# Kauai Veterans Memorial Hospital

**4643 Waimea Canyon Road, Waimea, HI**

# Performance Improvement Consultation

| | |
|---|---|
| Conducted: | September 11, 2006 |
| Reported: | December 1st, 2006 |
| Updated: | January 5, 2007 |
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Mary Guyot, RN, BS, CRRN

Eric Shell, CPA, MBA

STROUDWATER ASSOCIATES

# Purpose of the Engagement

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- Assess market and clinical services including:
  - Evaluate historic/potential demand for clinical services
  - Identify opportunities to appropriately address clinical service line "gaps"
  - Assess quality improvement and performance improvement strategies
- Identify other performance improvement opportunities that will result in increased financial stability. Areas to address include:
  - Reimbursement and cash flow
  - Hospital expense analysis
  - Organizational architecture and management principles

- *Note – This report was based on our determination of the highest value potential opportunities for Kauai Veterans Memorial Hospital as identified on the basis of a two (2) day site visit conducted by the review team. Additional opportunities may exist for performance improvement that were either not reported or that may be detected after further scrutiny.*
- *Note – This Performance Improvement Consultation was supported in it's entirety by the HI Office of Rural Health*

# Approach and Methodology

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- Gather and review pertinent market, clinical service line, operational, and financial performance data
  - Hospital inpatient and outpatient volume statistics
  - Hospital medical staff roster
  - Fiscal Year 2005 cost report
  - Historic audited financial statements (2003-2005)
  - 2003-2006 internal financial statements
- Conduct an intensive two (2) day site visit
  - Interviews with CEO, CFO, Regional Medical Director, CNO, Regional Director of HR, FQHC Executive Director, Patient Financial Services Manager, Regional Facilities Director, Department Managers, and medical staff
- Develop preliminary report and recommendations
  - Telephone conference with the CEO to obtain feedback on preliminary findings and recommendations
- Submit final written summary report

# Background

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- Kauai Veterans Memorial Hospital (KVMH) Overview
  - KVMH is a 25-bed Critical Access Hospital (CAH) located in Waimea, Kauai, approximately 23 miles west of Lihue along route 50
    - Three HHSC clinics in West Kauai provide primary care services
  - KVMH converted to CAH status in April 2001
    - Retrospective analysis of CAH status indicates a $1.3M positive impact in FY 2005 for Medicare only not considering Medicaid or HMSA
  - KVMH has been experiencing operating losses during the last 4 years, with a $3.2M operating loss in FY2006.
  - KVMH is one of twelve Hawaii Health Systems Corporation (HHSC) facilities
    - HHSC is governed by a 20-member Board of Directors covering 5 regions of Hawaii, and is a quasi-governmental organization tied indirectly to the State of Hawaii
      - KVMH receives annual capital asset contributions from the State of Hawaii
      - KVMH receives an annual collective bargaining pay raise appropriation from the State of Hawaii
  - A 9-member Management Advisory Committee (MAC) acts as an advisory body to both KVMH and SMMH
    - One member of Kauai's MAC serves on HHCS's board

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- General Observations
  - Strengths
    - Capital Cost reimbursements from State of Hawaii
    - CAH designation – approximately $1.3M benefit in FY2005 from Medicare alone
    - Recent physician practice acquisition
    - Corporate governance structure
    - Collective bargaining pay raise appropriation from State of Hawaii
    - Increasing patient care volume and growth in service availability
  - Opportunities
    - Continued physician recruitment for OB and Ortho as planned
    - Increase availability of visiting specialists in specific areas
    - Opportunity to invest in capital projects going forward
    - Improve efficiency and productivity of Primary Care Clinics
    - Improved performance reporting
    - Increase utilization and add-on ancillary services
    - Registration and business office process improvements
    - Develop more budget accountability for department managers
  - Context for Recommendations
    - Due to issues that may be unknown to the consultants, recommendations should be carefully evaluated for political and cultural sensitivity
    - Due to thoughtful and progressive management, recommendations are mostly opportunities for incremental improvement only
    - *Note: FY2006 data used in analysis is from non-audited financial statements and reports*

# Financial Statements

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- Financial Summary – Statement of Operations

**Kauai Veterans Memorial Hospital - Financial Summary (amounts in 000's)**

| | Audited Year Ended 6/30/2003 | Audited Year Ended 6/30/2004 | Audited Year Ended 6/30/2005 | Internal Year Ended 6/30/2006 |
|---|---|---|---|---|
| Operating Revenue: | | | | |
| Gross Revenue from ops* | $ 15,044 | $ 16,815 | $ 20,723 | $ 24,768 |
| Less - Contractual allowances | (4,121) | (4,725) | (5,150) | (6,253) |
| Less- Bad Debt & Charity** | (186) | 40 | (341) | (311) |
| Net Patient Revenue | 10,737 | 12,130 | 15,231 | 18,204 |
| Plus - Other operating revenue | 505 | 642 | 822 | 620 |
| Hospital Revenue | 11,242 | 12,772 | 16,053 | 18,824 |
| Operating Expenses: | | | | |
| Salaries and Benefits | 9,409 | 9,405 | 10,612 | 12,585 |
| Professional Fees* | 367 | 166 | 417 | 232 |
| Rent and Lease(s) | 209 | 143 | 199 | - |
| Purchased Services* | 2,159 | 2,407 | 3,255 | 4,525 |
| Supplies and other expenses | 2,666 | 2,483 | 3,264 | 3,775 |
| Interest | - | - | 3 | - |
| Depreciation | 614 | 594 | 749 | 984 |
| Total Expenses | 15,425 | 15,197 | 18,499 | 22,101 |
| Income from Operations | (4,183) | (2,426) | (2,446) | (3,277) |
| Non-Operating Income (Expense) | 121 | (302) | 47 | (140) |
| Excess of Revenues over Expenses | $ (4,062) | $ (2,728) | $ (2,398) | $ (3,417) |
| Capital Assets Contributed by State of Hawaii | $ 783 | $ 619 | $ 479 | $ 13 |
| Increase (Decrease) in Net Assets | $ (3,279) | $ (2,109) | $ (1,920) | $ (3,404) |
| Cash and Investments, End of Period | $ 39 | $ 204 | $ 56 | $ 1,054 |
| AP, Accrued Liabilities, & Due to Aff | $ 3,102 | $ 2,961 | $ 3,885 | $ 1,765 |
| Days of Operating Cash Available | 0.96 | 5.11 | 1.15 | 18.22 |
| Average Payment Period | 76.45 | 74.01 | 79.90 | 30.51 |
| Days in Net Accounts Receivable | 57.2 | 52.9 | 72.7 | 79.6 |

*Gross Revenue from internal financial statements fy2003, fy2004, fy2006, from cost report fy2005.

**Bad Debt 2006 from intenral financial statements

# Background – Financial Analysis

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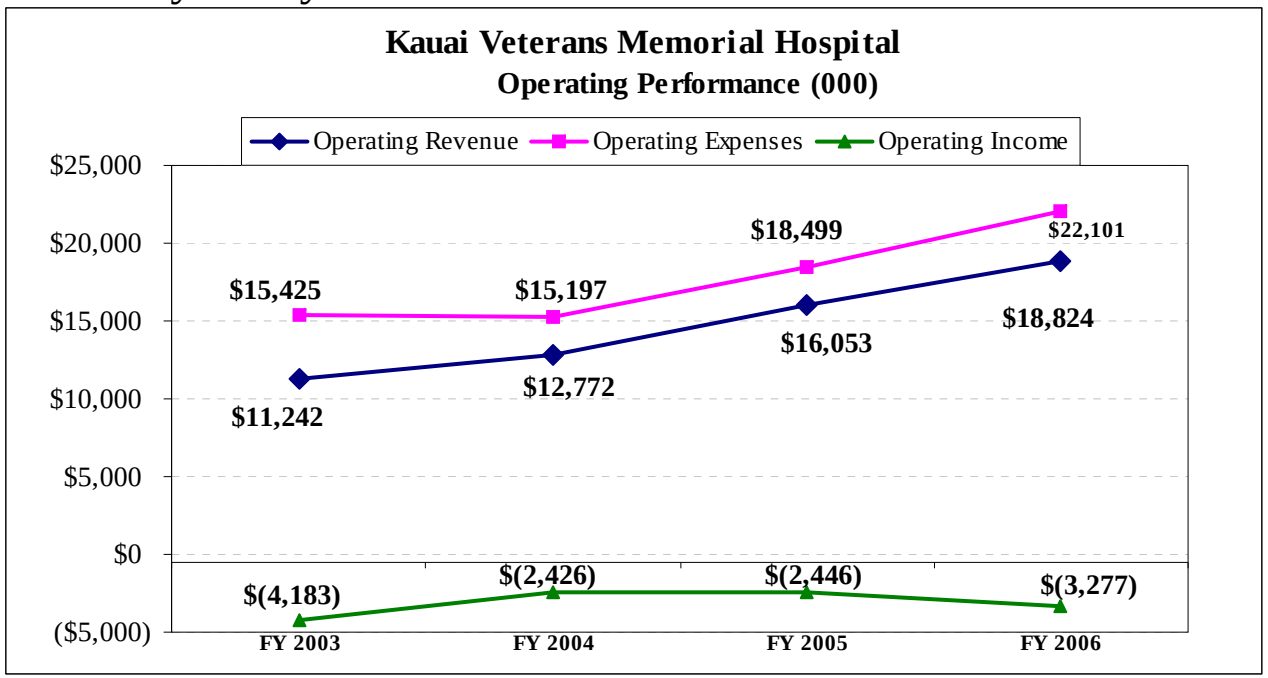
- Financial Statement Analysis
  - Profitability Analysis




- KVMH realized operating losses ranging between $4.1M and $2.4M, which in general were substantially below budgeted losses
  - KVMH has invested in a focused growth strategy through offering of new services and physician practice acquisition and development, resulting partially in ongoing operating losses
    - FY2005 revenue and expense increase driven partially by the acquisition of the Kalaheo Clinic in FY2005, with resulting increases in patient revenue, salaries and benefits, purchased services, professional fees, and supplies

# Background – Financial Analysis

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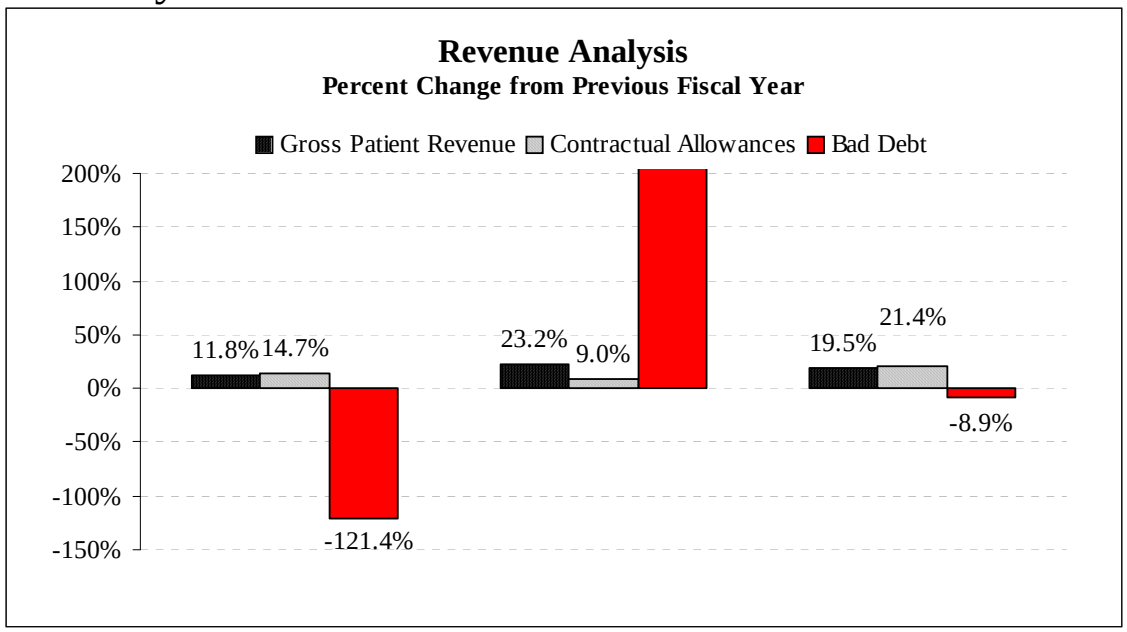
- Financial Statement Analysis (continued)
  - Revenue Analysis




- Gross Patient Revenue – Significant year over year growth in gross patient revenue attributable to realization of focused growth strategies through physician practice development and new service offerings
- Contractual Allowance – Growth rates in contractual allowances approximated gross patient revenue growth over the time period
- Bad Debt/Charity Care – From FY2003 to FY2004, KVMH had a reduction of doubtful accounts expense from $186K to $-40K due to a surplus in the 2003 allowance, followed by a significant increase to $341K and $311K in FY2005 and FY2006.

# Background – Financial Analysis

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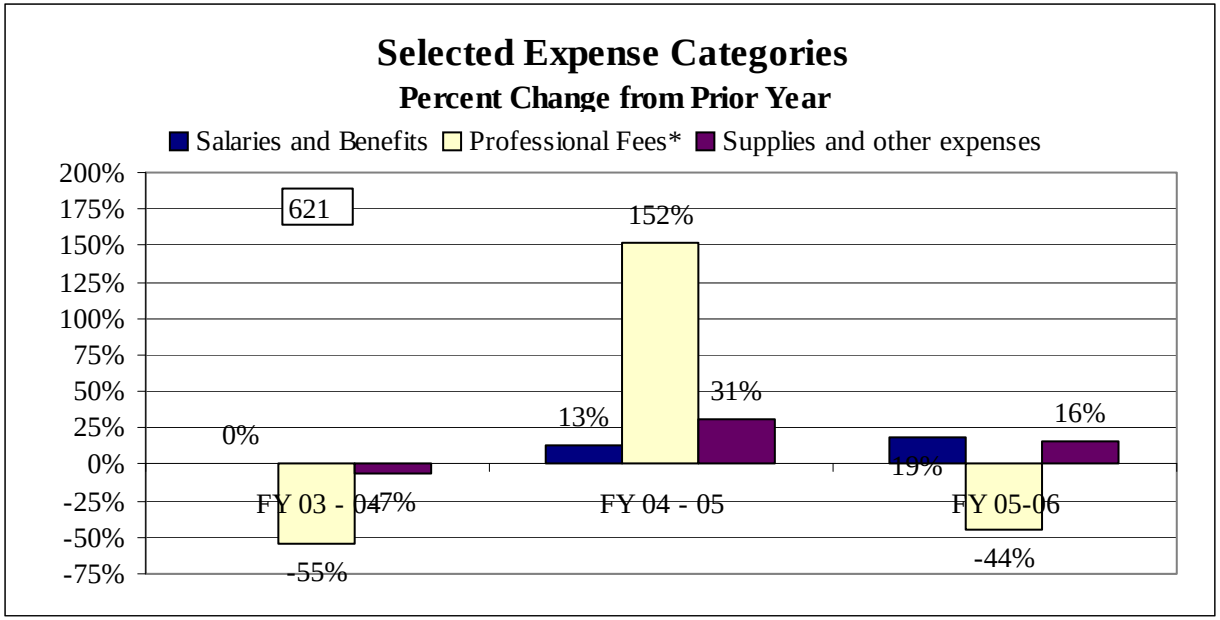
- Financial Statement Analysis (continued)
  - Expense Analysis




- Salaries and Benefits – Growth in FY 2005 and FY 2006 due partially to the acquisition of the Kalaheo Clinic, partially to the addition of new staff to meet growth in patient care services, and partially to the collective bargaining agreement with the civil service union
- Professional Fees – Growth in FY 2005 directly related to the acquisition of the Kalaheo Clinic
- Supplies and Other Expenses – Growth in FY 2005 and FY 2006 is directly related to the acquisition of the Kalaheo Clinic as well growth in patient care services

