HFMA's MAP Initiative is an outgrowth of David Hammer's pioneering work collecting revenue cycle key performance indicators and best practices.

Developed by industry leaders and launched by HFMA in June 2010, the MAP Initiative allows healthcare providers to track revenue cycle performance and compare performance among peers and with the industry. MAP stands for:

- **Measure** performance
- **Apply** evidence-based strategies for improvement
- **Perform** to the highest standards across the board

HFMA has published 25 **Hospital** and 11 **Physician Practice Management** MAP Keys so far.

The second revenue cycle case study will ask you to calculate and interpret MAP Keys for an acute care **hospital**. However, the MAP Keys aren't yet part of HFMA's core healthcare finance curriculum.

Detailed descriptions and formulas of the 36 MAP Keys are shown below.

(A) Hospital MAP Keys

Patient Access

1. **Pre-Registration Rate**

   Purpose: Trending indicator that patient access processes are timely, accurate, and efficient

   Value: Indicates revenue cycle efficiency and effectiveness

   Calculation: $\dfrac{Number\ of\ patient\ encounters\ preregistered}{Number\ of\ scheduled\ patient\ encounters}$

2. **Insurance Verification Rate**

   Purpose: Trending indicator that patient access functions are timely, accurate, and efficient

   Value: Indicates revenue cycle process efficiency and effectiveness

   Calculation: $\dfrac{Total\ number\ of\ verified\ encounters}{Total\ number\ of\ registered\ encounters}$

3. **Service Authorization Rate**

   Purpose: Trending indicator that patient access functions are timely, accurate, and efficient

   Value: Indicates revenue cycle process efficiency and effectiveness

   Calculation: $\dfrac{Number\ of\ encounters\ authorized}{Number\ of\ encounters\ requiring\ authorization}$

4. **Point-of-Service (POS) Cash Collections**

   Purpose: Trending indicator of point-of-service collection efforts

   Value: Indicates potential exposure to bad debt, accelerates cash collections, and can reduce collection costs

   Calculation: $\dfrac{POS\ payments}{Total\ patient\ cash\ collected}$

5. **Conversion Rate of Uninsured Inpatient to Payer Source**

   Purpose: Trending indicator of qualifying uninsured inpatients for a funding source

   Value: Indicates organization's ability to successfully secure funding for uninsured inpatients and improve customer satisfaction

   Calculation: $\dfrac{Total\ inpatient\ cases\ approved}{Total\ uninsured\ inpatient\ discharges}$

Revenue Integrity

6. **Days in Total Discharged Not Final Billed (DNFB)**

   Purpose: Trending indicator of claims generation process

   Value: Indicates revenue cycle performance and helps identify performance issues impacting cash flow

   Calculation: $\dfrac{Gross\ dollars\ in A/R\ (not\ final\ billed)}{Average\ daily\ gross\ revenue}$

7. **Days in Total Discharged Not Submitted to Payer (DNSP)**

   Purpose: Trending indicator of total claims generation and submission process

   Value: Indicates revenue cycle performance and helps identify performance issues impacting cash flow

   Calculation: $\dfrac{Gross\ dollars\ in\ DNFB + Ggoss\ dollars\ in\ FBNS}{Average\ daily\ gross\ revenue}$

8. **Late Charges as % of Total Charges**

   Purpose: Measure of revenue capture efficiency

   Value: Identifies opportunities to improve revenue capture, reduce unnecessary cost, enhance compliance, and accelerate cash flow

   Calculation: $\dfrac{Charges\ with\ post\ date\ greater\ than\ 3\ days\ from\ last\ service\ date}{Total\ gross\ charges}$

9. **Net Days Revenue in Credit Balance**

   Purpose: Trending indicator to accurately report account values, ensure compliance with regulatory requirements, and monitor overall payment system effectiveness

   Value: Indicates whether credit balances are being managed to appropriate levels and are compliant with regulatory requirements

