DISCUSSION ARTICLE

CASE MANAGEMENT AND THE PHYSICIAN EXECUTIVE

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ABSTRACT: Understanding the case-management department, which frequently encompasses social work and utilization review, facilitates physician leaders' ability to support hospital or system objectives. Case management is charged with ensuring that patient care is delivered efficiently and that the hospital is reimbursed. Essential functions include ensuring correct status determinations at patient entry, monitoring and facilitating length of stay, and planning discharge. On the "back end," utilization review and utilization management ensure proper payment. Thus, case managers make significant contributions to the bottom line of hospitals and health systems. In an era of hospitalists, multiple consultants, and rotating bedside nurses, case managers may become one of the few consistent faces of the organization. The authors present an overview of current case-management operational considerations, important benchmarks to monitor, and likely challenges for physician executives.

CASE MANAGEMENT IS A TEAM FUNCTION

that involves physicians, case-management nurses, social workers, and hospital administrators. The advent of diagnosis-related group (DRG) payments changed hospital incentives from the traditional "cost-plus" reimbursement and created a need for proactive utilization management rather than simply retrospective review.

Under cost-plus reimbursement, more admissions, longer length of stay (LOS), and higher use of tests and procedures fed the hospital's margin. With DRG-defined payment, incentives were reversed and case management grew from the nascent care planning models of the 1980s to a more robust care coordination and utilization management service. These efforts include placing patients in the proper level of care (*e.g.,* observation vs. ward vs. intensive care) and shortening length of stay by transferring patients to finish recovery in post-acute care settings. Social work involvement expanded to include early-discharge planning and proactive needs assessment based on social determinants of health.

These changes did not occur without significant physician and patient dissatisfaction.[1] Physicians felt their autonomy was challenged, and patients had to change their expectations about length of stay and use of post-acute facilities or home health services. From a physician management perspective, the historic role of the utilization review physician expanded from retrospective review to real-time support of the case-management team.

Concurrent with the phase-in of more robust case management, healthcare economics in the mid-1990s also promoted a shift in responsibility for inpatient care from a patient's primary care physician to onsite hospital medicine physicians. Patient care efficiencies generally were improved by having inpatient care supervised by hospitalists,[2] but at a cost: The admitting hospitalist lacked the longitudinal perspective of the patient's primary care provider.

Hospital discharge changed from "let's see you back in the office on Thursday" to a more complex procedure requiring prompt dictation of discharge summaries and formal follow-up appointments, often with the necessity to arrange transport and provide durable medical equipment (DME) such as home oxygen. Healthcare delivery became more complex and fragmented with multiple specialists and subspecialists, requirements for rehabilitation or other post-acute care, and challenges to patient self-management due to aging, illness, or social determinants of health. Hospitals saw the need to provide additional case management and social work assistance to help patients navigate the increasingly complex healthcare system.

STRUCTURES FOR CASE AND UTILIZATION MANAGEMENT

The scope of case management, also termed care management, includes responsibilities for inpatient and outpatient care coordination, discharge/transition of care planning, psychosocial intervention, and overall utilization management. Case managers and social workers became essential clinical partners to the physicians, not only ensuring a safe discharge, but also a safe and sustainable discharge. Case managers have gone from "helpful" team members to critical partners. Depending on the institution, separate teams may handle inpatient and outpatient workloads.

Case management can follow a dyad model or triad model. In the dyad, or integrated model, one nurse performs utilization management and discharge planning, with social workers providing psychosocial consultation. In the triad, or collaborative care model, separate team members handle utilization management, discharge planning, and social work. The triad model is more common in larger hospitals; critical access hospitals may lack the scale to implement a triad model. Each model (*see Table 1*) has its pros and cons; we advocate for whichever best meets needs in a particular setting.

While ultimately concerned with patients' long-term well-being, members of the case-management team must also consider institutional needs such as capacity management, patient flow, and efficient use of resources.[3] Medicare, Medicaid, and insurer rules and regulations have multiplied over the years such that case-management specialization is essential. It is unrealistic to assume bedside caregivers have the time and expertise to navigate ever-changing regulations on patient status (*e.g.,* booking the patient as observation vs. inpatient) or the length and intensity of care delivered in a hospital that will or will not subsequently allow the patient's insurance to pay for post-acute care.