# Background – Financial Status

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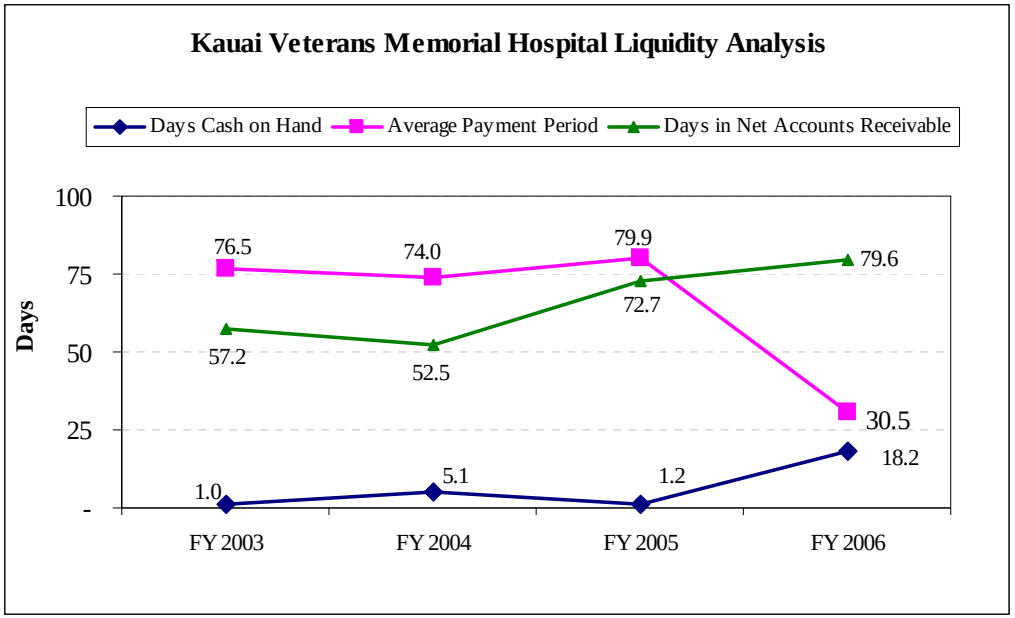
  - Liquidity Analysis




- Days of Cash on Hand
  - Remained low throughout period, with variation primarily reflecting the timing of capital contributions by HHSC to fund ongoing operating losses
- Average Payment Period
  - Represents how current KVMH is with vendors: remained relatively constant from FY2003 to FY2005, followed by a 62% reduction to 30.5 days in FY2006
- Days of Net Revenue in Accounts Receivable
  - Increased 38% between FY2004 and FY2005, and 9% from FY2005 to FY2006, to 72 days, the result of weakening revenue cycle functions

# Financial Statements

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- Financial Statement Conclusions
  - Overall Condition
    - Financial condition of KVMH has been relatively poor over the last four years; however, financial performance has far outreached annual budgeted losses for the organization due primarily to aggressive growth strategies
      - Contributing factors to reduced profitability are high salary and benefit expenses directly associated with the collective bargaining agreement KVMH has with the Civil Service Union, low third-party reimbursement from HMSA, and relatively high cost of living
      - Operating losses partially offset by CAH designation
        - Retrospective analysis of FY2005 Medicare cost report shows an estimated $1.3M benefit from Medicare alone, not considering cost-based Medicaid and HMSA Senior program
    - Financial support provided by HHSC has enabled KVMH to maintain its operations while incurring substantial operating deficits
    - Overall weak balance sheet position with limited cash on hand until FY 2006 increase to 18.2 days
      - However, KVMH's balance sheet strength tied to the balance sheet of HHSC and partially to the State of Hawaii through HHSC's indirect association with the State

# Detailed Findings, Analysis, and Recommendations

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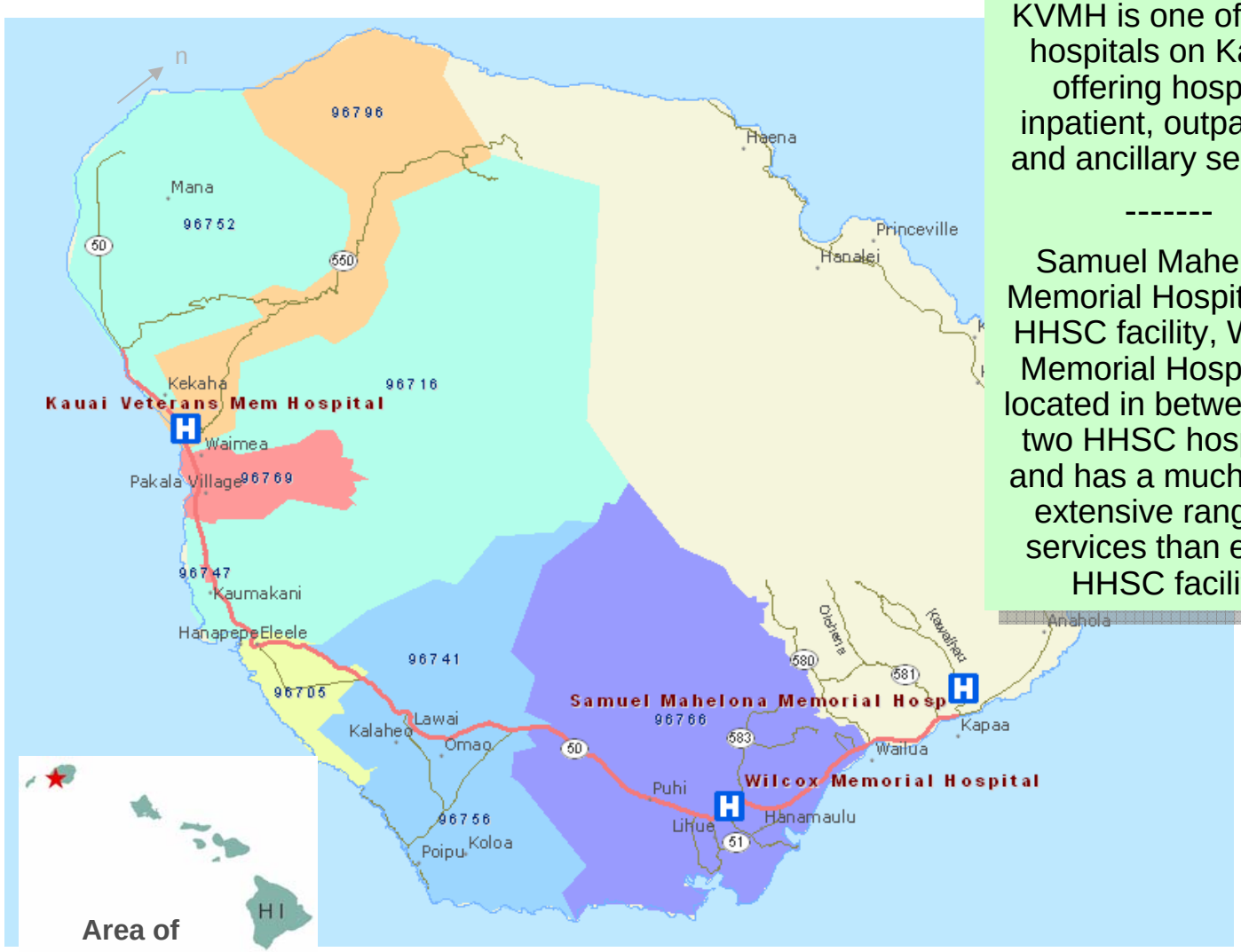


KVMH is one of three hospitals on Kauai, offering hospital inpatient, outpatient, and ancillary services

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Samuel Mahelona Memorial Hospital is a HHSC facility, Wilcox Memorial Hospital is located in between the two HHSC hospitals and has a much more extensive range of services than either HHSC facility

# Drive Time Analysis

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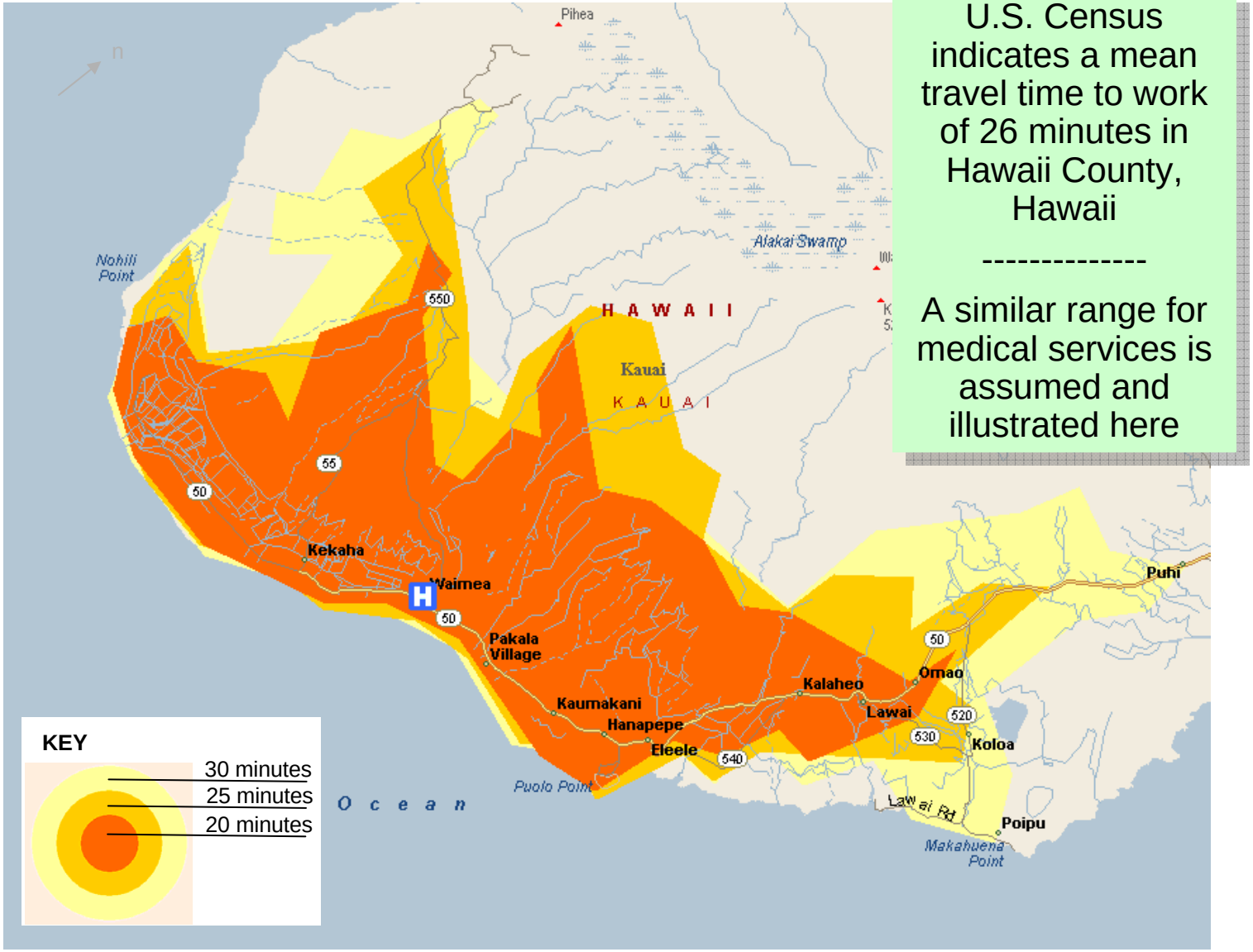


U.S. Census indicates a mean travel time to work of 26 minutes in Hawaii County, Hawaii

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A similar range for medical services is assumed and illustrated here

# Population Geographic Distribution

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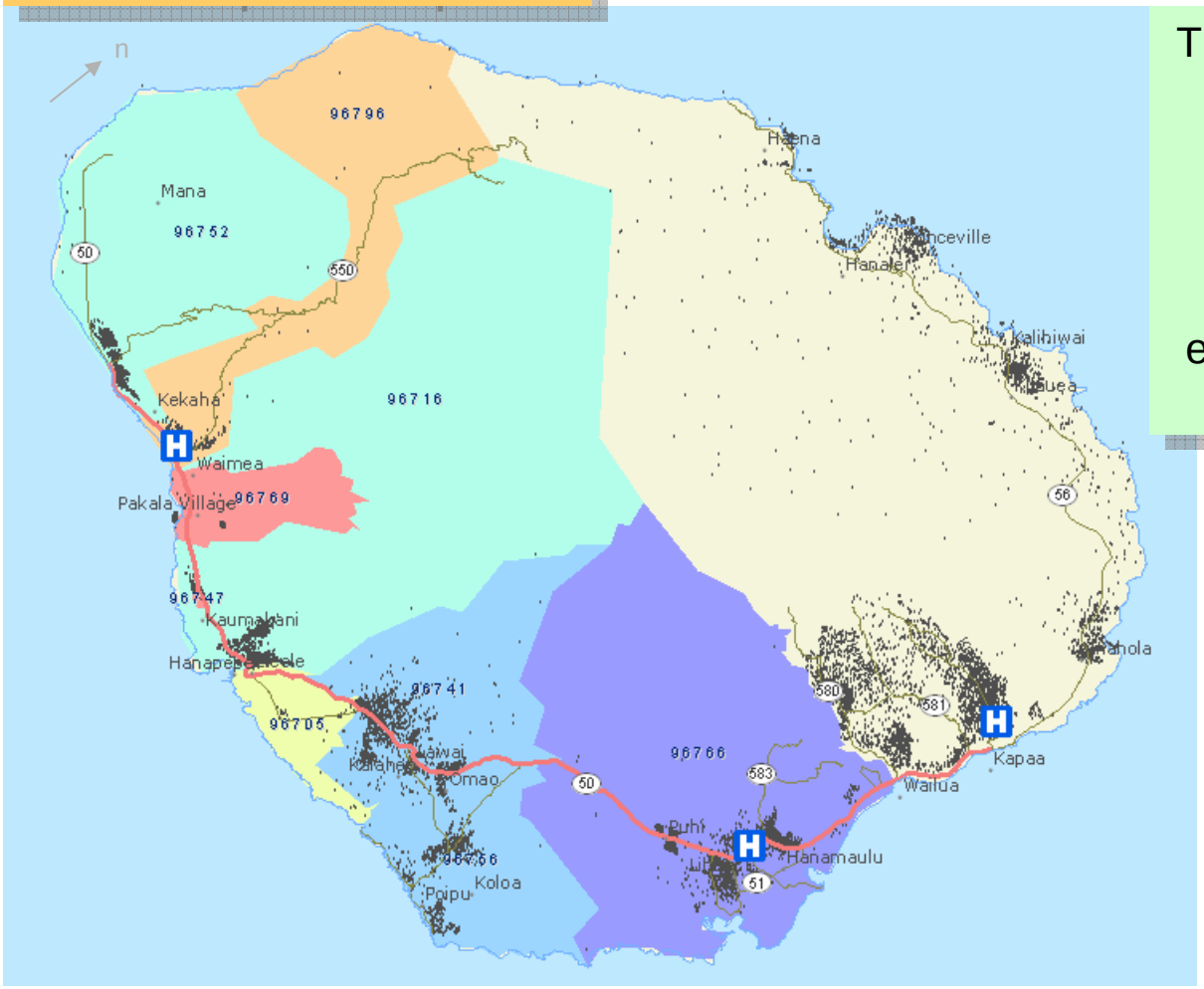
- The map indicates population clusters throughout the service area

**Each dot represents 5 persons**




The Service Area population is primarily clustered in pockets along route 50 to the east and west of Waimea

# Service Area Definition

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- KVMH's service area population is estimated to total 34,999 in 2005

| | 2005 Population Estimate | | | | |
|---|---|---|---|---|---|
| **Primary Service Area** | **0-19** | **20-44** | **45-64** | **65+** | **Total** |
| 96752 Kekaha | 830 | 910 | 1,008 | 508 | 3,256 |
| 96796 Waimea | 530 | 519 | 555 | 414 | 2,018 |
| 96716 Hanapepe | 1,441 | 1,379 | 1,057 | 712 | 4,589 |
| 96741 Kalaheo | 1,608 | 1,855 | 1,953 | 938 | 6,354 |
| 96705 Eleele | 344 | 382 | 287 | 208 | 1,221 |
| 96769 Makaweli | 145 | 132 | 113 | 65 | 455 |
| 96747 Kaumakani | 30 | 29 | 24 | 21 | 104 |
| *Primary Service Area* | *4,928* | *5,206* | *4,997* | *2,866* | *17,997* |
| **Secondary Service Area** | | | | | |
| 96756 Koloa | 1,054 | 1,253 | 1,298 | 757 | 4,362 |
| 96766 Lihue | 3,259 | 3,824 | 3,326 | 2,231 | 12,640 |
| *Secondary Service Area* | *4,313* | *5,077* | *4,624* | *2,988* | *17,002* |
| Grand Total | 9,241 | 10,283 | 9,621 | 5,854 | 34,999 |
| Service Area | 26% | 29% | 27% | 17% | 100% |
| Hawaii | 27% | 34% | 26% | 14% | 100% |
| United States | 28% | 35% | 25% | 13% | 100% |

Sources: Applied Geographic Solutions and US Census.

