|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Category | Basic | Operational | Advanced | Predictive |
| General | * Counts * Distinct counts * Mean * Geometric mean * Harmonic mean * Arithmetic mean * Rate of return | * Identify Hi/Lo data sets (top X/bottom X) * Moving avg * Trend visualization | * Identify outliers in datasets * Calculate total cost of ownership * Identify trend changes * Programmatically identify correlated data | * Efficiency * ML / AI * Predict trend changes * Programmatically identify related data sets * Trend prediction |
| Patient | * Avg Length Of Stay * Punctuality for appointments * Length of wait for patients with appointments * Admission and readmission * Medication management * Patient goals (e.g. weight loss, reduce anxiety) * Patient behaviors * Patient End-Of-Life goals * Healthcare associate infections * Healthcare harm * Preventable healthcare harm * Preventative care * Chronic conditions * Addiction identification | * Registration admission error rates * Tracking of patient goals * Preventative care * Management of chronic care * Risk adjusted mortality * Addiction tracking | * Avg Length Of Stay Outliers * Alignment of patient health goals and patient outcomes * Alignment of patient goals and functional outcomes * Addiction relapse |  |
| Survey |  |  |  |  |
| Staff | * Hours worked * Schedules * Vacation schedules | * Turnover * Automated scheduling | * Turnover trends | * Turnover prediction * Scheduling shortages predictions |
| Provider | * Punctuality * Time spent with patient * Time spent by procedure | * Functional outcomes |  |  |
| Facilities | * GPS location |  |  |  |
| Inventory and  Fixed Assets | * Item usage rates * Item counts * Item location (RFID tags) * Flag indicating if an item is transferable between facilities * Maintenance schedules for items (performed / required) * Repair rates * In service date of items * Out of service date of items * Age in operation of items * Life expectancy of items * Time until End-Of-Life / obsolescence per item * Down-time vs up-time per item * Unscheduled maintenance | * High cost item usage rate * Inventory loss due to expiration * Real time location of items (RFID tags) * Metrics on early/on-time/late maintenance * Hi/Lo failure rate items * High failure rate items * High maintenance cost items * Identify high usage items | * Item thresholds * Low item count thresholds * Alerts on inventory loss due to expiration * Alerts for items missing from a location * Packaging and shipping instructions per item * Packaging and shipping costs per item * Clustering of items based on performance (e.g. failure rate, maintenance cost, up-time) * Calculate total cost of ownership | * Suggest transferring items between locations based on usage to avoid inventory loss due to expiration and balanced by transfer cost (e.g. move expiring anesthesia from low usage location to high usage location) * Promote usage of expiring items * Adjust per item maintenance based on history * Suggest bundling of items to be shipped * Suggest replacement of high cost item with lower cost equivalents (e.g. replace inkjet printer with laser printer: the inkjet has a lower purchase price but a higher total cost of ownership. The laser printer has a higher purchase cost but an overall lower total cost of ownership) |
| Lab |  |  |  |  |
| Medication | * Prescriptions by provider * Survey patient compliance to dosing schedule | * Functional outcome by compliance to dosing schedule |  |  |
| Procedure |  |  |  |  |
| Diagnosis |  |  |  |  |
| Surgical |  |  |  |  |
| Accounting  and Reporting |  |  |  |  |
| General Financial Health |  |  |  |  |
| Accounts Payable  and Accounts  Receivable |  |  |  |  |
| Profitability and  Yield |  |  |  |  |
| Location Based | * GPS location of facilities * Distance and radius operations * Travel time between facilities * Location based data feeds (e.g. CDC, weather, police incidents, fire department incidents, road closures, public events) | * Transfer costs between facilities * Transfer time between facilities | * Alerts sent to patients about possible health threats (e.g. salmonella outbreak, heat wave, flood warning) | * Predict patient increases and decreases based on incidents (e.g. rodeo event results in a slight increase in emergency room visits) * Suggest contact to patients at high risk of being affected by incident (e.g. suggest contact to elderly caregiver of heat wave and precautions to take) |
| Census |  |  |  |  |
| Marketing |  |  |  |  |
| Digital Interactions | * Number of interactions * Length of interaction * Number and type of digital documents exchanges such as photos, video, sound recording, etc. (e.g. photos of a rash taken with cell phone) * Web site visits * Videos * Feedback ratings * Usage of digital materials for diagnosis (e.g. photos of rashes the provider shows for patient to compare against own skin rash) * Digital interactions that result in a face-to-face consultation | * Quality of digital interaction * Patient satisfaction * Performed vs required follow-up * Digital usage trends * Identification of |  |  |
| Data Quality |  |  |  |  |
| Compliance |  |  |  |  |
| Carrier |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# Sources and references