Case management ideally occurs as part of an integrated delivery system as in accountable care organizations, but more frequently focuses on a particular episode of care such as an inpatient stay, a surgical day care episode, observation status, or even a sequence of ambulatory encounters. The role of nurse case management in community health in selecting homecare interventions is also vitally important,[4] but beyond the scope of this review.

TABLE 1: COMPARISON OF DYAD AND TRIAD MODELS FOR CASE MANAGEMENT

Dyad (Integrated Model)	Triad (Collaborative Care Model)
• Utilization management and discharge planning performed by one nurse • Social work supports the team with psychosocial discharge planning	• Separate specialists for utilization management and discharge planning • Social work supports the team with psychosocial discharge planning
Pros: • One nurse able to integrate all information • One point person • Lower caseloads (ideally)	**Pros:** • Ability to separately manage both payer issues and patient progress issues in timely manner • Ability to specialize and become content experts • Ability to expand the scope of each practice – UM with more work in resource utilization and CM with longitudinal care and connecting to ambulatory areas to reduce readmissions
Cons: • Managing conflicting priorities and growing urgency in both areas • Challenge to work at "top of license" as each specialty becomes more engrained	**Cons:** • More fragmentation and possibility of dangerous silos • Workflow and technology must support timely communications • More resources are typically needed

Adapted from Geld BM. *Triad Model: Development of a Sustainable Model.* Natick, MA: Center for Case Management, 2015. Used with permission of author and publisher.

WHO'S ON THE TEAM?

Historically, case management began with utilization review, employing registered nurses to focus on retrospective utilization review with the help of a physician advisor. With the advent of DRG payments, this role expanded to actively managing utilization by adding discharge planning, with social work supporting the team with psychosocial discharge planning.

With increasing regulatory pressures and financial penalties, real-time utilization management beginning at the point of entry became the norm. Thus, while highly variable across institutions, the case-management team has come to include registered nurses, social workers, and physician advisors, as well as nonclinical specialists to deal with administrative tasks such as appeals and denials letters, data collection and analysis, and public reporting.

We have encountered a variety of organizational reporting arrangements; the case-management department may report to the chief operating officer, the chief nursing officer, the chief financial officer, or the chief medical officer/vice president of medical affairs. Regardless of the reporting arrangement, physician leadership, including clinical chairs, group practice executives, and the CMO/VPMA, are likely to be involved in setting operating parameters, reviewing data, and negotiating the ethical issues involved in managing healthcare resources.[5]

Hospital case managers (HCMs) are registered nurses with additional training in managing the "nexus" of care,

being the intersection between clinical, financial, and psychosocial. With this training, case managers are able to partner with physicians in promoting a cost-effective and sustainable recovery and transition plan.

Case managers are also trained to build a plan that acknowledges the patients' expected disease trajectory within their continuum of care. They have the professional skills and demeanor to be lateral leaders and influential members of the clinical care team. Core roles include monitoring, managing, and pacing the patient's progress; interacting with the patient and family members; planning transitions; having knowledge of the community post-acute placement options; and intervening to remove barriers to an effective transition plan. Formal training for case managers is available from several organizations, and certification is available through the Commission for Case Manager Certification.[6]

HCMs typically have a census of 20 to 25 patients for general medical patients, with lower ratios (1:15–1:18) in specialty areas (ICU, transplant, intermediate care, neurosciences, pediatrics). Assignments may be geographical by inpatient floor or team-based to a specific inpatient service. The HCM works closely with bedside nurses and physicians to determine the patient's "arc of care" and targets interventions so the hospital length of stay will not exceed the recommended geometric mean length of stay (GMLOS) for the patient's DRG.

Best practices for sharing this progression of care information is through a daily huddle or formal interdisciplinary care rounds, but information-sharing also occurs via informal face-to-face encounters and secure text messaging or specific case-management software.