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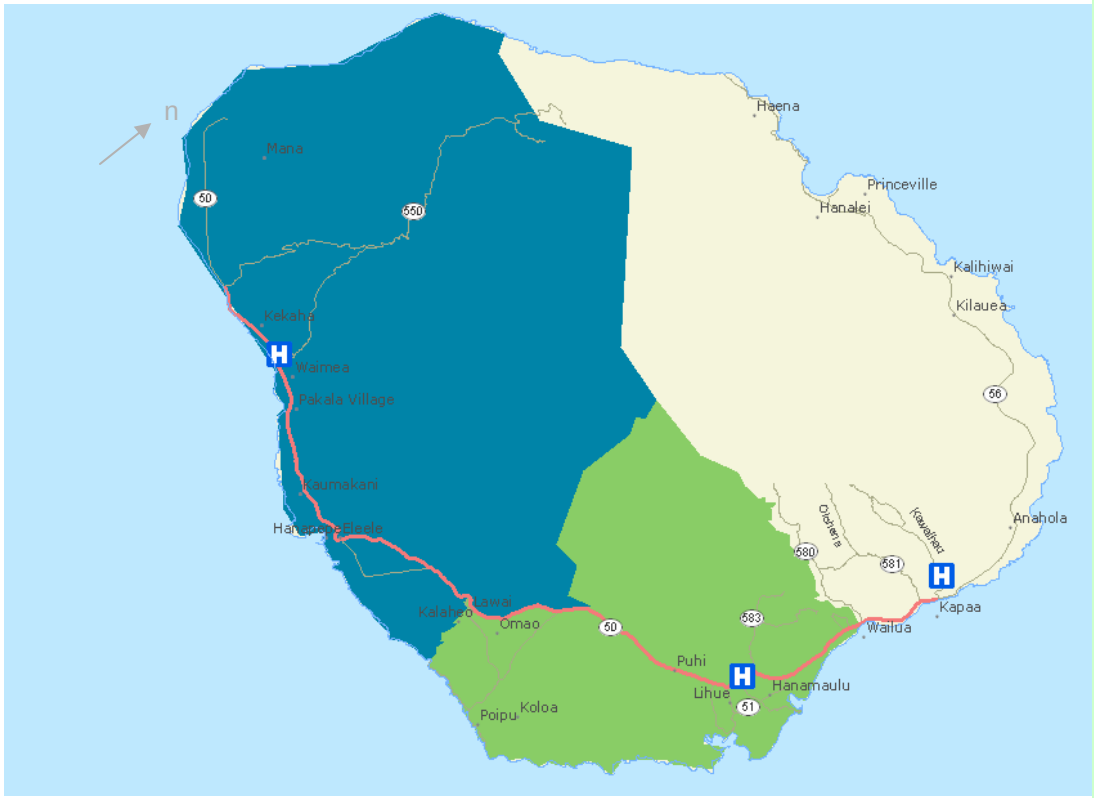


**Primary Service Area**

**Secondary Service Area**

Using 2005 Inpatient discharges by zip code as a guide, the following service areas were defined

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*Note: Primary Service Area designation was given to top discharging contiguous zip codes surrounding KVMH*

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PSA: Waimea, Kekaha, Hanapepe, Kalaheo, Eleele, Makaweli, Kaumakani

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SSA: Koloa, Lihue

# Population Age Distribution

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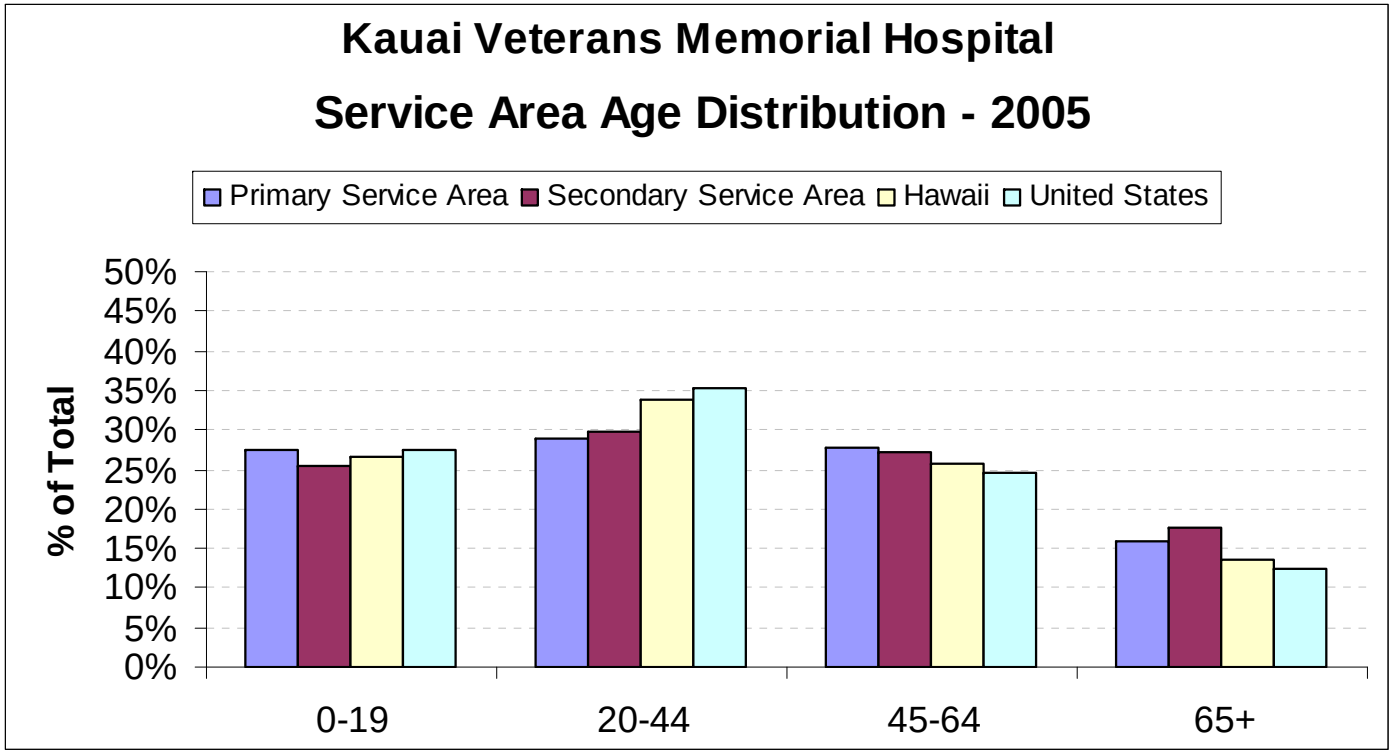
- The population of the service area is older than both state and US averages with the 65+ population greater than 15% of the total population
  - Over 65 population, which uses inpatient and ancillary services at a higher rate, are key customers for a rural hospital
  - The lower percentage of the 20-44 population indicates potential long term issue although expected population growth of this age cohort in the service area may offset this



# Population Projections by Location

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- According to Applied Geographic Solutions (AGS), the population of the service area is projected to increase 9% over the next 10 years, only slightly behind both Hawaii and US growth estimates

| | 2005 | 2010 | 2015 | 2005-2015 |
|---|---|---|---|---|
| **Primary Service Area** | **Estimate** | **Projection** | **Projection** | **% Change** |
| 96752 Kekaha | 3,256 | 3,303 | 3,356 | 3% |
| 96796 Waimea | 2,018 | 2,128 | 2,246 | 11% |
| 96716 Hanapepe | 4,589 | 4,846 | 5,126 | 12% |
| 96741 Kalaheo | 6,354 | 6,773 | 7,229 | 14% |
| 96705 Eleele | 1,221 | 1,283 | 1,350 | 11% |
| 96769 Makaweli | 455 | 481 | 512 | 12% |
| 96747 Kaumakani | 104 | 98 | 93 | -10% |
| *Subtotal* | *17,997* | *18,912* | *19,913* | *11%* |
| **Secondary Service Area** | | | | |
| 96756 Koloa | 4,362 | 4,433 | 4,512 | 3% |
| 96766 Lihue | 12,640 | 13,233 | 13,871 | 10% |
| *Subtotal* | *17,002* | *17,666* | *18,383* | *8%* |
| **Total Service Area** | **34,999** | **36,578** | **38,296** | **9%** |
| Hawaii | 1.23 | 1.30 | 1.36 | 10% |
| United States | 296.2 | 310.5 | 326.6 | 10% |

Note: State and US Population in millions.

Sources: Applied Geographic Solutions and US Census.

# Population Projections by Age

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- Based on AGS predictions, most age sectors are projected to increase with the exception of the 0-19 age cohort
  - The 65+ population is projected to see the highest growth rate, 20%, over ten years

| Total Service Area | 2005 Estimate | 2010 Projection | 2015 Projection | 2005-2015 % Change |
|---|---|---|---|---|
| 0-19 | 9,241 | 9,107 | 8,979 | -2.8% |
| 20-44 | 10,283 | 10,818 | 11,385 | 10.7% |
| 45-64 | 9,621 | 10,229 | 10,880 | 13% |
| 65+ | 5,854 | 6,424 | 7,053 | 20% |
| Total | 34,999 | 36,578 | 38,296 | 9% |

- Literature on the increased demand for services due to the aging population is mixed, although most acknowledge the impact of increased consumer expectations are difficult to measure
  - Predominate view is that factors that have driven demand for hospital services in the past few years are more likely to continue than to abate
  - CMS projects a 55% increase in hospital spending from 2000 to 2012
  - Propensity of baby boomers and younger age cohorts to use health care services could cause hospital spending to increase between now and 2012 at a rate making the CMS projection look conservative (Source: *Health Affairs* 22, no. 6 [2003])
  - Recent studies have concluded the aging effect on the use of inpatient services is mitigated by changes in technology; however, aging will have a larger impact on use by patients with conditions that are more concentrated among the elderly (Source: Health Affairs [Web Exclusive, March 2006])

# Population Household Income and Poverty

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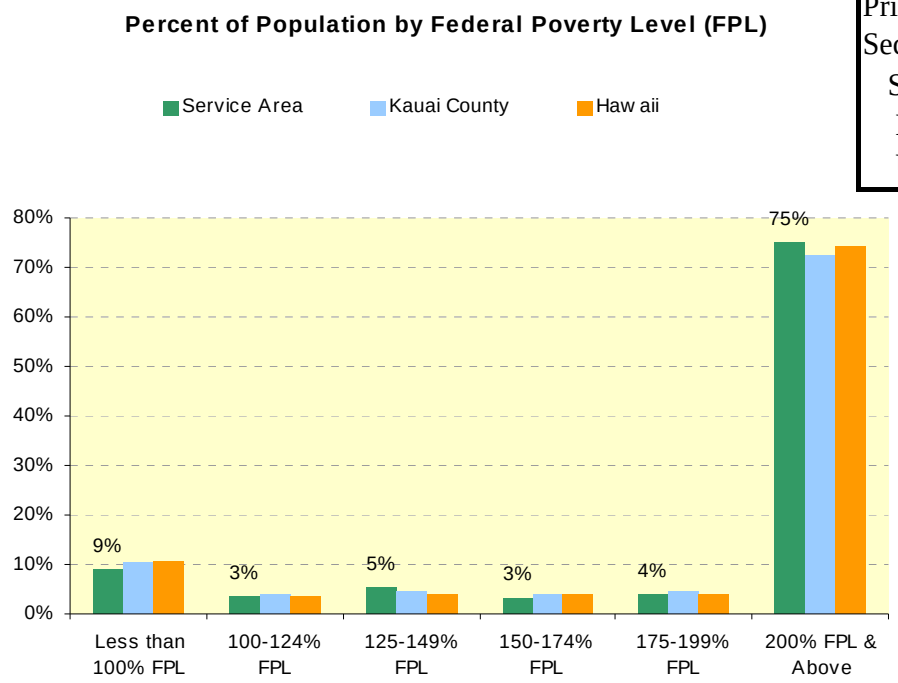
## Kauai Veterans Memorial Hospital
## 2005 Estimated Median Household Income and 2000 Poverty Rates

| Area | Median Income Household | % of State |
|---|---|---|
| Primary Area | $ 51,538 | 106% |
| Secondary Area | $ 52,100 | 108% |
| Service Area Avg. | $ 51,811 | 107% |
| Hawaii | $ 48,398 | 100% |
| United States | $ 44,017 | n/a |




The average median household income for KVMH service area is 107% of the state of Hawaii. An estimated 9% of the service area is below 100% of the FPL and 25% are below 200% of the FPL.

# Health Status: Causes of Death

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- In Kauai County there are slightly higher mortality rates across a spectrum of presentations compared to statewide except heart disease, CVA, and Diabetes

| Causes of Death (rate per 100,000) | *Kauai County* | *Hawaii* | *County as % of State* |
|---|---|---|---|
| Diseases of the Heart | 190 | 190 | 100% |
| Malignant Neoplasms | 186 | 163 | 114% |
| Cerebrovascular Disease | 56 | 59 | 94% |
| Motor Vehicle Accidents | 11 | 10 | 102% |
| Chronic Lower Respiratory Diseases | 29 | 23 | 128% |
| Influenza/Pneumonia | 20 | 18 | 110% |
| Diabetes Mellitus | 13 | 16 | 82% |

*Source: Hawaii State Department of Health Vital Statistics Annual Reports*

- Lifestyle of local population will have sizable potential impact on KVMH services and related impact on local health status
  - Chronic disease management systems and other IT infrastructure investments can positively impact mortality rates amongst the local population
  - Investment in IT is consistent with Institute of Medicine report: "Quality Through Collaboration: The Future of Rural Health," challenging rural providers to assume a leadership role for improving community health
    - Report available at: http://www.iom.edu/report.asp?id=23359
  - Public and third party payment systems are also evolving to pay for quality

# Hospital Service Areas and Referral Regions

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- Map shows the "Referral Regions" based on academic research of *inpatient services* (Dartmouth, 2001)

**Inpatient Hospital Service Areas (HSA)**


- Shows the historical patterns of utilization for **inpatient services** based on the predominate flow of patients
- The island is divided into 2 inpatient HSAs: Waimea, and Lihue