<https://www.beckershospitalreview.com/strategic-planning/19-metrics-to-measure-hospitals-progress-toward-value-based-care.html>

<https://www.beckershospitalreview.com/hospital-management-administration/aha-releases-report-outlining-key-strategies-competencies-for-long-term-success.html>

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/Downloads/11_30_17-Meaningful-Measures-Final_508v2.pdf>

<https://www.healthcarefinancenews.com/news/costly-physician-performance-metrics-have-serious-flaws-study-finds>

<https://www.healthcarefinancenews.com/directory/value-based-purchasing>

<http://www.healthdata.org/>

<https://www.metricinsights.com/solutions/healthcare/>

<https://www.nejm.org/doi/full/10.1056/NEJMp1802595>

<https://www.klipfolio.com/resources/kpi-examples/healthcare>

<https://guidingmetrics.com/content/home-health-industrys-12-most-critical-metrics/>

<https://www.practicebuilders.com/blog/8-essential-metrics-healthcare-marketers-must-focus-on/>

<https://www.klipfolio.com/blog/sales-kpis>

<https://blog.hubspot.com/sales/sales-metrics>

<https://www.salesforce.com/blog/2013/05/7-key-performance-metrics-that-every-sales-manager-should-care-about.html>

<https://www.scoro.com/blog/sales-kpis-for-executive-dashboard/>

<https://hbr.org/2013/12/new-insight-into-key-sales-metrics>

<https://www.geckoboard.com/blog/sales-kpis-how-to-define-the-right-metrics-for-your-b2b-sales-team/>

<https://guidingmetrics.com/content/hospital-industrys-10-most-critical-metrics/>

<http://www.hfma.org/brg/pdf/MedeAnalytics_Building%20a%20Hospital%20Scorecard_White%20Paper.pdf>

<https://kaysharbor.com/blog/healthcare/5-healthcare-dashboard-metrics>

<https://blog.definitivehc.com/top-10-hospital-performance-metrics-you-need-to-know>

<https://www.healthcatalyst.com/using-clinical-metrics-right-way-5-considerations>

<https://www.beckershospitalreview.com/pdfs/conference/13_Hafner_Using_Metrics_to_Analyze_Hospital_Perf.pdf>

<https://www.nytimes.com/2017/07/24/upshot/which-metrics-on-hospital-quality-should-patients-pay-attention-to.html>

<http://www.kpipartners.com/blog/bid/186381/17-Key-Metrics-for-Financial-Managers>

<http://accountingx.com/accounting-metrics/>

<https://www.business-case-analysis.com/financial-metrics.html>

<https://www.linkedin.com/pulse/accounting-metrics-what-key-performance-indicators-why-tim-hughes>

<https://www.washingtonpost.com/blogs/on-small-business/post/5-financial-metrics-you-should-know/2012/05/25/gJQAuDSjpU_blog.html?noredirect=on&utm_term=.c0dde47583e0>

<https://qloapps.com/7-essential-key-performance-metrics-hotel/>

<https://guidingmetrics.com/content/hotel-industrys-14-most-critical-metrics/>

<http://www.traveltripper.com/blog/the-most-important-metrics-for-hotel-revenue-managers/>

<https://www.revfine.com/revenue-management-kpis-hotels/>