In a dyad model, the HCM also may be responsible for utilization review functions, such as recommending initial patient status and level of care. In addition, the true value of the HCMs is their ability to interweave clinical, financial, and psychosocial aspects of care into a safe and sustainable plan for the patients and families.

The **physician advisor (or medical director) for case management** is an integral member of the case management team. Responsibilities include reviewing other physicians' cases and performing a critical review of the patient care plan and resource management (*see Table 2*). Thus, this job must be filled by an approachable, tactful individual with substantial relevant clinical experience.

The position requires not only clinical credibility, but also knowledge of state and federal regulatory environments and local culture, including medical staff rules and bylaws. In addition, the individual must have the leadership skills to influence physician behavior through education, coaching, and judicious exercise of authority. Strong interpersonal skills are a must; the physician advisor often serves as a diplomat, peacekeeper, and life coach when physician behavior needs to be addressed.

The best physician advisors offer exceptional support and education to the case managers. They often improve the HCM's understanding of the physician's perspective, ensuring that they are clinical partners with the physician rather than simply discharge planners or utilization review nurses.

Hospitalists are ideal candidates to become physician advisors because they are well-versed in inpatient care and respected colleagues on the hospital medicine team. Physician advisor training is available from several organizations and board certification is available through the American Board of Quality Assurance and Utilization Review Physicians (ABQAURP).[7]

The role of the physician advisor has evolved over time. In the past, "utilization review" physicians were often senior members of the medical staff, chosen primarily for their institutional reputation and comfort with speaking directly to their peers. The work was ideal for those winding down a clinical practice; regulatory compliance was straightforward and the economic imperative to tightly regulate length of stay was nonexistent.

With fixed DRG payments, the physician advisor role has assumed far more importance.[8] Soft evidence indicates physician advisor positions may be a helpful early role for physicians interested in advancing to medical administration positions such as division chief or chief medical officer.[9]

Utilization managers (UMs) are always registered nurses. The core competencies of a utilization manager are surveying medical necessity and ensuring the patient is placed at the appropriate level of care. In a triad model, the UM may screen each admission using one of the clinical intelligence systems the hospital provides for case management: InterQual (Change Healthcare)[10] or MCG (Milliman Care Guidelines).[11] Both systems provide evidence-based support for determining patient level of care: intensive care, inpatient admission, or observation status.

InterQual and MCG provide a common framework for agreement for admitting physicians, case managers, utilization reviewers, insurance reviewers, and post-hoc auditors such as recovery audit contractors (RACs). If the screening guidelines are met, further conversation is seldom necessary, and it is unlikely the status will be challenged when it's time for the hospital to be paid.

Some patients do not "fit" criteria perfectly, however, and CMS recommends these guidelines as factors to consider when making an admission decision. It is important to understand that it's the admitting physician, with the advice and support of case managers, who is the final arbiter of medical necessity, not a software program.

Effective UMs collaborate with physicians to ensure correct level of care and accurate supporting documentation, working closely with the coding and documentation initiative team to educate hospitalists and other front-line providers. Many front-line physicians perceive utilization management in a negative light, as a roadblock to care delivery and as time wasted on clerical matters. Only 36 percent of practicing physicians believe they have a "major role" in controlling healthcare costs, instead citing trial lawyers, health insurance companies, hospital and health systems, and pharmaceutical/device manufacturers as having more responsibility.[12]

Where this mindset is prevalent, it's important for physician leaders to frame UM as "choosing wisely,"[13] as evidence-based, and as promoting the highest quality care. At the same time, physician leaders must also challenge payers to eliminate