# Primary Care Service Area

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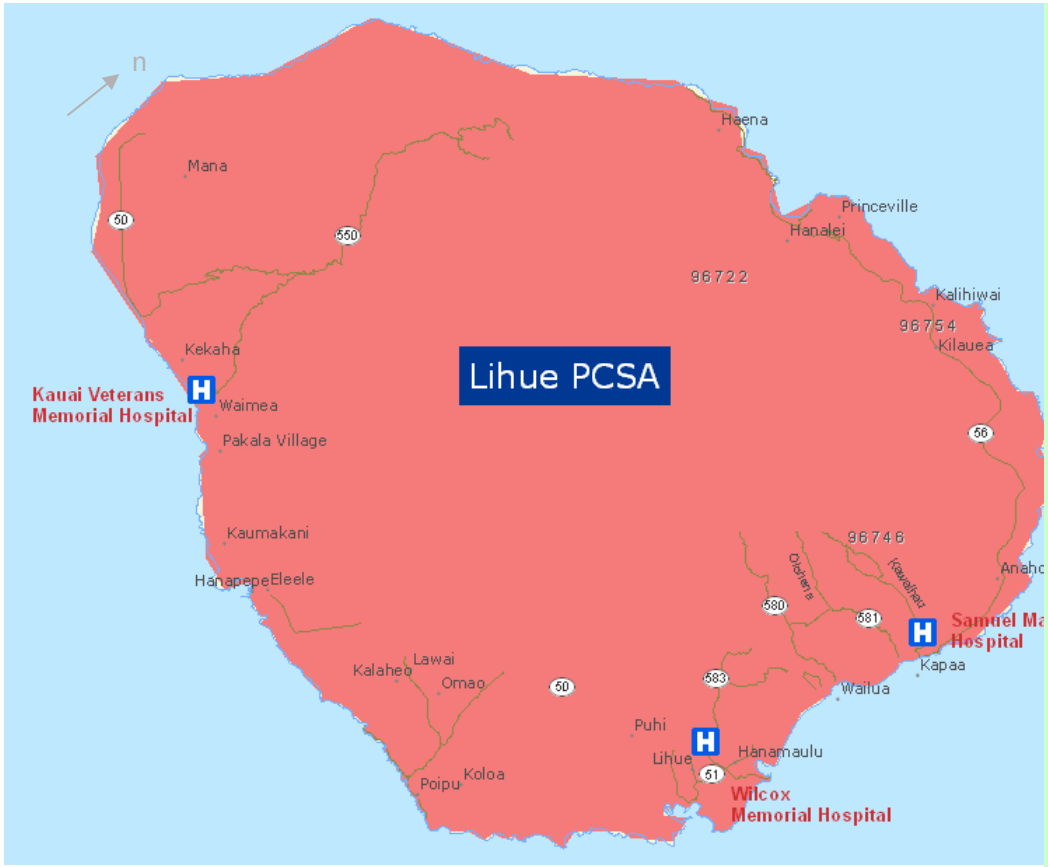
- Map shows the "Primary Care Area" based on academic research of *ambulatory services* (Dartmouth, 2001)

**Primary Care Service Area (PCSA)**




- Shows the historical patterns of utilization for **physician services** based on predominate flow of patients
  - Areas are defined independent of hospital
- 2001 data does not reflect KVMH recent primary care development and acquisition strategies and thus should not be weighed heavily in developing service area population data

# Area Hospitals

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**Surrounding Area Hospitals**

| | Distance (miles) | Staffed Beds | Admissions | Surgeries | Outpatient Visits | Emergency Room Visits | Births | Management | System Affiliation |
|---|---|---|---|---|---|---|---|---|---|
| **Kauai Veterans Memorial Hospital** *Waimea, HI* | - | 25 | 790 | 922 | 15,020 | 4,729 | 108 | State | Hawaii Health Systems |
| **Wilcox Memorial Hospital** *Lihue, HI* | 24 miles E | 67 | 5,016 | 6,237 | 68,387 | 22,041 | 648 | Not-for-profit | Hawaii Pacific Health |
| **Samuel Mahelona Memorial Hospital** *Kapaa, HI* | 35 miles E | 5 | 210 | - | 2,717 | 1,850 | - | State | Hawaii Health Systems |

*(Source: usnews.com, American Hospital Association, HHSC Internal Data)*

*NR = not reported*

- KVMH is 35 miles west of HHSC affiliated hospital Samuel Mahelona Memorial Hospital, and 24 miles west of 67-bed Wilcox Hospital
  - *Note: KVMH and SMMH operate under a CAH designation which limits licensed beds to 25 or fewer*
    - The overage in staffed beds reflect the LTC beds at both KVMH and SMMH
- Wilcox Hospital's recent financial difficulties, as well as a very public nursing strike, has enabled both HHSC facilities to increase patient care services as Kauai residents seek alternatives to Wilcox for basic hospital care

# Medicare Advantage

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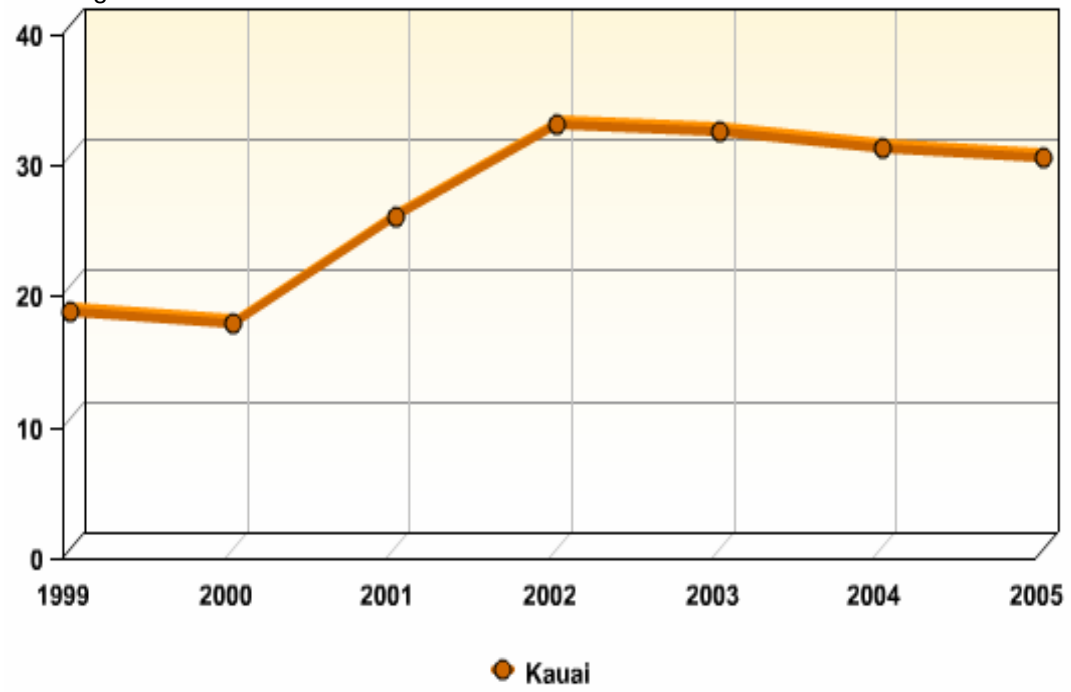
## Medicare Advantage Plans – Kauai County

Medicare Advantage Plan Penetration




Medicare Advantage is a managed care program offered by private health plans for Medicare recipients.

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Medicare Advantage plans have moderate penetration in Kauai County.

Source: Kaiser Family Foundation – www.kkf.org

# Medicare Contracting

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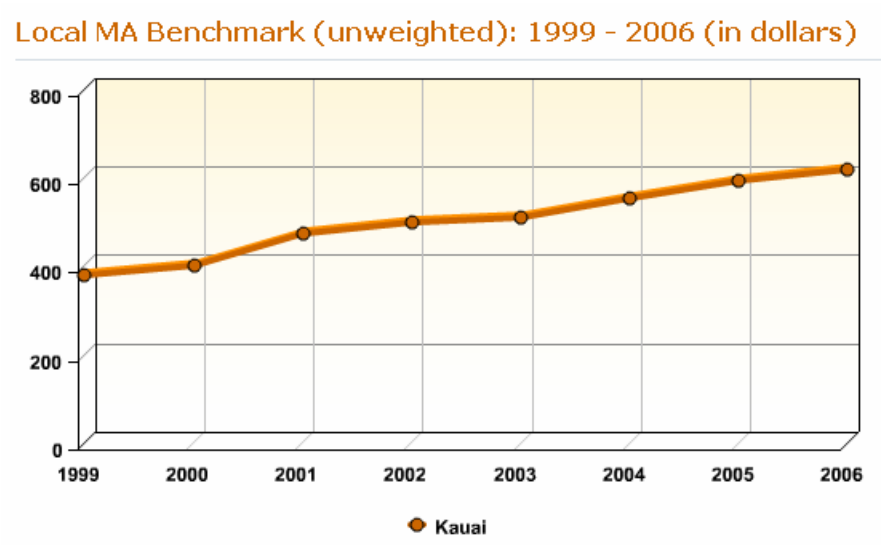


Medicare Modernization Act of 2003 increased payments to managed care companies as incentive to increase enrollment.

Average monthly payment for Kauai County increased ~64% ($379.84 to $620.32).

Plans are not required to pay CAHs on cost-basis like traditional Medicare.

However, KVMH has negotiated cost-based contracts with Medicare Advantage plans (HMSA) enabling favorable CAH reimbursement.

Sources: Kaiser Family Foundation, *Medicare Health Plan Tracker*

# Discharges by Zip Code

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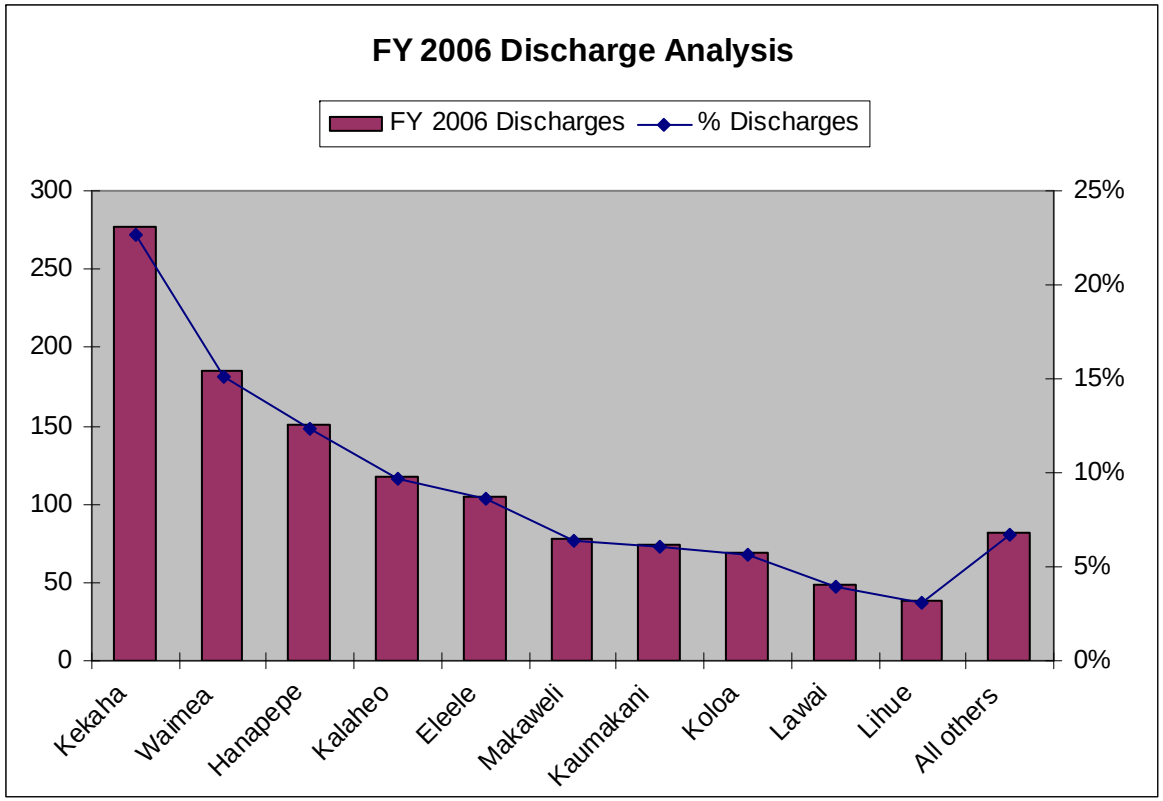


- Kekaha, Waimea, and Hanapepe generated 50% of KVMH's FY 2006 total inpatient admissions
  - 82% of FY 2006 admissions were generated from primary service area zip codes

# Market Share Adjustment

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- To plan for needed services and avoid developing excess capacity, the total population of the service areas is adjusted down based on the market and service area analysis
  - 2005 service area population for planning purposes = 15,185
  - 2015 estimated service area population for planning purposes = 16,582

**Market Service Area Calculation**

Estimated Discharge Rate* 91

| *Primary Market Area* | Zip Code | 2005 Population | Estimated Market Discharges | Actual Discharges | Estimated Market Share | Inpatient Hospital Service Area | Market Service Area Weighting* | 2005 Service Area Population | 2005-2015 Populuation Growth | 2015 Est. Service Area Population |
|---|---|---|---|---|---|---|---|---|---|---|
| Kekaha | 96752 | 3,256 | 296 | 277 | 93% | Waimea | 100% | 3,256 | 3% | 3,356 |
| Waimea | 96796 | 2,018 | 184 | 185 | 101% | Waimea | 100% | 2,018 | 11% | 2,246 |
| Hanapepe | 96716 | 4,589 | 418 | 151 | 36% | Waimea | 80% | 3,671 | 12% | 4,101 |
| Kalaheo/Omao/Lawai | 96741 | 6,354 | 578 | 118 | 20% | Lihue | 50% | 3,177 | 14% | 3,615 |
| Eleele | 96705 | 1,221 | 111 | 105 | 95% | Waimea | 80% | 977 | 11% | 1,080 |
| Makaweli | 96769 | 455 | 41 | 78 | 188% | Waimea | 100% | 455 | 12% | 512 |
| Kaumakani | 96747 | 104 | 9 | 74 | 782% | Waimea | 100% | 104 | -10% | 93 |
| *Total Primary Market Area* | | *17,997* | *1,638* | *988* | *60%* | | *76%* | *13,658* | *10%* | *15,003* |
| ***Secondary Market Area*** | | | | | | | | | | |
| Koloa/Poipu | 96756 | 4,362 | 397 | 69 | 17% | Lihue | 35% | 1,527 | 3% | 1,579 |
| *Total Secondary Market Area* | | *4,362* | *397* | *69* | *17%* | | *35%* | *1,527* | *3%* | *1,579* |
| **Weighed Service Area** | | **22,359** | **2,035** | **1,057** | **52%** | | **68%** | **15,185** | **9%** | **16,582** |

* FY 2004 Healthcare Almanac

  - * For planning purposes, total population is discounted by market service area weighting, an estimate based on inpatient market share and Hospital Service Area (Dartmouth Atlas of Healthcare). Hospital service areas (HSAs) are local health care markets for hospital care. An HSA is a collection of ZIP codes whose residents receive most of their hospitalizations from the hospitals in that area. HSAs were defined by assigning ZIP codes to the hospital area where the greatest proportion of their Medicare residents were hospitalized. Minor adjustments were made to ensure geographic contiguity.