   Calculation: $\dfrac{Dollars\ in\ credit\ balance}{Average\ daily\ net\ patient\ services\ revenue}$

Claims Adjudication

10. **Days in Final Billed Not Submitted to Payer (FBNS)**

    Purpose: Trending indicator of claims impacted by payer/regulatory edits within claims processing system

    Value: Tracks the impact of internal/external requirements on clean claim production and cash flow

    Calculation: $\dfrac{Gross\ dollars\ in\ FBNS}{Average\ daily\ gross\ revenue}$

11. **UB04 (837i) Clean Claim Rate**

    Purpose: Trending indicator of claims data as it impacts revenue cycle performance

    Value: Indicates quality of data collected and reported

    Calculation: $\dfrac{Number\ of\ claims\ that\ pass\ edits\ requiring\ no\ manual\ intervention}{Total\ claims\ accepted\ into\ claims\ scrubber\ tool\ for\ editing\ prior\ to\ submission}$

12. **Initial Denial Rate – Zero Pay**

    Purpose: Trending indicator of % claims not paid.

    Value: Indicates provider's ability to comply with payer requirements and payer's ability to accurately pay the claim

    Calculation: $\dfrac{Number\ of\ zero\ paid\ claims\ denied}{Number\ of\ total\ claims\ remitted}$

13. **Initial Denial Rate – Partial Pay**

    Purpose: Trending indicator of % claims partially paid

    Value: Indicates provider's ability to comply with payer requirements and payer's ability to accurately pay the claim

    Calculation: $\dfrac{Number\ of\ partially\ paid\ claims\ denied}{Number\ of\ total\ claims\ remitted}$

14. **Denials Overturned by Appeal**

   Purpose: Trending indicator of hospital's success in managing the appeal process

   Value: Indicates opportunities for payer and provider process improvement and improves cash flow

   Calculation: $\dfrac{Number\ of\ appealed\ claims\ paid}{Total\ number\ of\ claims\ appealed\ and\ finalized\ and\ closed}$

15. **Denial Write-offs as Percent of Net Revenue**

   Purpose: Trending indicator of final disposition of lost reimbursement, where all efforts of appeal have been exhausted or provider chooses to write off expected payment amount.

   Value: Indicates provider's ability to comply with payer requirement and payer's ability to accurately pay the claim

   Calculation: $\dfrac{Net\ dollars\ written\ off\ as\ denials}{Net\ patient\ services\ revenue}$

16. **Aged A/R as % of Billed A/R by Payer Group**

   Purpose: Trending indicator of receivable collectability by payer group

   Value: Indicates revenue cycle's ability to liquidate A/R by payer group

   Calculation: $\dfrac{Billed\ payer\ group\ by\ aging\ (>30,>60,>90,>120\ days)}{Total\ billed\ A/R\ by\ payer\ group}$

<u>Management</u>

17. **Net Days in Accounts Receivable (A/R)**

   Purpose: Trending indicator of overall A/R performance

   Value: Indicates revenue cycle efficiency

   Calculation: $\dfrac{Net\ A/R}{Average\ daily\ net\ patient\ service\ revenue}$

18. **Aged Accounts Receivable (A/R) as Percent of Billed A/R**

   Purpose: Trending indicator of receivable collectability

   Value: Indicates revenue cycle's ability to liquidate A/R

   Calculation: $\dfrac{>30,>60,>90,>120\ days}{Total\ billed\ A/R}$

19. **Cash Collection as a Percentage of Adjusted Net Patient Services Revenue**

   Purpose: Trending indicator of revenue cycle to convert net patient services revenue to cash

Value: Indicates fiscal integrity/financial health of the organization

Calculation: $\dfrac{Total\ cash\ collected}{Average\ monthly\ net\ revenue}$

20. Bad Debt

Purpose: Trending indicator of the effectiveness of self-pay collection efforts and financial counseling

Value: Indicates organization's ability to collect self-pay accounts and identify payer sources for those who can't meet financial obligations

