mountain (*N* = 168)	0.96	0.97	0.96	0.96	0.98	0.99	0.98	–	–
SG 9: Pacific (*N* = 271)	0.96	0.98	0.96	0.96	0.99	0.99	0.99	0.99	–

	SG 1	SG 2	SG 3	SG 4	SG 5
Highest educational degree					
SG 1: Nursing diploma (*N* = 131)	–	–	–	–	–
SG 2: Associate degree (*N* = 394)	0.99	1.00	–	–	–
SG 3: Bachelor's degree (*N* = 1,267)	0.98	0.96	1.00	–	–
SG 4: Master's degree (*N* = 873)	0.97	0.99	0.95	1.00	–
SG 5: Doctoral degree (*N* = 43)	0.96	0.97	0.93	0.99	1.00

	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6
Method used to learn to practice case management						
SG 1: Conferences and seminars (*N* = 148)	–	–	–	–	–	–
SG 2: Conferences and seminars, plus on-the-job training (*N* = 909)	0.96	–	–	–	–	–
SG 3: Formal degree granting program, plus on-the-job training (*N* = 118)	0.86	0.91	–	–	–	–
SG 4: On-the-job training only (*N* = 1,175)	0.93	0.97	0.93	–	–	–
SG 5: Self-directed/self-taught (*N* = 268)	0.93	0.98	0.93	0.99	–	–
SG 6: Formal degree granting program, postgraduate certificate granting program (*N* = 30)	0.99	0.94	0.86	0.93	0.93	–

(*continues*)

TABLE 6
Index of Agreement in Essential Activities Among Various Subgroups (*Continued*)

Subgroup (N = Sample Size)	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6	SG 7	SG 8	SG 9	SG 10
Age										
SG 1: ≤30 years (*N* = 42)	–	–	–	–	–	–	–	–	–	–
SG 2: 31–35 years (*N* = 163)	0.97	–	–	–	–	–	–	–	–	–
SG 3: 36–40 years (*N* = 225)	0.96	0.94	–	–	–	–	–	–	–	–
SG 4: 41–45 years (*N* = 248)	0.97	0.99	0.96	–	–	–	–	–	–	–
SG 5: 46–50 years (*N* = 372)	0.96	0.94	0.97	0.96	–	–	–	–	–	–
SG 6: 51–55 years (*N* = 448)	0.98	0.96	0.96	0.96	0.98	–	–	–	–	–
SG 7: 56–60 years (*N* = 569)	0.98	0.96	0.96	0.96	0.98	1.00	–	–	–	–
SG 8: 61–65 years (*N* = 452)	0.98	0.99	0.93	0.98	0.93	1.00	0.96	–	–	–
SG 9: 66–70 years (*N* = 138)	0.97	0.99	0.93	0.97	0.94	0.96	0.96	0.99	–	–
SG 10: >70 years (*N* = 48)	0.95	0.93	0.95	0.93	0.93	0.94	0.94	0.94	0.93	–

	SG 1	SG 2
Gender		
SG 1: Female (*N* = 2,564)	–	–
SG 2: Male (*N* = 116)	0.96	–

	SG 1	SG 2	SG 3	SG 4	SG 5	SG 6
Ethnicity						
SG 1: American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, prefer not to answer (*N* = 85)	–	–	–	–	–	–
SG 2: Asian (*N* = 101)	0.94	–	–	–	–	–
SG 3: Black or African American (*N* = 224)	0.96	0.99	–	–	–	–
SG 4: Hispanic or Latino (*N* = 92)	0.96	0.98	0.99	–	–	–
SG 5: Two or more ethnicities or multiethnic (*N* = 39)	0.96	0.99	1.00	0.99	–	–
SG 6: White–non-Hispanic (*N* = 2,166)	0.97	0.93	0.94	0.95	0.97	–

Note. CCM = Certified Case Manager; SG = subgroup.

- Percentage of time in direct case management: 0.50–1.00 for activities and 0.74–0.99 for knowledge
- Work/practice setting: 0.77–0.99 for activities and 0.70–0.98 for knowledge
- Years of experience in case management: 0.93–0.99 for activities and 0.87–0.98 for knowledge
- Primary method of learning case management practice: 0.86–0.99 for both activities and knowledge
- Holding the CCM certification in case management: 0.95 for activities and 0.89 for knowledge, whereas IOAs for the employer's requirement of certification were 0.96 for activities and 0.91 for knowledge
- Number of daily hours worked: 0.90–0.98 for activities and 0.88–0.96 for knowledge
- Primary professional background/disciplines: 0.68–0.93 for activities and 0.66–0.90 for knowledge
- Region of case management practice: 0.95–1.00 for activities and 0.92–0.99 for knowledge
- Academic degree background: 0.93–0.99 for activities and 0.88–0.98 for knowledge
- Age: 0.93–0.99 for activities and 0.88–0.99 for knowledge
- Gender: 0.96 for activities and 0.93 for knowledge
- Ethnicity: 0.93–1.00 for activities and 0.90–1.00 for knowledge