# Market Share Adjustment

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- Conclusions
  - Initial PIC was performed in November of 2001
    - 2004 population was then projected to reach 14,718
  - 2005 estimated population for the PSA and SSA was 22,359 with a weighted population of 15,185
    - A projected growth of 9% over the next 10 years giving KVMH an estimated weighed service area population of 16,582 by year 2015
  - *Market Service Area Weighting is* derived using both quantitative and qualitative measures
    - Quantitative: Inpatient market share
    - Qualitative: Hospital Service Area, Primary Care Service Area, proximity of competitors, menu of services offered at KVMH, and field experience of Stroudwater consultants
  - KVMH's targeted service area population is estimated to be **15,185** with the population generally spread evenly around the primary and secondary service areas
    - 15,185 provides a large base for a full-service rural hospital and KVMH efforts should focus on increasing market share from the primary service area
  - KVMH has made great strides and successfully brought the market share up to 60% for the PSA and 52% for the PSA and SSA
    - The estimated IP market share in 2001 was at 26.7%

# Service Area Conclusions

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- Conclusions (continued)
  - KVMH's service area population distribution by age is older than Hawaii and the United States with a high 65+ age cohort
    - KVMH should develop specific strategies to provide niche services targeted at this older population
  - The interface between KVMH, Wilcox Hospital, and SMMH will be integral to the strategic vision of KVMH
    - Current competitive landscape issues include:
      - New surgical suite in Wilcox Hospital
      - Radiology market share – KVMH planning to add extremity only MRI, SMMH plans to add CT
      - Nurses strike at Wilcox Hospital at 80th day at time of Stroudwater on-site visit
        - Morale at Wilcox is low, SMMH hired 3 nurses from Wilcox, with potential to hire a 4th
  - Malignant neoplasms, influenza/pneumonia, and chronic lower respiratory disease deaths are significantly more prevalent in Kauai County than in the State of Hawaii
    - Community health data can help guide service line development

# Detailed Findings, Analysis, and Recommendations

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# Introduction to Clinical Services

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- The rural hospital *mission* is to provide clinically appropriate healthcare services that improve individual health and support community vitality
- The rural hospital *success strategy* is to provide all healthcare services that are clinically appropriate and to capture all healthcare services that can be provided locally
- Although volume growth and efficiency are important rural hospital strategies, *healthcare quality and patient safety* always take priority over financial considerations
- Clinical Services data presentation, analysis, and recommendations are derived from clinical utilization data ("Operating Statistics") provided by the hospital and on-site interviews with key staff
- Financial trend analyses suggest financial impacts, not clinical appropriateness

# Services Available

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## Units

- Emergency
- Inpatient/Observation
  - 1 private room + 9 semi-private
    - = 19 beds (potential for 21)
  - 2-bed ICU (capacity of 4)
- Swing Bed
- 4-bed Obstetric unit (capacity of 5)

## Ancillaries

- Radiology
  - Routine, Echo, US, CT, Mammography
- Laboratory
- Rehabilitation (PT, OT)
- Cardiopulmonary (RT, ABGs, PFT, Sleep Lab)

## Other

- Surgery: General, Orthopedic, GYN, Ophthalmology
- Hospital-owned Free-Standing Clinics x 3
- Visiting Specialists (see further for details)
- 10-room (20 bed) Long-Term Care unit
  - In process of adding two private rooms for isolation purpose

- KVMH provides an extensive array of clinical services for a rural hospital with increasing utilization for the most part, but with opportunities for growth remaining
- Unfortunately, space to grow is a major issue even to continue providing service at the present level

# Physician Complement

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- Community needs for primary care are met
  - Calculations based on population adjusted for market share
  - All known providers based in the identified KVMH primary or secondary service area were included in the calculations

| **Physician Shortage/Surplus** | Service Area Population **15,185** | | |
|---|---|---|---|
| | Supply Studies | | (Shortage)/Surplus |
| Primary Care | Range | Existing | Range |
| Family Practice | 2.1 - 7.1 | 5.0 | (2.1) - 2.9 |
| Internal Medicine | 1.8 - 4.4 | 4.0 | (0.4) - 2.2 |
| Pediatrics | 1.2 - 2.3 | 3.0 | 0.7 - 1.8 |
| Physician Primary Care Range | | 12.0 | (0.6) - 2.3 |
| Non-Phys Providers | 1.0 - 3.5 | 1.0 | (2.5) - (0.0) |
| TOTAL Primary Care Range | | | (3.1) - 2.3 |
| Medical Specialties | | | |
| Cardiology | 0.5 - 0.6 | 0.2 | (0.4) - (0.3) |
| Gastroenterology | 0.3 - 0.4 | 0.0 | (0.4) - (0.3) |
| Hem/Oncology | 0.3 - 0.6 | 0.0 | (0.6) - (0.3) |
| Surgical Specialties | | | |
| ENT | 0.1 - 0.5 | 0.0 | (0.5) - (0.1) |
| General | 0.9 - 2.1 | 3.0 | 0.9 - 2.1 |
| OB/GYN | 1.2 - 1.7 | 2.0 | 0.3 - 0.8 |
| Ophthalmology | 0.6 - 0.7 | 0.2 | (0.5) - (0.3) |
| Orthopedic | 0.7 - 1.1 | 1.0 | (0.0) - 0.4 |
| Urology | 0.4 - 0.5 | 0.0 | (0.5) - (0.4) |

See Attachments for supply data specifics and sources and others not shown here

**Primary Care Providers**

(FP, IM and Pediatrics) includes PAs and NPs when used

---

National ratios suggests a shortage of 3.1 FTE to a surplus of 2.3 FTE PCPs when including mid levels

---

FTE PCP = 18 days/month
Mid-levels = 0.8 FTE

# Primary Care / Specialty Care Clinic

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- Findings and Analysis
  - **NOTE: Physician shortage/surplus caveats**
    - Determination of physician shortage/surplus is much more complex than comparisons to national ratios
    - Factors such as local access to care (e.g., delay for non-urgent appointments), community perceptions, current physician perceptions, projected service area change, etc., should be considered
  - Calculations based on estimated provider availability as of November 2006
  - Providers contracted by KVMH include:
    - West Kauai Medical Center (WKMC) located in Waimea
      - 2 FTE GS + 2 FTE OB/GYN (one has a contract terminating in February 2007)
      - 1 FTE Pediatrician whose contract terminates in April 2007
      - 1 Ortho + 1 IM
    - Kahaleo Clinic located in Kahaleo
      - 1.75 FTE IM + 1 FTE FP + 1 FTE Pediatrician
    - Eleele Clinic located in Eleele
      - 1 FTE IM + 1 FTE Pediatrician + 1 NP FTE (Woman's Health)
  - Other providers located in KVMH's service area are:
    - Kauai Community Health Center, an FQHC located within KVMH
      - 1 FTE FP + 1 FTE IM
    - Kauai Medical Clinic in Eleele (a Wilcox Clinic)
      - 3 FTE FP + Ortho x ½ day/week
    - Dr. Elmore, FP (leaving the area soon hence not counted in the equation)

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- Findings and Analysis (continued)
  - Physician near or at retirement consist of: 2 IM, 1 Pedi, and 1 GS
    - These physicians have been calculated in the count
  - KVMH is in the process of recruiting the following but these were not counted in the present mix
    - 1 OB/GYN as soon as identified – presently interviewing
    - 1 Ortho hoping to be on board in late April 2007
  - Visiting specialists in the service area consist of:
    - 4 Ophthalmologists with an approximate total of 4 days/month for OR
    - Cardiologist recently started at KVMH x ½ / mo
    - Dermatologist ½ to full day/week averaging to 3 full days/month at KVMH
    - Podiatrist on Wed. x 2/mo – rare OR use
    - Nephrologist ½ day/week x 2 /mo – travels in from Oahu
    - There is reportedly an Oncologist who comes to KMC but the frequency is not known
  - Specialty (outreach) physician shortages are noted in all specialties that KVMH does not contract with:
    - Physicians noted that cardiology needs to increase time
      - No stress test available on-site yet
    - More visiting specialists has community using the hospital vs. traveling elsewhere
    - Procedures performed and ancillaries used by outreach physicians are an important income source for rural hospitals
    - On the other hand, we must ensure that the PCPs will provide sufficient referrals to ensure productive days by the visiting specialists
    - Other issues cited: there are only 2 acute dialysis beds (at Wilcox) and there is no radiation therapy on the island

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- Findings and Analysis (continued)
  - PCP need findings
    - Total of FP and IM ranges from a need for 0.6 PCP to a surplus of 3.3
      - Physicians voiced the need for additional providers citing long waits to get appointments but this information was not supported by the clinic productivity analysis (see section on Physician Management Practice – slide 135)
        - ➢ This comment is not supported by productivity analysis where a majority of providers are producing at or below the 25th percentile of peer production
      - 1 IM near retirement age recently out on medical leave which has aggravated need
        - ➢ A second IM of retirement age
      - See physician productivity report section to better determine route to take
      - Elderly population from the community does not like to "cross the bridge" to go see physicians, so reportedly they tend to go without if not available
  - Presently, 3 pediatricians in the service area with an estimated surplus of 0.2 to 1.5 FTE, but to be kept in mind is that 1 Pedi is leaving in April and another is of retirement age
    - The calculated range is 1.5 to 2.8 leaning to higher with an OB service; KVMH has determined recruitment may need to start soon depending on expected retirement plans

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- Recommendations
  - Imperative for KVMH administration to have open discussions with physicians of retirement age to determine the need and/or urgency of recruiting
  - Continue the pursuit of a second OB – ideal situation would be that he/she would be in place before the present OB leaves (for a smooth transition)
  - Continue pursuit of the 2nd Ortho physician
    - Population calls for 1 Orthopedic surgeon but KVMH has committed to hiring a second one for Spring due to:
      - Present Orthopedic physician is very busy and draws patients from more than the service area
      - Allows for call coverage and prevents transfer out
      - Growing population
      - Aging population often requiring higher need for Ortho
      - Ideal would be if the 2 surgeons could compliment the other's stronger skill sets
        - Present Ortho surgeon specializes in knee, shoulder, and ankle joints
      - Challenge will be in meeting all of the surgeons' needs for OR time, space, and qualified staff

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- Recommendations (continued)
  - Work with the physicians to determine specific specialty needs and increase specialists availability and procedure volumes
    - Initial focus in order of importance: cardiology and oncology followed by increase hours for nephrologist and adding urology
      - Discuss in detail with KVMH medical staff for guidance and referral pattern
    - Cardiology will increase KVMH's utilization of Echo, add HM, potential for B/P Monitoring, initiate Stress Test, and added Lab
    - GI may need to be considered depending on the interest of the General Surgeons to perform scopes, which is who does them in rural areas, particularly as preventative measures
  - KVMH to be mindful of the population make-up when identifying providers
    - 2005 population is reported as fairly even age groups for 0-19, 20-44, and 45-64, but higher in age 65+ (17% compared to 14% for HI as a whole)
    - Population growth from 2005 to 2015 is expected to be 9% (11% for PSA and 8% for SSA) with an estimated change of 20% greater in 65+ age group but a slight decrease in 0-19 age group
      - Both points support IM recruitment or experienced FP
      - Also helps to support decisions on prioritizing visiting specialists
  - Issue with adding Specialists is again space
    - If an MOB is ever built, the consideration should be to add space for visiting Specialist without interfering with day-to-day operation of the clinic

# Primary Care / Specialty Care Clinic

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- Recommendations (continued)
  - Hospital care is a three-legged stool requiring:
    - A *population* of sufficient size and loyalty to use the hospital
    - An *infrastructure* (facility, equipment, etc.) to house and provide hospital care
    - A *medical staff* committed to serving the population and utilizing the infrastructure
      - KVMH has sufficient population
      - The facility is lacking space sufficient to grow utilization and services
      - Imperative to continue working with the present medical staff to ensure commitment to the community and KVMH
        - Much has improved compared to the past years
        - Administration to meet with all providers on a regular basis to determine needs and work on addressing issues (employed and visiting specialists)
  - An independent community assessment would be beneficial to determine the population's needs, where they go for what service
    - Purpose would be to assess what services are needed in the area or on the island as a whole
    - More details can be collected through interviews with regard to diagnosis and specialists seen off island
    - Community focus meetings and survey to identify general needs also works well

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- Recommendations (continued)
  - Enlist physicians' assistance in meeting with potential candidates for the specialty clinic
    - More chances of coming if they feel the support and referrals will be there
  - Use employed practice capacity for physician participation in non-reimbursable community services
    - E.g., community health initiatives, chronic disease and preventive health management, and community education
    - These activities prepare for anticipated pay-for-performance mandates, establish community benefit as a non-profit institution, and markets the practice
  - Formulize a Medical Staff Development process
    - As part of a targeted medical staff development strategy, develop personal relationships, and demonstrate commitment to medical staff
    - Administrator or designee should meet one-on-one with <u>all</u> local physicians regularly (breakfast or lunch) to assess concerns, explore new service lines, and *listen* carefully
      - <u>Always</u> follow-up on commitments or implied promises
    - Explore opportunities to help physicians practice more efficiently and comfortably per verbalized needs
    - Facilitate opportunities for interpersonal physician interaction
      - E.g., social events, employee/physician recognition presentations, luncheons with Department Heads to discuss issues and develop agreed upon action plans, etc.

# Inpatient (CAH Bed Utilization)

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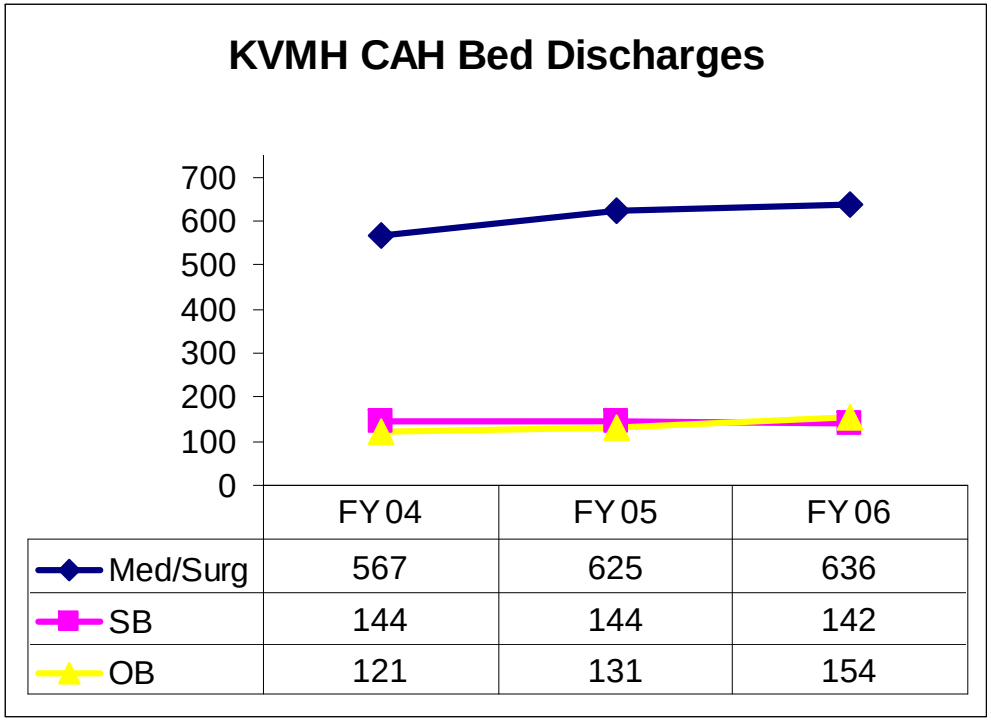
- Findings and Analysis




| | FY 04 | FY 05 | FY 06 |
|---|---|---|---|
| Med/Surg | 567 | 625 | 636 |
| SB | 144 | 144 | 142 |
| OB | 121 | 131 | 154 |

- IP bed utilization trending up since FY 2004
  - Acute admissions have increased by 12% (from FY04 to FY06)
  - SB admissions have remained the same
  - OB has increased by 27.3% over the same time frame (will be discussed in an OB section)

- Utilization is much improved compared to the last PIC performed in early 2002
  - Discharges were less than 500 M/S and less than 100 from Swing Beds then
- Note: ICU discharges are not calculated here because they mostly become a Med/Surg discharge (hence in the Med/Surg #s above) unless of transfer to another hospital or death and such information is not available

# Inpatient (CAH Bed Utilization)

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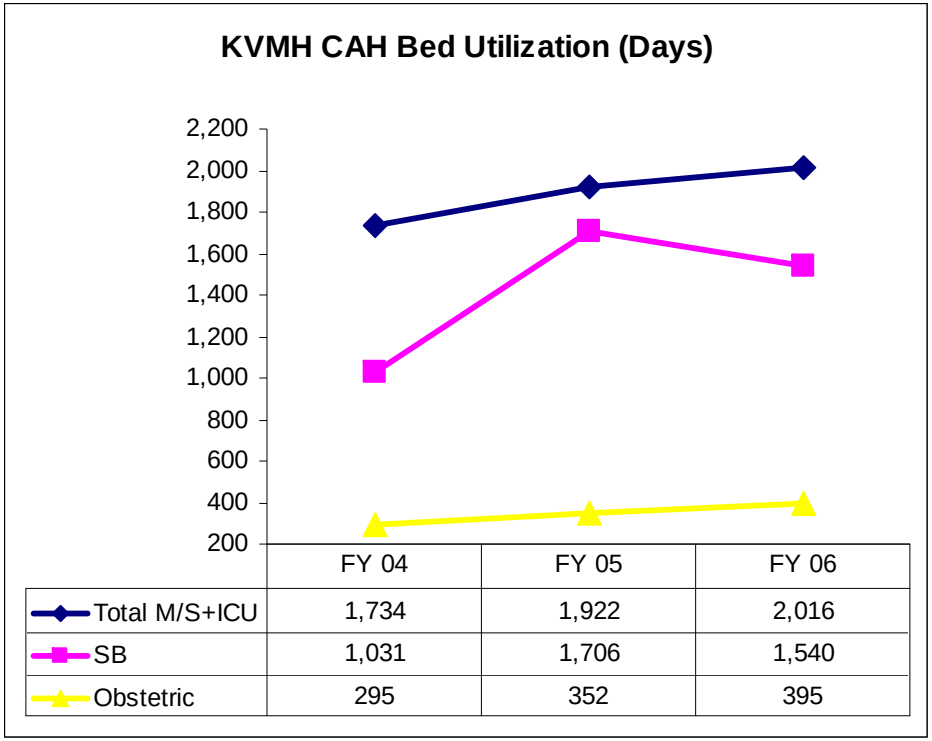


| | FY 04 | FY 05 | FY 06 |
|---|---|---|---|
| Total M/S+ICU | 1,734 | 1,922 | 2,016 |
| SB | 1,031 | 1,706 | 1,540 |
| Obstetric | 295 | 352 | 395 |