TABLE 2: ROLES OF THE PHYSICIAN ADVISOR IN CASE MANAGEMENT

Care Management	• Provide physician perspective on clinical care delivery including standards of clinical practice. • When necessary, seek clinical input from department chairs and other specialty subject matter experts. • Provide real-time assistance to case managers. • Review status determinations (*e.g.*, Condition Code 44). • Interpret, and when necessary overrule, software-driven status decisions; these are imperfect tools. • Diplomatically coach clinical colleagues as needed. • Mediate inter-provider or inter-departmental disputes. • Review quality of care review and process improvement.
Appeals and Denials	• Review/revise drafts and sign written responses to insurers. • Assist in recovery audit contractor (RAC) appeals. • Identify and coach clinical outliers.
Complex Care Rounds	• Actively participate in weekly discussion of long-stay patients to identify causes, barriers, and solutions. • Brainstorm (with team) options for hard-to-place patients. • Assist with clinician-family discussions.
Utilization Review	• Establish and provide ongoing review of dashboard metrics: ED throughput, left before examination, diversion hours, inpatient and observation length of stay, cost per discharge, denial rates, and more. • Chair or co-chair the utilization committee, often a subcommittee of the medical staff executive committee. • Perform real-time and retrospective review of specific clinical cases. • Understand observation, step-down, and ICU utilization. • Facilitate two-way communication with medical leadership (VPMA, CMO, chiefs of departments) for provider issues. • Understand and harmonize the competing demands of high-quality care and financial realities.
Patient Flow	• Participate in daily progress of care rounds to ensure patients remain "on track" for inpatient discharge. • Ameliorate bed crises during high census. • Provide strategic planning on bed allocation and expansion.
Education of Medical Staff Physicians and Other Providers on:	• Patient status determination and the tools to get it right. • ICD-10 documentation requirements. • Billing and coding issues. • RAC issues. • Specific policy or regulation changes (payer or hospital).
Regulatory	• Ensure proper preparation and documentation for Medicare compliance audits (including RAC audits).

Adapted from Higgins TL. *The Physician Advisor: A Survival Guide for Physicians in Case Management*. Natick, MA: Center for Case Management, 2018. Used with permission of the author and publisher.

barriers created simply for their convenience or financial expediency rather than best practice for patient care.

UMs perform concurrent reviews, working with payers to ensure compliance with reimbursement rules. They review tests and procedures ordered for appropriateness and delays. The UM team works closely with the case manager on issues regarding avoidable days and support preparation for any audits by the RAC or other regulatory bodies.

Clinical social workers (CSWs) must possess a master's degree (generally in social work) and be licensed by the state. Although there is some overlap, their responsibilities differ from licensed CSWs (LCSWs) who more typically focus on addiction, abuse, and mental illness issues.

In the hospital, CSWs advocate for the patient with regard to medical issues with or without concurrent psychosocial problems such as homelessness, mental illness, or addiction.

Social workers perform comprehensive psychosocial assessment and support that translates to "social" discharge planning, including mental health placements, substance abuse intervention, and homelessness issues.

In effect, CSWs are translators between the patient/family and the clinical team of physicians, nurses, and other treatment providers, ensuring that accurate information about the care plan is exchanged. This responsibility may include helping the patient express wishes and execute advanced directives and treatment limitation decisions. The CSW plays a primary role in identifying complex cases, bringing psychosocial issues to the team's attention, and brainstorming around difficult transition issues.

Other members of the case-management team, directly or indirectly, are the hospital's revenue cycle and decision support teams, corporate compliance personnel, informatics personnel, and billing and coding personnel. Medicare payment is determined in part by a facility's case mix index, calculated by summing the DRG weights for all Medicare discharges and dividing by the number of discharges.[14] Incomplete documentation of co-morbidities or transfers can artificially lower the CMI, and thus hurt the hospital's margin, since the facility is not being compensated for the additional costs of caring for complex patients.

Although CMI was developed as a financial tool, it is frequently (perhaps misleadingly) used as an index for a hospital's severity of illness,[15] and thus finds its way into public reporting and benchmarking. This is yet another incentive for the case-management team to work closely with physicians in documenting all patient co-morbidities.

RULES AND REGULATIONS AFFECTING CASE MANAGEMENT

Condition Code 44 refers to a situation in which the status of an inpatient Medicare admission must be changed to outpatient status.[16] The result of executing a Condition Code 44 is that the entire hospital stay becomes an outpatient encounter for both professional and facility charges.