The IOAs for the essential activity domains computed for the primary job title subgroups were lowest for respondents with the quality specialist and utilization reviewer/manager titles. One may attribute this observation to quality specialists not providing direct case management services to clients whereas the utilization review/managers may perhaps focus more on the financial and reimbursement aspects of care rather than actual direct care provision of health and human

services. The IOAs for the percentage of time spent in direct case management services to clients showed a uniformly high agreement among all the subgroups except for those who indicated having no (0%) direct contact with clients. It is not a surprise that this subgroup disagreed with all the others, knowing that the participants in this subgroup are functioning in roles that do not comprise direct interaction with clients and therefore may not have the opportunity to exercise full case management role responsibilities. As for the primary work setting subgroups, the skilled nursing/long-term care facilities subgroup demonstrated modest disagreement with the government-based subgroup (IOA = 0.79), independent/private case management subgroup (IOA = 0.78), and workers' compensation subgroup (IOA = 0.77). The IOAs for the remaining work settings showed agreement of 0.80 or more. Years of practicing case management subgroups demonstrated high agreement across the board.

The IOAs for the essential activity domains for the case management certification requirement by employers of professional case managers demonstrated near perfect agreement; similarly, the IOAs of the CCM and non-CCM subgroups showed high agreement irrespective of whether certification was required. Such high agreement also extended to monetary reward for case management certification, regardless of whether the employer offered any monetary compensation. Considering the analyses for subgroups based on daily work schedule (daily hours of work/operations), there was nearly perfect agreement as well among all ranges of work hours. These findings demonstrated that the practice of professional case management did not vary on the basis of the presence of certification or the number of work hours, as long as the case manager maintained direct contact with the client in care provision. The IOAs for the subgroups based on primary professional background/discipline demonstrated high agreement among the nursing, social work, and counseling subgroups compared with the occupational therapy and vocational rehabilitation counseling subgroups that observed low to moderate agreement (IOAs = 0.68–0.75). Comparative analyses based on whether the participants held the CCM credential and the number of years since becoming certified showed high agreement on the essential activity domain ratings irrespective of the year the CCM credential was acquired. As for the primary method to learn case management, subgroup analyses resulted in IOAs reflective of high agreement across the subgroups regardless of the method applied in learning case management practice. Similarly, the IOAs for the subgroups based on states, territories, or regions of practice, age, gender, ethnicity, and academic degrees demonstrated high agreement among the various subgroups, therefore demonstrating that the practice of the case manager is consistent regardless of these demographic variables.

Comprehensiveness of the Case Manager Role and Function Study Instrument

Researchers asked the study participants to indicate at the end of each of the essential activity and knowledge domain sections of the survey instrument how well the statements reflected important case management practice in the domain's specific focus area. Participants used a 5-point rating scale (1 = poorly representative, 2 = fairly representative, 3 = adequately representative, 4 = well representative, and 5 = very well representative). For each essential activity or knowledge domain, the participants rated the content as "adequately," "well," or "very well" in covering the essential activity or knowledge domain areas. This indicated the domains were comprehensive in content and appropriately reflected the current practice of professional case management. These favorable results also mean that the survey instrument's construct and content were comprehensive enough and therefore appropriate to describe the case manager's role and function from the perspective of those currently in actual practice.

After rating the content coverage of each essential activity or knowledge domain, the survey participants had the opportunity to write in (free text) any essential activity or knowledge statements that they believed were missing from the delineation. Upon review of these responses by the researchers, it was found that the study participants used the comments opportunity to share real-life examples and anecdotes from their daily involvement in case management practice. Such comments further supported the comprehensiveness of the survey instrument used in this study.

Conclusion

The case manager role and function study is helpful in profiling the professional case manager. The results describe the case manager as someone who holds the title care/case manager (47.24% of respondents), is White (80%), female (94.82%), is between 51 and 65 years of age (54.31%), spends more than 70% of her time providing direct case management services to clients and their support systems (46.02%), and works in either a health insurance plan or a hospital/acute care/hospital system settings (51.5%). She has been working as a case manager for more than 10 years (56.69%), is a registered nurse (82.23%), holds a bachelor's degree or higher (80.62%), and works mostly 8 hr per day (65.77%). In addition, this case manager learned her professional role on the job or by being self-redirected/self-taught (53.36%) and

practices in either the South Atlantic or East North Central region of the United States (40.34%).

Understanding the state of professional case management practice through the perceptions of those directly or indirectly involved is necessary for ongoing enhancement of this practice. Regularly completed, rigorous research-based examinations of the roles and functions of case managers are also important for charting the evolution of such role(s) and determining how best to prepare the next generation of case managers to manage the workforce challenges being experienced today. The case management professionals described in this role and function study may be known by varied titles; yet, a commonality and growing trend is greater visibility and higher expectations that they can contribute to value creation across health and human services and care settings—demonstrated through quality and safety outcomes and cost-conscious service provision that minimizes the health provider's financial risks. With these demands, case managers must possess the requisite knowledge and competency in essential activities that constitute the key role responsibilities. The 2019 role and function study has identified and evaluated these requirements through a rigorous, scientifically based, large national survey and practice analysis. Other research findings, as will be discussed in Part II of this article series, are also used to inform the content and composition of the CCM certification examination, based on the 2019 survey and analysis—one of the main research questions addressed in this study.

Part II will be published in the July/August 2020 issue of *Professional Case Management*.

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