- IP days are trending up since FY04 in both Med/Surg and OB
  - Acute days have increased by 16.3% in 2006
  - OB days has increased 33.9% in the same time frame (discussed further in OB section)
  - SB days up by 49.4% from FY04 but down by 9.7% from FY05 due to the need for Acute care beds

  - Total bed utilization has increased by 29% from FY04 to FY06, but has decreased by 0.7% from FY05 to FY06
    - Partially due to shift to OP surgery as a national trend but also to the lack of the right bed available when needed
      - Semi-private rooms, male vs. female bed needed, keep bed open for upcoming surgery, “gun shy” to take referrals from Wilcox or Oahu given the fluctuating census and the growing census

# Inpatient (CAH Bed Utilization)

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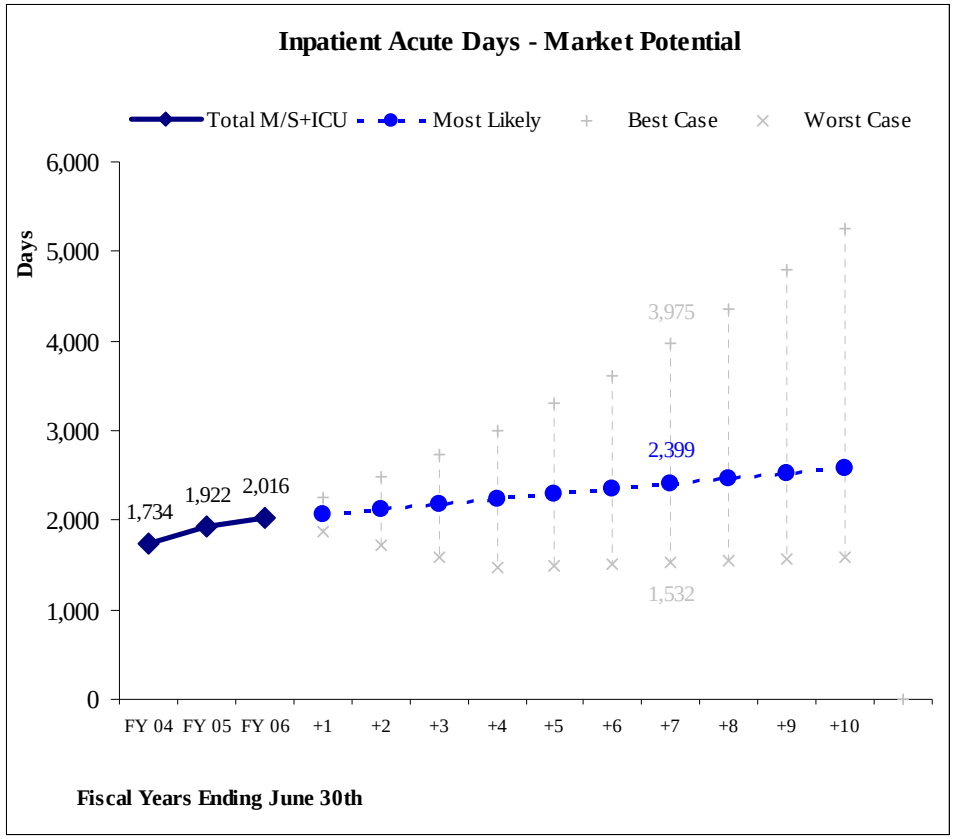


- Calculated 24.5% of market share *based on Acute days used*
- "Most Likely" line represents the expected if KVMH continues the status quo with demographic changes going forward
- Best Case is a 10% year-over-year growth not to exceed a ceiling of 100% of the adjusted market potential
- Worst Case is year-over-year 10% decrease, not to drop below a floor of 15% of the adjusted market share

  - State of HI estimates 91* acute admissions/1000 population (no OB or SB)
  - 15,185 estimated service area in 2005 /1000 = 15.19 x 91 = 1382.3 estimated admissions
    - 636 admissions in FY06 / 1382 estimated admission in the service area = *46% market share for admissions*
      - *Source = 2004 Healthcare Almanac Admission Rate

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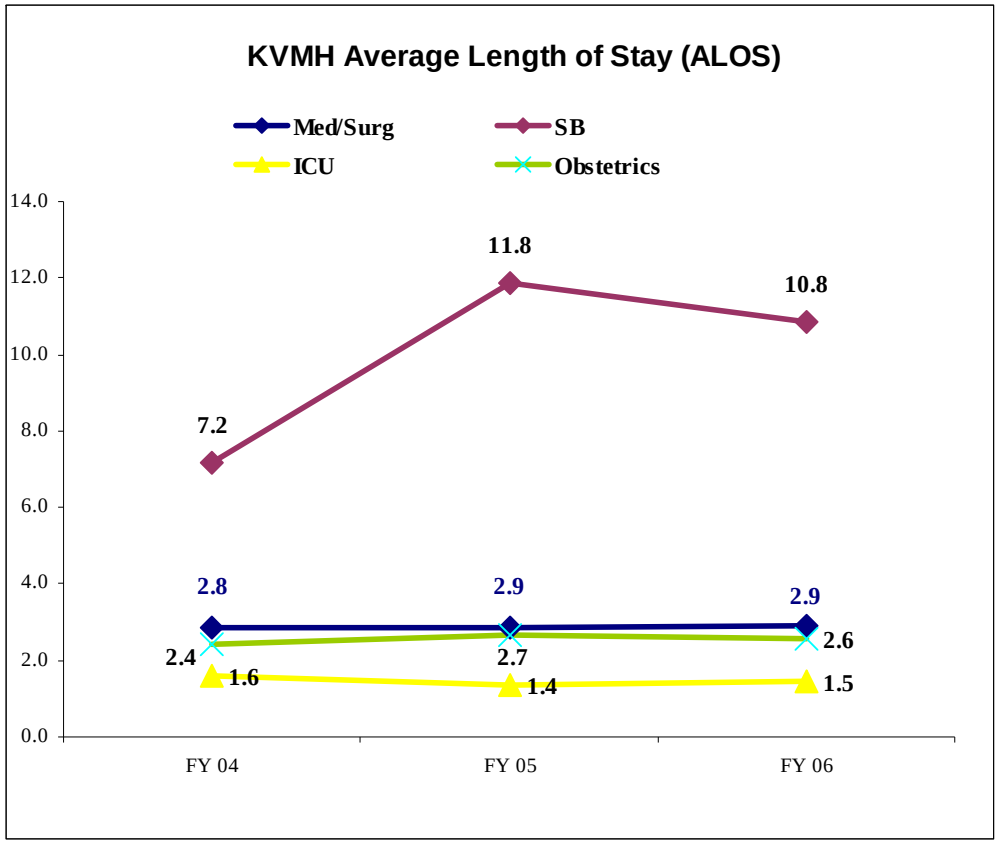


- Total Medical Acute ALOS = 4.0 for FY05 and FY06 (which is the maximum for CAH regulatory limit on a FY basis)
- ALOS for SB utilization is at the national average of 10 to 14 days ALOS for hospital-based skilled care

  - Case Mix Index has been maintaining at above 1.0 which is higher than most rural hospitals, most likely due to the surgical patients
    - 2005 FY 1.0158 , 2004 FY 1.0654, 2003 FY 1.1070 (FY06 not available yet)

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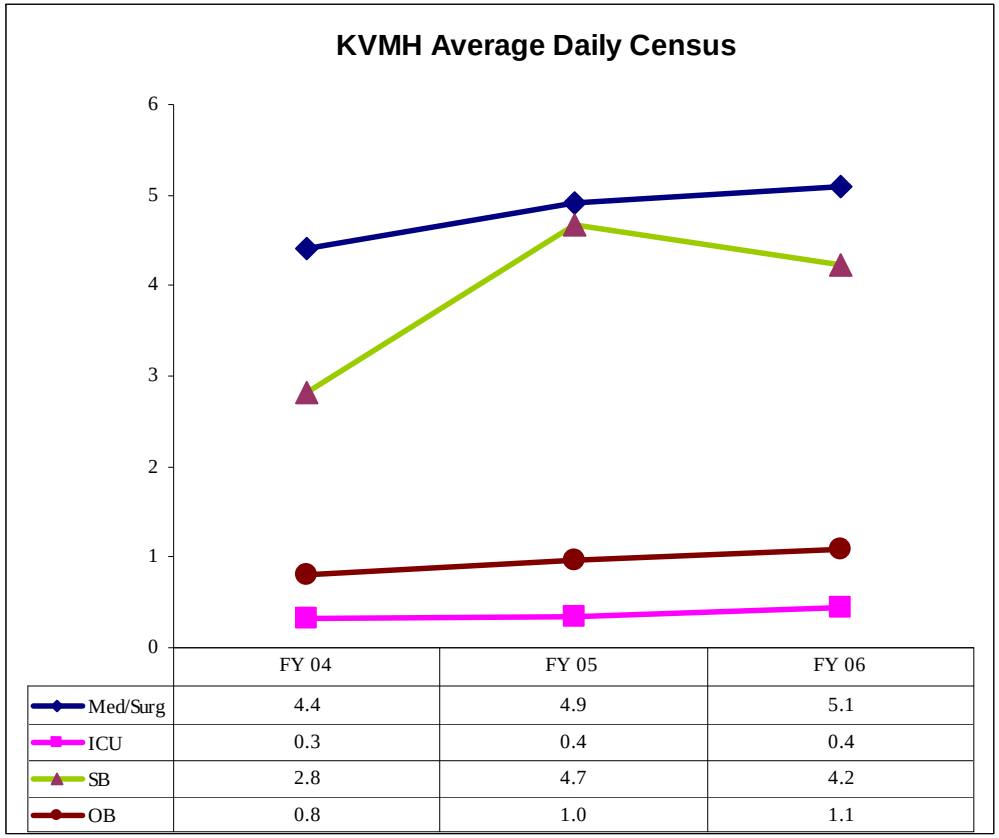


| | FY 04 | FY 05 | FY 06 |
|---|---|---|---|
| Med/Surg | 4.4 | 4.9 | 5.1 |
| ICU | 0.3 | 0.4 | 0.4 |
| SB | 2.8 | 4.7 | 4.2 |
| OB | 0.8 | 1.0 | 1.1 |

- CAH bed utilization consists of an daily census (ADC) of 10.8
- ADC does not include the # of Observation patients using the CAH beds (average of 26/month in FY06)
- Med/Surg ADC closer to 10.3 in FY06 Adult/Pedi/SB/ and Observation

  - Med/Surg beds consists of 9 semi-private room + 1 private room, which causes an issue with bed management and difficulty in improving utilization due to:
    - Male-female issue, need for more isolation room, need to maintain “clean” vs. “dirty cases separated, patient’s condition and special needs
  - No telemetry available in Med/Surg which encourages the use of the ICU

# Inpatient (CAH Bed Utilization)

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- Findings and Analysis (continued)
  - Average utilization per month has further increased during the first 4 months of FY07 compared to monthly average of FY06

| Average Number of Days per Month | | |
|---|---|---|
| | FY06 | FY07 YTD |
| **Med/Surg + ICU** | 168 | 173 |
| **SB** | 128 | 140.5 |
| **OB** | 32.9 | 32.8 |

- Med/Surg + ICU = 3% increase
- Swing Bed = 9.8%
- OB is stable

  - Equates to a Med/Surg average daily census of 11 when calculating in the ADC of an estimated 17 Observation days per month
  - SA consultant lacking data to determine the potential or limitation for increased utilization given the Med/Surg space and configuration such as:
    - Mapping out daily census in Med/Surg bed to include not only midnight census but also:
      - Level of care in Med/Surg (Acute Adult, Acute Pedi, SB, Observation, Other such as OP blood transfusion…)
      - Admissions and Discharges / day
      - # of patients in isolation
      - # of medical vs. surgical patients
      - # of available beds by male and female
    - Data is collected and will be shared with the space development consultants

# Inpatient Services (CAH Bed Utilization)

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- Findings and Analysis (continued)
  - Financial analysis on this and next three slides indicates potential increased bottom line related directly to increased Acute and Swing Bed utilization based on the FY 2005 cost report
    - Base year indicated that KVMH lost $900K on inpatient services with FY 2005 acute ADC of 6.3 and SB ADC, excluding NF type patients, of 2.4

***Model A: Base Case (Information based on year ended 6/30/05 Cost Report)***

| | ADC | Total Days | | Cost-Based Payer Mix | Cost-Based Days | Other Days | Payment Per Day | Other Payment |
|---|---|---|---|---|---|---|---|---|
| Acute (inc Obs and ICU) | 6.3 | 2,286 | | 70% | 1,600 | 686 | $ 1,000 | $ 686,000 |
| Swing Bed - SNF | 2.4 | 869 | | 100% | 869 | - | $ - | $ - |
| Total Acute/SB SNF | | 3,155 | | | 2,469 | 686 | $ 1,000 | $ 686,000 |
| Inpatient Fixed Costs | | $ 6,624,243 | *** | | | | | |
| Inpatient Variable Costs | | $ 658,400 | ** | | | | | |
| Total Inpatient Costs | | $ 7,282,643 | | | | | | |
| Inpatient Costs Per Day | | $ 2,308.29 | | | $ 2,308.29 | | | |
| Medicare Payment | | | | | $ 5,699,158 | | | $ 5,699,158 |
| Total Payment | | | | | | | | $ 6,385,158 |
| Inpatient Costs | | | | | | | | $ 7,282,643 |
| Net Margin | | | | | | | | $ (897,484) |

** Assumes $250/day marginal acute costs and $100/day marginal swing bed costs

*** Adults/Peds Costs, plus ICU costs, plus Acute Inpatient depart inpatient charges times depart RCCs less variable costs

  - Administration is discussing the potential to open a 10-bed distinct part IP Rehab Facility/Unit (IRF) as allowed under the CAH regulations
    - Goal is to increase bed availability by moving Ortho patients of the Med/Surg floor for rehab while meeting the Orthopedic surgeon's needs of separating fresh post-op patients from medical patients to prevent infections
      - See further slide for discussion

# Inpatient Services (Potential Acute Incremental Revenue)

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- Findings and Analysis (continued)
  - Based on FY 2006 inpatient ADC of 6.6 for acute (Med/Surg, ICU, OB) and 2.11 for SB SNF, KVMH's bottom line should decrease approximately $40K

***Model B: 2006 Actual Census at 2005 Cost Base***

| | ADC | Total Days | Cost-Based Payer Mix | Cost-Based Days | Other Days | Payment Per Day | Other Payment |
|---|---|---|---|---|---|---|---|
| Acute | **6.6** | 2,409 | 70% | 1,686 | 723 | $ 1,000 | $ 722,911 |
| Swing Bed - SNF | **2.1** | 770 | 100% | 770 | - | $ - | $ - |
| Total Acute/SB SNF | | 3,179 | | 2,456 | 723 | $ 1,000 | $ 722,911 |
| Inpatient Fixed Costs | | $ 6,624,243 | | | | | |
| Inpatient Variable Costs | | $ 679,265 | | | | | |
| Total Inpatient Costs | | $ 7,303,508 | | | | | |
| Inpatient Costs Per Day | | $ 2,297.31 | | $ 2,297.31 | | | |
| Medicare Payment | | | | $ 5,642,754 | | | $ 5,642,754 |
| Total Payment | | | | | | | $ 6,365,665 |
| Routine Costs | | | | | | | $ 7,303,508 |
| Net Margin | | | | | | | $ (937,843) |
| Difference | | | | | | | $ (40,358) |