The Condition Code 44 process, including written notification to the patient, must be completed before the patient is formally discharged. Regulations specify that the Condition Code 44 decisions originate from a physician on the utilization review (UR) committee. Condition Code 44 cannot be a unilateral decision by the physician advisor; the attending physician must agree to the change from inpatient to outpatient. If the attending physician disagrees, the patient remains on inpatient status until two members of the UR committee review the case.

The UR committee members may overrule the attending on the question of medical necessity, but at this point the patient remains inpatient and the hospital will usually self-deny the billing. Once a Code 44 has been executed, hourly billing for outpatient care begins at the time of the order change, not retrospectively to "admission." Thus, there is a financial incentive for getting the status right when the patient enters the facility and correcting any mistakes as quickly as possible.

The **two-midnight rule** was intended to simplify status determinations by allowing hospital stays to be eligible for Medicare Part A (inpatient) payment *if* the admitting practitioner expected the patient to require a hospital stay that crossed two midnights.[17] Any condition requiring fewer than two midnights generally would be considered outpatient observation and thus not covered by Medicare Part A payments.

As all clinicians recognize, patients can improve or deteriorate unexpectedly, and the initial presenting complaint may result in a working diagnosis that can change over time. As noted above, the Condition Code 44 process is used to convert erroneous inpatient status to outpatient status. Conversion of outpatient to inpatient status requires only a physician order.

The two-midnight rule complicates issues for patients who need placement in a skilled nursing facility (SNF) but who might not meet medical necessity for admission. SNF care is covered by Medicare Part A under certain conditions, including a three-day inpatient stay. A patient who comes to the ED and spends the first night in observation status and then converts to inpatient status for two more days will not qualify for the three-day stay in the hospital. This requirement has been waived during the COVID-19 crisis.[18]

Since 2017, hospitals have been required to furnish a Medicare Outpatient Observation Notice (MOON) to individuals receiving observation services before 24 hours of such services have occurred, but before 36 hours have elapsed or sooner if released.[19]

MEETINGS, ROUNDS, AND HUDDLES

We believe best practice is for hospitals and systems to implement daily (5–7 days/week) multidisciplinary rounds to address case management and patient flow issues. **Interdisciplinary rounds** (sometimes called **progress of care rounds**) are best located close to or on the ward to allow bedside nurses to participate. The charge nurse of the day, the nursing unit manager, or a physician can lead or co-lead the meeting.

The physician's time and effort (typically around five hours per week) may be part of the job description for a lead hospitalist or an academic division/department chief. In hospitals with multiple employed groups and/or substantial numbers of PCPs following their patients into the hospital, rounds leadership may be contracted with a stipend to a community physician.

Although the goal of multidisciplinary rounds is to advance patient progress, other benefits such as educating new hospitalists or house staff also have been described.[20] Attendees typically are the hospitalist(s) caring for the patients on the units, case manager(s), social worker(s), and other professionals such as pharmacists, dieticians, or respiratory therapists (especially on wards accommodating ventilated patients). Time commitment is typically 30–60 minutes, with a core group present for the entire meeting and bedside nurses and hospitalists rotating in for their patients only.

Best practice for **bed management rounds** is to involve everyone who is affected by census issues so that communication and brainstorming can occur. A daily bed huddle is scheduled early (~7:30 a.m. or 7:45 a.m.) to review current census, expected discharges, and expected barriers to care. If a bed crunch is predicted, the huddle group may decide to call in additional staff to open an overflow unit, deploy a

discharge lounge, accelerate transfers to post-acute care, or limit the intake by going on diversion or delaying requests for transfer from other hospitals.

The physician advisor should be part of this decision-making process and be expected to talk to the hospitalists and other attending physicians with the goal of identifying and removing barriers to discharge of current inpatients.

In contrast to the interdisciplinary/progress of care rounds, which are detailed and unit- or team-specific, there is one short (<15 minute) daily bed huddle attended by high-level management (the chief operating officer, the chief nursing officer, and the vice president of medical affairs and/or chief medical officer). When properly scripted, input can be obtained efficiently from each unit's charge nurse, the chief of hospital medicine, and representatives from the ED, PACU, ICU, pediatrics, obstetrics, behavioral health, and case management.