Calculation: $\dfrac{Bad\ debt\ write-off}{Gross\ patient\ service\ revenue}$

21. Charity Care

Purpose: Trending indicator of local ability to pay

Value: Indicates services provided to patients deemed unable to pay

Calculation: $\dfrac{Charity\ care\ write-off}{Gross\ patient\ service\ revenue}$

22. Charity as Percent of Uncompensated Care

Purpose: Trending indicator that monitors charity care versus bad debt

Value: Reflects on charity care provided to the community

Calculation: $\dfrac{Charity\ care}{Total\ uncompensated\ care\ (bad\ debt\ +charity\ care)}$

23. Cost to Collect

Purpose: Trending indicator of operational performance

Value: Indicates the efficiency and productivity of the revenue cycle process

Calculation: $\dfrac{Total\ revenue\ cycle\ cost}{Total\ cash\ collected}$

24. Cost to Collect by Functional Area

Purpose: Trending indicator of operational performance by functional area as reported in KPI 23 (Cost to Collect)

Value: Indicates the efficiency and productivity of the revenue cycle process by functional area

Calculation: $\dfrac{Sum\ of\ cost\ of\ each\ functional\ area\ (*)}{Total\ cash\ collected}$

(*) The sum of the cost of each functional area should equal total cost to collect in KPI 23.

25. Case Mix Index

Purpose: Trending indicator of patient acuity, clinical documentation and coding

Value: Supports appropriate reimbursement for services performed and accurate clinical reporting

Calculation: $\dfrac{Sum\ of\ relative\ weights\ for\ all\ patients\ (*)}{Number\ of\ patients\ in\ the\ month\ (*)}$

(*) Excludes normal newborns and Medicare-exempt units

(B) Physician Practice Management MAP Keys

1. Percentage of Patient Schedule Occupied

Purpose: Identifies opportunity to maximize slot utilization and improve practice productivity

Value: Measures available capacity in a patient schedule

Calculation: $\dfrac{Number\ of\ patient\ hours\ occupied\ (average\ weekly)}{Number\ of\ patient\ hours\ available\ (average\ weekly)}$

2. Point-of-Service (POS) Collection Rate

Purpose: Provides opportunity to increase collections, decrease collection costs, and accelerate cash flow

Value: Identifies opportunity for increased POS collections

Calculation: $\dfrac{Total\ point-of-service\ collections}{Total\ patient\ cash\ collected}$

3. Total Charge Lag Days

Purpose: Measures charge capture workflow efficiency and identified delays in cash

Value: Accelerates cash flow

Calculation: $\dfrac{Sum\ of\ days\ from\ revenue\ recognition\ date\ less\ date\ of\ service\ date\ (by\ CPT\ code)}{Sum\ of\ CPT\ codes\ billed}$

4. Professional Services Denial Percentage

Purpose: Tracks payer denials and impact on cash flow, and trends payment opportunity and process improvement

Value: Drives root cause accountability in the revenue cycle processes

Calculation: $\dfrac{Sum\ of\ CPT\ (units\ of\ service)\ denied}{Sum\ of\ CPT\ codes\ billed}$

5. **Aged A/R by Payer Group as a Percentage of Outstanding Total A/R**

   Purpose: Trending indicator of receivable aging and collectability by payer group

   Value: Indicates payment delays or revenue cycle's ability to liquidate AS/R by payer group

   Calculation: $\dfrac{Net\ payer\ group\ by\ aging\ (0-30,>30,>60,>90,>120\ days)}{Outstanding\ A/R\ by\ payer\ group}$

6. **Aged A/R as a Percentage of Outstanding A/R**

   Purpose: Trending indicator of receivables aging and collectability

   Value: Indicates payment delays or revenue cycle's ability to liquidate A/R

   Calculation: $\dfrac{0-30,>30,>60,>90,>120\ days}{Total\ outstanding\ \ A/R}$

7. **Primary (or Specialty) Physician Practice Operating Margin Ratio**

   Purpose: Measures financial performance of a primary or specialty physician entity on an accrual basis