  - Decrease primarily relates to a reduction in cost-based payer mix (e.g., swing bed SNF services) in an economic environment where average unit costs exceed acute per diems from non cost-based payers

# Inpatient Services (Potential Acute Incremental Revenue)

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- Findings and Analysis (continued)
  - Increasing the Acute ADC from FY 2006 inpatient ADC of 6.2 to an ADC of 8.2 while maintaining the SB days increases KVMH's bottom line by approximately $59K from FY 2006 expected bottom line

***Model C: Increasing Actual Acute Census to 8.2 while maintain swing bed census at FY 2006 levels***

| | ADC | Total Days | Cost-Based Payer Mix | Cost-Based Days | Other Days | Payment Per Day | Other Payment |
|---|---|---|---|---|---|---|---|
| Acute | **8.2** | 2,993 | 70% | 2,095 | 898 | $ 1,000 | $ 898,162 |
| Swing Bed - SNF | **2.1** | 770 | 100% | 770 | - | $ - | $ - |
| Total Acute/SB SNF | | 3,763 | | 2,865 | 898 | $ 1,000 | $ 898,162 |
| Inpatient Fixed Costs | | $ 6,624,243 | | | | | |
| Inpatient Variable Costs | | $ 825,265 | | | | | |
| Total Inpatient Costs | | $ 7,449,508 | | | | | |
| Inpatient Costs Per Day | | $ 1,979.59 | | $ 1,979.59 | | | |
| Medicare Payment | | | | $ 5,671,512 | | | $ 5,671,512 |
| Total Payment | | | | | | | $ 6,569,674 |
| Routine Costs | | | | | | | $ 7,449,508 |
| Net Margin | | | | | | | $ (879,834) |
| Difference | | | | | | | $ 58,009 |

  - This census should be easily accessible given the availability of 3 GS, 1 OB/GYN and 1 Orthopedic surgeon and admission of all potential patients from ED vs. transferring them
    - Tracking of 9 months (Dec 05 to Sept 06) reported 12 transfers which reportedly could have been cared for by KVMH
    - The issue again may be lack of right bed available

# Inpatient Services (Potential Acute Incremental Revenue)

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- Findings and Analysis (continued)
  - Increasing the Swing Bed SNF ADC from FY 2006 SB ADC of 2.1 to an ADC of 4.2 while maintaining the Acute utilization at 2006 levels further increases KVMH's bottom line by approximately $310K

***Model D: Grow Swing Bed SNF Census to ADC of 4.2***

| | ADC | Total Days | Cost-Based Payer Mix | Cost-Based Days | Other Days | Payment Per Day | Other Payment |
|---|---|---|---|---|---|---|---|
| Acute | 6.6 | 2,409 | 70% | 1,686 | 723 | $ 1,000 | $ 722,911 |
| Swing Bed - SNF | **4.2** | 1,533 | 100% | 1,533 | - | $ - | $ - |
| Total Acute/SB SNF | | 3,942 | | 3,219 | 723 | $ 1,000 | $ 722,911 |
| Inpatient Fixed Costs | | $ 6,624,243 | | | | | |
| Inpatient Variable Costs | | $ 755,550 | | | | | |
| Total Inpatient Costs | | $ 7,379,793 | | | | | |
| Inpatient Costs Per Day | | $ 1,872.09 | | $ 1,872.09 | | | |
| Medicare Payment | | | | $ 6,026,436 | | | $ 6,026,436 |
| Total Payment | | | | | | | $ 6,749,347 |
| Routine Costs | | | | | | | $ 7,379,793 |
| Net Margin | | | | | | | $ (630,446) |
| Difference | | | | | | | 307,397 |

- Higher census should be attainable with a strong Orthopedic Rehab program and if/when we have availability of beds to freely promote the SB program

# Inpatient (CAH Bed Utilization)

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- Findings and Analysis (continued)
  - Difficult to develop a clinical strategic plan without knowing if and when there will be plans for a new/expanded facility:
    - Limited space, lack of private rooms, multiple services on one wing
    - Stopping SB business would extend your ALOS (already at max), not to mention the financial impact of not offering skilled level of care
      - IP Skilled Rehab most frequently required for the older post-op Orthopedic patient
    - Continued recruitment will no doubt require increased IP space
    - Wilcox's future will undoubtedly affect KVMH's decisions for future plans
    - Growing while not being set up to meet needs can "back fire" with increased staff and patient dissatisfaction
  - Questions to consider
    - Can we further expand the LTC facility to ensure that we do not have to keep a patient in acute on a wait list status
      - Or do we expand/rebuild SMMH LTC to meet the island's needs, thereby leaving more space at KVMH for expanded services
    - Do we add a small Observation unit adjacent to the ED to liberate more acute beds

# Inpatient (CAH Bed Utilization)

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- Recommendations
  - Facility plan becomes a priority in order to determine action plan for increased revenue through CAH beds
    - See comments on previous slide – further recommendations are impacted by space availability
  - The best return on investment, as demonstrated by the table on slide 52 compared to slide 49, is to grow the SB utilization with cost-based payors using the CAH beds
    - Easily doable, especially with a skilled Ortho rehab
  - Next best return is to increase IP acute
    - Again, it should be a reachable goal with the present physician and complement of services
  - Will be imperative to fully analyze the pros and cons of maintaining status quo or adding space or building brand new
  - The need for LTC beds must be addressed at the state level
    - 2-bed expansion should help but probably not sufficient to meet the needs
    - Consider the need for LTC bed expansion on the island be it through KVMH or SMMH
      - Would prevent wait listing LTC patients in a CAH bed

# Inpatient (CAH Bed Utilization)

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- Recommendations (continued)
  - Aggressively analyze market share with community's input to design strategic plan, then monitor trend closely
    - Use medical staff and employee interviews, community focus groups, and/or surveys
    - Evaluate market share trends per service line and diagnostic category
      - Who are the people leaving the area to be admitted for a service that KVMH could provide and why?
  - Continue using Observation as appropriate to meet patient's needs while preventing acute admission denials
    - Track hours of Observation to determine the actual # of days Observation was used
      - Should assist in determining what is the most profitable method of reporting them
        - ➢ As an OP through ED or CAH IP if State CMS allows the use of CAH beds for Observation level of care?
    - If KVMH does get approved for a new facility or full expansion, do we look at adding Observation unit by ED when rebuilding the ED to free up beds in Med/Surg

# Inpatient Services (Potential IRF vs DPU SNF)

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- Findings and Analysis
  - A CAH is allowed to have 10 acute Rehab or Psych beds in a DPU
    - KVMH Administration is interested in the concept of opening a rehab unit given the number of orthopedic surgeries
      - Thinking that it would allow SNF patients to go to the IRF leaving more CAH beds for acute care
      - Orthopedic surgeon bothered by the intermixing of Medical and/or "dirty" cases with Orthopedic
    - IRF is a great concept, but it will not meet the need
      - Most post-op Orthopedic patients do not meet the criteria for Acute Rehab
      - CMS is wanting those patients in a skilled rehab bed if they are in need of IP vs. OP rehab
    - A second idea was to open a distinct part skilled unit
      - Would be very appropriate for a Ortho rehab but the reimbursement would be under PPS, which is much lower reimbursement than presently and definitely well below cost
        - ➢ Cost of staffing a 10-bed separate unit is also high – difficult to be efficient
      - Orthopedic patient would still have to remain in Med/Surg for 3 days at the acute level of care to be eligible for Medicare skilled level of care
        - ➢ Plan would not alleviate the surgeon's concern but would open up more beds for acute care

# Inpatient (Potential IRF vs DPU SNF)

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- Recommendations
  - Rehab post-op Ortho patients in a CAH swing bed
    - A DPU SNF is too costly and would not generate enough revenue to meet cost
    - An IRF is probably not feasible but Administration should review IRF regulations provided earlier to increase awareness of admission criteria
      - KVMH could have a chart review completed regarding the assessment of potentially having enough patients with one of the qualifying 13 acceptable diagnosis to open IRF
      - IRF feasibility can be performed including an assessment of what it would take to be successful (nursing and therapy staff, qualified rehab physician, space, equipment, education ++, financial investment)
      - Notify SA Consultant for a resource if interested (mguyot@stroudwaterassociates.com)
  - DPU SNF is not recommended
  - Re-visit the present floor plan to ascertain the potential for providing more private rooms in Med/Surg
    - Is there any storage place that could be turned into a private room?
    - Have we spoken to CMS about using the Activity room from the LTC for SB patients needing such?
      - Would allow for at least one more single room in Med/Surg
      - See attachment on CMS wording for activity program

# Inpatient (Obstetric)

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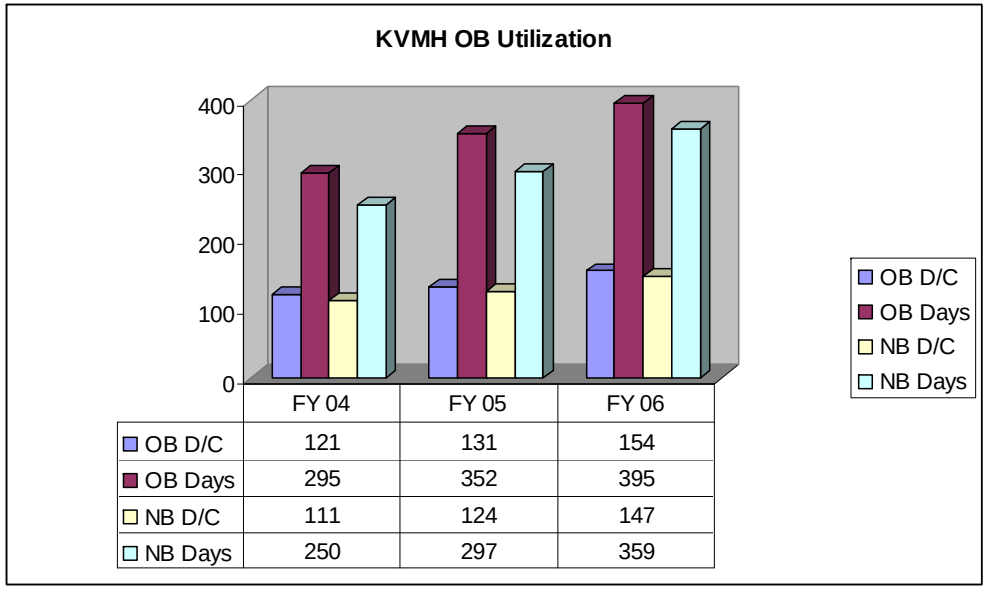
- Findings and Analysis




| | FY 04 | FY 05 | FY 06 |
|---|---|---|---|
| OB D/C | 121 | 131 | 154 |
| OB Days | 295 | 352 | 395 |
| NB D/C | 111 | 124 | 147 |
| NB Days | 250 | 297 | 359 |

- OB Utilization trending up
- OB deliveries have increased by 32.4% in FY06 vs FY04
- Equals to 27.3% increase in CAH acute days
- OB also develops alliances to a hospital from early on

  - Universal Almanac Utilization data (2004) reports an estimated 8.4 newborns per 1000 population in HI State
    - 15,185 / 1000 x 8.4 = 127.6 newborns for the estimated weighed service area population
    - KVMH is estimated to be at 115% market share
      - Reinforces the improvements in the service with well accepted providers who reportedly attract patients even form the Northeast end of the island

# Inpatient (Obstetric)

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- Findings and Analysis
  - Obstetric has seen a very positive improvement form off and on closure to 70 deliveries in FY2002 and people not knowing that KVMH has OB services to now coming from the east end of the island for OB services
    - Commitment to the strategy of offering OB services is working
  - New unit and new committed OB physicians and staff
  - Difficulty in staffing the unit efficiently is a challenge given the distance from Med/Surg and the lack of control on admissions
    - Can easily go from a few to 24 admissions/ month
    - Staff responsible for OB Observation and fetal stress test as needed
- Recommendation – none at this time

# Inpatient Services (Case Management)

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- Findings and Analysis
  - At KVMH, Case Management activities consists of a combination of UR and Discharge Planning rather than a department
    - RN reports to CEO and SW reports to COO
    - Nursing covers for SW as best they can when off-site for an extended period of time but mostly related to equipment and/or placement needs
    - Nursing decides on bed availability when an external referral is made based on needs, male or female bed available, # of isolation cases, # of upcoming planned admissions, and staffing
  - UR uses InterQual (computerized program) to determine admission and continued stay criteria for Acute, Skilled, and Observation
    - Keeps in touch with Nursing to discuss needs and is the liaison with the physician as needed to "swing" a patient
  - SW is responsible for psychosocial assessment as needed for Med/Surg, ICU, SB, OB, and LTC
    - Sees patients based on demographics, nursing assessment, frequency of re-admissions, chronic illness, family dynamic issues, difficulty in adjustment due to diagnosis
  - Physicians are fairly receptive to SB utilization now
  - Present issue exists with Observation utilization
    - KVMH was recently cited by CMS for using CAH beds for Observation which becomes an issue for staffing re: space for separation
    - Stroudwater, through HI SORH, is working with HI CMS office to hopefully change the rule to be consistent with Federal CMS and other US States requirements

# Inpatient Services (Case Management)

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- Findings and Analysis (continued)
  - UR was not available for interview; therefore, it is unclear as to the process for Interdisciplinary Team meetings and documentation for SB patients and to what extent her role or SW's role is in the management of SB patients
  - Presently, the biggest issues consist of bed management given the reportedly higher census, the number of isolation cases, and all but one room being semi-private room, and availability of staff when all units are open
  - RN is also responsible for infection control and is doing so for both KVMH and SMMH and has commented in the past of the workload
    - An accepted benchmark for case management is 20 open cases for a full time employee
      - Unsure of her time spent on UR/Case Management at each place
      - A secretary is available at 0.5 FTE for UR/Case Management role/tasks
  - SW also feels overwhelmed with her workload, reporting an average 40 cases per month when considering: IP assessment (Med/Surg, ICU, SB, OB) as needed, ED visits, LTC referrals and community consults (calling to use SW to answer their questions)
    - One staffing benchmark for SWs is 0.70 to 0.77 paid SW hours per adjusted discharges
      - Be aware that benchmarks are just that and that no 2 hospitals' or communities' needs are the same
    - Calculated Adjusted Discharges for KVMH in FY06 = 2852 (not counting LTC)
      - 2852 Adj. D/C x 0.74 (avg paid hrs) = 2096 required paid hrs / 2080 hrs for an FTE = 1.01 FTE
      - Supports the SW's feeling of being "maxed out" especially when adding LTC duties

# Inpatient Services (Case Management)

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- Recommendations
  - Develop alternates so admission and discharge process continues on weekends and holidays
    - Goal is "right patient, right bed, right time" and "no surprises" on discharge
  - Avoid low census by continuing to grow SB within bed availability and attempt to prevent unexpected late Friday night or weekend referrals by calling the CMs/DPs from the tertiary hospitals during mid-week to discuss their patient load, needs and bed availability
    - Develop intake process for SB in case of weekend referrals
  - Assess staffing needs by first looking at processes, time extenders, paperwork, appropriate use of secretary, etc., and then determine need to increase staff
    - Can some component of the RN or SW's work be done by someone else?
    - It does appear that staffing for these tasks (UR/DP/SS/SB Coordination and Infection Control) is maxed out
  - No urgency, but at one point KVMH may want to combine the UR and SS/Discharge planning under one department
    - Increases communication, allows for some cross-training, prevents some duplication of efforts
  - CEO/COO to join administration from other CAHs to lobby to continue working with CMS in changing the State regulations re: utilization of a CAH bed for Observation patients
    - KVMC reportedly admitted an average of 26 Observation patients/month in FY06
    - Update since on-site visit: Attempts have been successful and KVMH may continue to use CAH beds for the care of a patient in Observation