There will come a day when a hospital will reach gridlock or a high-census bed crisis. If the hospital is running efficiently at 80 percent to 85 percent occupancy, this will happen a few times a year, usually during flu season. (As this is being written, we are expecting intense bed shortages due to the COVID-19 pandemic.) If the census is routinely higher than 90 percent, it could happen weekly or even daily. A hospital SWAT team should be empowered to take charge whenever patient flow issues threaten patient safety.

Complex care rounds are typically held weekly, co-hosted by the director of case management and the physician advisor, and attended by case managers and representatives from social work and sometimes finance.

Because these rounds may take two hours in a large facility, case managers may be scheduled to arrive and depart at 15-minute intervals. Discussion is limited to patients whose LOS has exceeded a predetermined threshold (typically 7–10 days) or threshold dollar charge amount (typically $50,000–$100,000). The goal is to briefly present the patient's history, course to date, and barriers to progress, then brainstorm possible solutions.

The physician advisor should follow up with the attending physician of record where the trajectory of care has fallen off target. More often, though, the issues are social: which post-acute facility will accept patients with behavioral problems, high-level support needs (for example, dialysis and mechanical ventilation), foreign nationals, those with language barriers, the uninsured, and so forth.

Utilization review (UR) on the payer side allows health insurance companies to look retrospectively at treatment already delivered to determine whether services will be covered or denied. On the provider side, inhouse UR managers review care delivery to ensure that providers are using diagnostic and therapeutic interventions appropriately. Usually UR is done at an aggregate level with drill-down as necessary.

Utilization management (UM) is sometimes used interchangeably with utilization review, but utilization management is typically more proactive and has a larger scope. UM can involve precertification, concurrent planning, discharge planning, and the clinical appeals process. Concurrent reviews take place during active management of inpatient care and help determine the discharge plan.

The physician advisor's job includes participating in the utilization management process and usually chairing or co-chairing regular hospital utilization management committee (UMC) meetings. UMC meetings are a condition of participation for CMS, and a well-designed UMC helps a hospital function at a much higher level.

Best practice is for the UMC to function as a peer-review medical staff committee, reporting to the medical executive committee. Attendance at UMC should include the chairs (or their designated vice chairs) of the admitting clinical departments (medicine, surgery, pediatrics, obstetrics, emergency medicine, psychiatry) and the director of case management. The president of the medical staff and/or the chief medical officer or vice president of medical affairs may wish to attend. Should recurring concerns be identified by reviewers (for example within anesthesia, laboratory medicine, radiology, and rehabilitation), ad-hoc members may be added.

The review should not be punitive, but it should be aimed at improving the process and avoiding future errors. Since the UMC typically reports to the medical executive committee, recommendations and determinations can be incorporated into ongoing provider performance evaluations.

CASE MANAGEMENT REPORTS, DATA, AND DASHBOARDS

Three compelling outcomes influenced by case management are reimbursement (through appropriate status determinations and clinical documentation), cost containment (via utilization management and timely discharges), and avoidance of penalties (through minimizing readmissions, documentation of issues present on admission, and maintaining patient satisfaction). Table 3 summarizes important metrics that the physician executive may wish to follow on a regular basis.

PEPPER is an acronym for **Program for Evaluating Payment Patterns Electronic Report** — a report based on a hospital's Medicare claims data sorted by DRG.[21] The quarterly report spotlights discharges at risk for billing, coding, or medical necessity issues. Data are presented in tabular and graphic form, trended over the 12 most recent federal fiscal quarters, to facilitate identification of significant changes in billing practices. Outliers are determined based on both an upper control limit at the 80th percentile and a lower control limit at the 20th percentile, but they do not formally test significance.

Areas targeted by the PEPPER report were determined by CMS based on the historic focus of the Office of Inspector General audits, with additional areas identified by the RAC auditing process. Readmissions and one- and two-day stays are a particular focus of the report; the PEPPER User's Guide is recommended reading and is available online.[21]

FINAL THOUGHTS

One of us (Higgins) has been a physician advisor, a chief medical officer, and both at the same time. The latter arrangement is not recommended; even at a small hospital the CMO's schedule could be overwhelmed by case-management issues more properly handled at the level of the physician advisor.