   Value: Determines the state of financial health and sustainability of current practice operations

   Calculation: $\dfrac{Net\ income\ from\ primary\ (or\ specialty)\ practice\ operations}{Primary\ (or\ specialty)\ \ practice\ operating\ revenue}$

8. **Net Income/Loss per Primary (or Specialty) FTE Physician**

   Purpose: Measures the average profit or loss of Primary (or Specialty) FTE physician on an accrual basis

   Value: Determine the financial health of a physician FTE level; can be used for tracking and trending the profitability of the entity based on a physician level; supports the need for strategy development to minimize losses

   Calculation: $\dfrac{Net\ income\ from\ operations}{Number\ of\ FTE\ physicians}$

9. **Total Physician (or Specialty) Compensation as a Percentage of Net Revenue**

   Purpose: Demonstrates ability to afford primary (or specialty) physician compensation in relation to revenue of the physician enterprise

   Value: Predicts reasonableness of primary (or specialty) physician compensation relative to revenue (direct contribution of a physician)

   Calculation: $\dfrac{Total\ physician\ salary}{Net\ patient\ service\ revenue}$

10. **Practice Net Days in Accounts Receivable**

Purpose: Calculates the average number of days it takes to collect payment on services rendered, and measures revenue cycle effectiveness and efficiency

Value: Used as a potential proxy for DCOH ("Cash Inventory"); determines the effectiveness of patient care collections and can be used for budgeting and cash flow projections

Calculation: $\dfrac{Net\ patient\ service\ A/R}{Average\ daily\ net\ patient\ service\ revenue}$

11. **Practice Cash Collection Percentage**

Purpose: Measures revenue cycle efficiency, supports the valuation of current accounts receivable, and predicts income

Value: Provides an opportunity to increase cash flow and forecasts accuracy of expected revenues

Calculation: $\dfrac{Actual\ patient\ service\ cash\ collections}{Net\ patient\ service\ revenue}$

Coding Systems

Codes translate clinical information into something a computer can read and process. They are the principal means of conveying clinical information to payers on healthcare claim forms and are used extensively by CMS and others to measure and report clinical quality and outcomes (quality and outcomes reporting is discussed at length in the Contract Management section of this text). Codes are also used to assign, in a process known as grouping, Diagnosis-Related Groups (DRGs) to inpatients for payment purposes. Lastly, codes are occasionally used for denying payment.

The U.S. healthcare system at present uses two principal coding systems: ICD and CPT.

1. ICD-9 and ICD-10 codes are used to turn patients' <u>diagnoses</u> and <u>inpatient procedures</u> into machine-readable format.
    a. ICD-9 and -10 translate the physician's documentation of a patient's definitive diagnosis or, absent a definitive diagnosis, a patient's signs and symptoms into <u>diagnosis</u> codes.
    b. ICD is short for "International Statistical Classification of Diseases, Injuries and Causes of Death." The classification system originated in France in 1893 and went through five editions before being assigned to the World Health Organization after World War II. WHO published a 6th edition in 1949, a 7th in 1955 and an 8th in 1965. A 9th edition followed in 1975, a 10th in 1994. A beta draft of ICD-11 was issued in May 2012.
    c. The ICD coding system used in the U.S. is a "clinically modified" version of the WHO system. It is maintained by the U.S. <u>National Center for Health Statistics</u> (NCHS) and is used not only to code diagnoses, but <u>inpatient procedures</u> as well. It is known as ICD-9-CM. Volumes 1 and 2 deal with diagnoses; volume 3 covers procedures. Volumes 1 and 2 read like an encyclopedia of human maladies.
    d. ICD-10 officially replaces ICD-9 on October 1, 2014. The ICD-10 code set expands diagnosis codes from 14,000 to 69,000 and procedure codes from 3,000 to 73,000. The diagnosis