TABLE 3: CASE MANAGEMENT METRICS

Metric	Definition
Avoidable Days	Hospital days where the patient does not meet the medical necessity for their level of care (including ICU and step-down days). Avoidable days can be sub-categorized as Resource, Facility, Medical Staff, and Family.
Boarder Days	Patient "boarded" awaiting a bed at different level of care — *e.g.*: in ED or ICU awaiting inpatient bed.
Case Mix Index	A measurement of overall hospital acuity that drives DRG reimbursement and that also finds its way into quality benchmarking statistics.
Condition Code 44	Number and percentage of inpatient admissions converted to observation status. A low number reflects effective "front-end" utilization management.
Cost per Case	Total cost of episode of care (Part A facility and Part B clinical charges). A related metric is cost per Case Mix Adjusted Discharge (CMAD).
Days Cash on Hand (DCOH)	Amount of money the organization has in event all income stops; median cash on hand for hospitals is ~212 days; worrisome if <90 days.
Denials	Charges to the payer that are denied for reimbursement. May also refer to the facility's team charged with appealing denials to insurers.
Diagnosis-Related Group (DRG)	A system for classifying any inpatient stay into groups for purposes of payment. CMS recognizes about 500 groups. MS-DRG refers to Medicare Severity adjustment based on up to eight additional diagnoses and six procedures to modify primary DRG.
Left Without Being Seen (LWBS)	Percentage of patients who register in the ED but then leave before evaluation. Frequently related to boarder hours and other patient flow issues. High LWBS implies potential litigation risk as well as economic effects.
Length of Stay (LOS)	Reported either as Average (ALOS) or Geometric Mean (GMLOS); the latter metric removes outliers. Should be compared by individual DRG.
Margin	The difference between cost and reimbursement for care, essentially the "profit" even in a non-profit facility. Median operating margin ~3.4%.
Medical Necessity	Patient care activities justifiable as reasonable, necessary, and/or appropriate based on evidence-based clinical standards.
Occupancy	The percentage of staffed beds that are occupied by a patient. A dynamic number usually reported daily; median value ~65% nationally but typically higher in larger urban hospitals.
Opportunity Days	Defined as the difference between the benchmark (optimal LOS) and actual LOS.
Readmission rate	Return to inpatient status within 30 days of discharge. Depending on insurer, episodes may be "bridged" to limit to a single DRG payment.

Adapted from Echternach JM, Geld BM. *Case Management Data: A Comprehensive Data Workbook for Hospital Case Management Programs*. Natick, MA. Center for Case Management. n.d.

Physician leaders, however, play a vital role in achieving the "Triple Aim,"[22] and case management addresses quality of care, population health, and cost. Regardless of the organizational chart, the physician executive should have an ongoing professional relationship with the physician advisor(s), to both foster personal leadership growth and to balance medical staff and organizational priorities.

As a physician executive mentoring or supervising a physician advisor in case management, consider the following advice:

1. Remember that the patient always comes first.
2. Collaborate; don't battle with your colleagues.
3. Know and appreciate your case-management team.
4. Keep learning from web resources, training courses, professional meetings, and organizations dedicated to physician advisors in case management.
5. Ask for help/escalate issues. You will learn more from your local case managers than you ever thought possible. If you have a long tradition of learning from nurses during your career, keep it up — they typically are willing to teach if you're willing to learn.

A high-functioning case-management department can create a positive trend in organizational metrics (*see Table 3*), which are the "vital signs" of case-management practice, and institutional health. At the interface between clinicians and a system's revenue cycle, these case-management metrics indicate to the physician executive whether the case-management program has effective structure, technology, and individual clinical skills to meet the goals of regulatory compliance, improved revenue, cost control, and avoidance of penalties tied to readmissions and patient satisfaction.

The effective physician executive should fully understand the work of case management and embrace the team as vital partners in delivering high-quality, effective patient care.

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