# Inpatient (Nursing Staffing)

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- Findings and Analysis
  - Department is under the direction of the RN COO and is supported by:
    - ADON/OB Head Nurse who reports to COO and works M-F
    - House Supervisors for Eve., Nights and Weekends
    - Head Nurses for each area Med/Surg, ICU, ED, OR and LTC report to the ADON
      - 2 RN Inservice Coordinators responsible hospital-wide orientation, inservice coordinators and house supervisor relief also report to the ADON
  - In general, Med/Surg and ICU nursing staff is considered highly skilled by physicians
    - Low turnover rate (0 to 2.99% over past 7 RPM quarters), but presently with openings in ED, ICU, OB, and OR
  - Historical staffing was not made available for analysis; therefore, actual NHPPD is unknown, but reported as RNs staffing 1:6 acute patients
    - RNs work 3 – 12 hr shifts + 1 – 8hr shift per 2 week period
    - LPNs and CNAs work on 8 hr shifts
  - Actual staffing was not reviewed given the lack of opportunities to flex the staff to meet the needs due to the collective bargaining agreement KVMH has with the Civil Service Union
    - COO to discuss with SA clinical consultant if interested in more information within the constraints of the contract
    - Agreeably, it is very difficult to manage staff hours in the best of situations with the variations in the census
      - Requires a minimum staff regardless of how low the census and availability of staff when the census goes up

# Inpatient (Nursing Staffing)

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- Recommendations
  - Strongly encourage staff cross-training as much as the contract will allow
  - Nursing team(s) (may be on a rotating basis) to review processes and documentation to ensure that there is no duplication of work and systems are in place for maximum efficiency
    - Takes less time to evaluate and correct a process than to continue working with dysfunctional processes
  - Apply right staff mix when the need to increase staff is evident
    - E.g., skilled level of care does not require same mix of RN - CNAs trained in medical, and physical rehab can be very efficient to meet skilled rehab needs
  - Calculate present staffing to better understand the status
    - # of patients in Med/Surg x 6.5 hrs to 7.5 with IP surgery per patient / 8 or 12 hr shift = # of people needed for the shift
      - ADON is not included in above calculation but charge nurse is
      - Include Observation patients if provided in Med/Surg
    - Allow extra time on day shift for OP procedures such as IV therapy, blood transfusion, OP injection, OP dressing change if provided by Med/Surg
      - Need differs depending on acuity, # of admissions, and discharge per day
      - Graph out by quarter to look for patterns and better determine needs
    - Compare KVMH's staffing with HI Universal Almanac Utilization Data
      - Total NHPPD = 9.73 (not by unit)
      - Total staff hours per patient day = 36.14
      - % of RNs to total FTEs = 26.91

# Inpatient (Nursing Staffing)

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- Recommendations (continued)
  - Develop nurse recruitment and retention strategy
    - Survey staff regarding likes and dislikes – assemble a team to work together on needs
    - Opportunity for continuing education is a must
      - Trend nursing education ($ or CEUs) per nursing FTE through RPM
    - Offer full tuition for degree advancement in exchange for continued employment at KVMH (year for year) if not already a benefit

# Emergency

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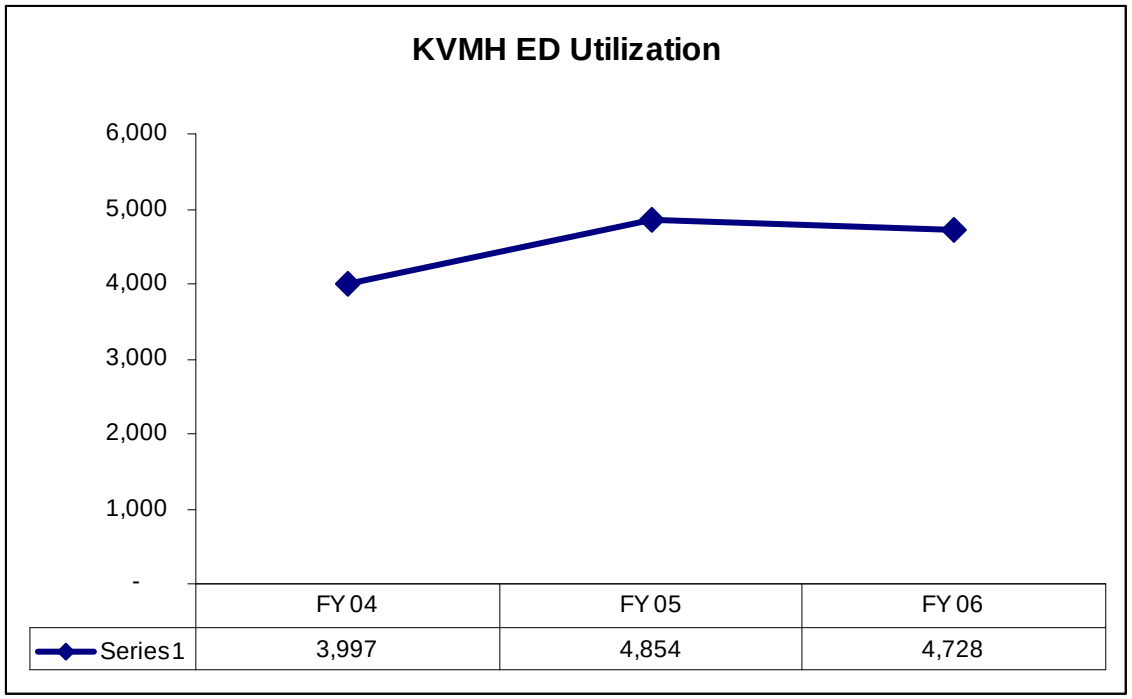
- Utilization Data




- Impressive improvement from FY01 when there were only 2,500 ED visits for the year (last PIA)

- Emergency Department (ED) visits increased by 18.3% in FY06 compared to FY04 but FY06 is a decrease of 2.6% from FY05

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- ED utilization is above the state average of *258.2 ED visits per 1000 population

(15,185 / 1000 x 258.2 = 3,920.8 estimated ED visits in the service area)

* Source: Universal Almanac 2004

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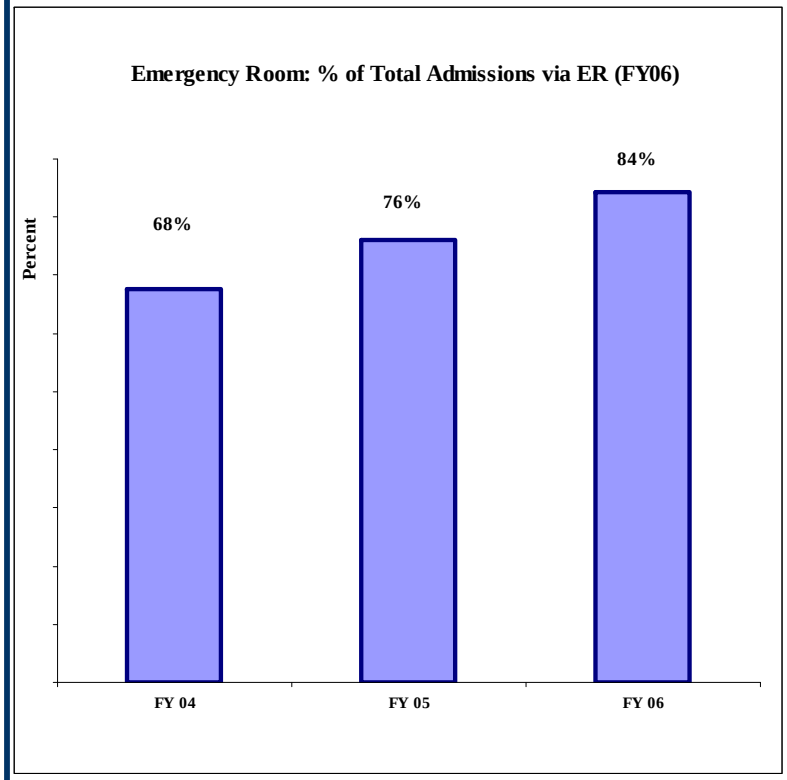
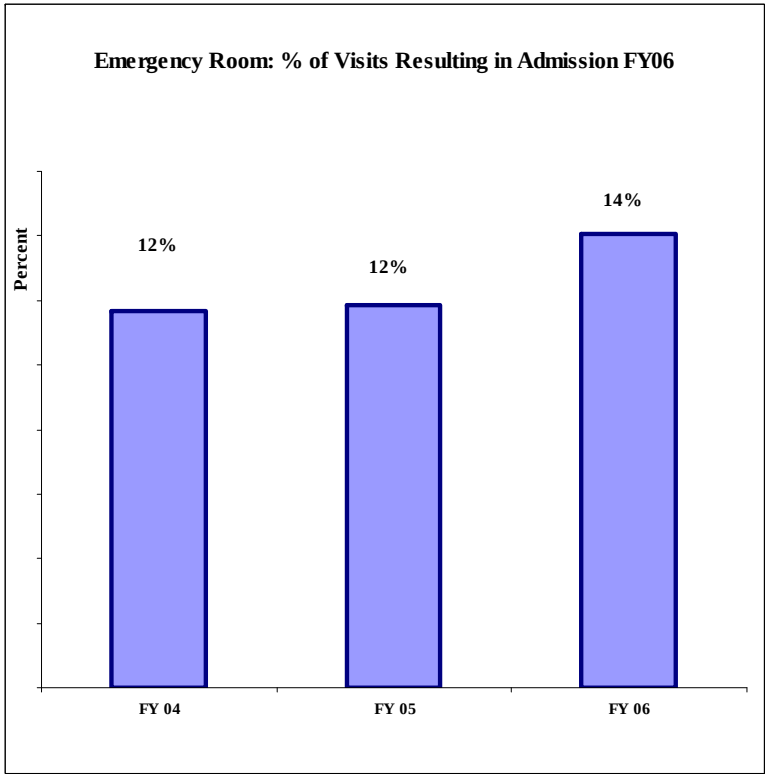
- Utilization Data (continued)




- 84% of admissions for the ED is high compared to national standards, but not uncommon in rural areas though on the higher end
- 14% of ED visits resulted in admissions in FY06 - on the higher side of the spectrum, and may be due to local customs such as waiting too long to be seen by a physician

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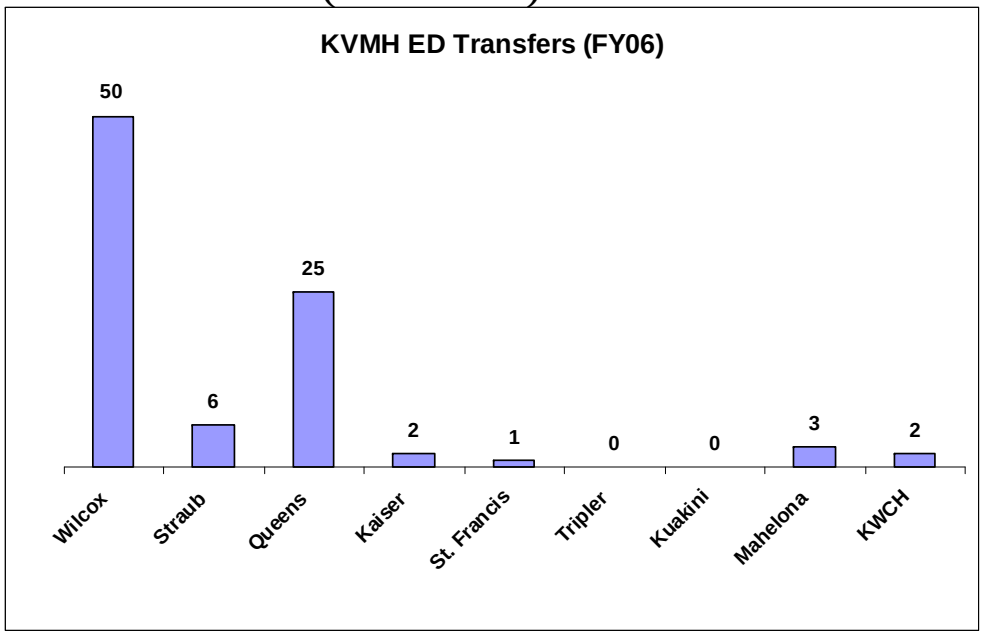
- Utilization Data (continued)




- KVMH started tracking transfers last year and had 92 transfers in FY05 and 89 in FY06
- 84% of transfers are at one of 2 hospitals:
  - Wilcox at 56%
  - Queens at 28%

  - 2% of ED visits are transferred, which is on the lower side for rural hospitals
    - May be due to any one or more of the following:
      - Physicians' level of comfort with ED,
      - Comfort level with IP care, availability of an ICU,
      - Residents not wanting to go off Island
      - Patient choice to be cared for at KVMH
      - Low acuity
  - ED Nurse Manager noted 12 transfers out of 48 who were transferred from 12/10/05 through 9/12/06 and could have been cared for at KVMH (no report provided on reasons for transfer)

# Emergency

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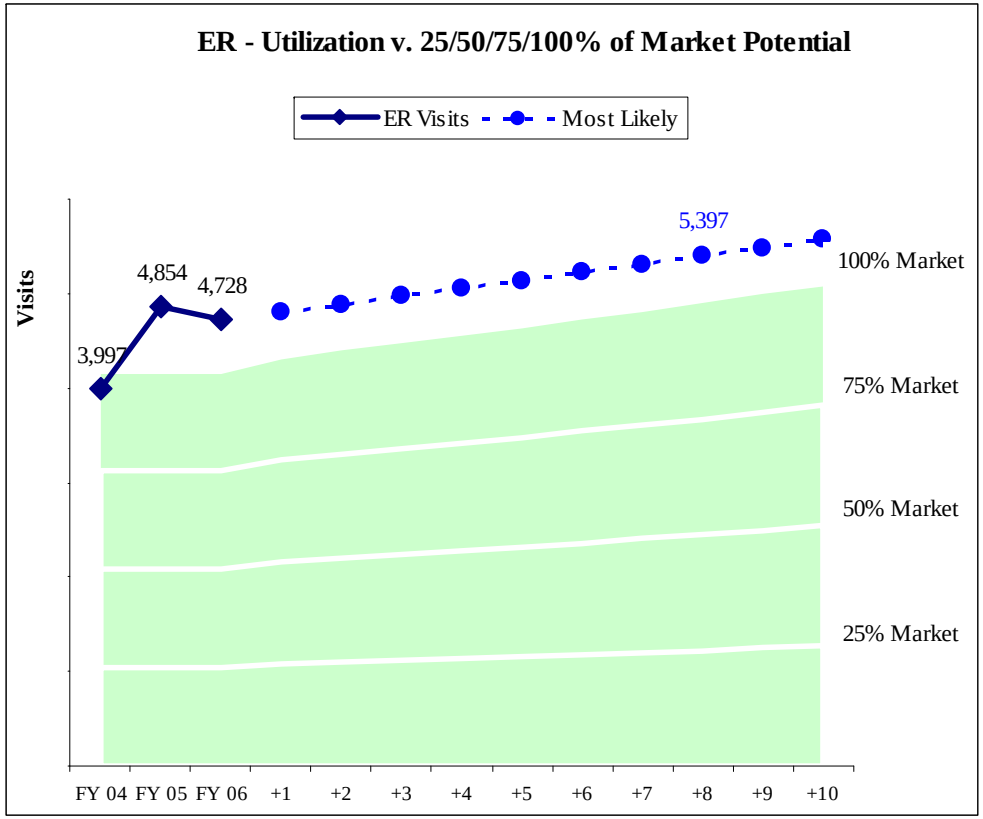
- Historical and Future Utilization Trends




- KVMH is estimated to be above 114% of the market share for ED indicating a major role of the hospital for the community

- "Most likely" projection line is provided to assist in space and staff planning

Source: Solucient, Market Planner Plus

**Best Case**: 10% annual market share increase applied up to 100% of adjusted service area needs
**Worst Case**: 10% annual market share decrease applied down to 25% of adjusted service area needs
**Most Likely**: Fixed market share applied to projected population changes

# Emergency

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- Findings and Analysis
  - ED entrance far from inspires confidence from the port of entry
  - ED consists of 2 trauma rooms + 2 other exam rooms + a cast room
    - Issues with lacking exam rooms, storage space, "dirty" room, office space, and staff break room
    - Nursing/physician station is also limited in space and does not allow for privacy
  - No centralized or hardwired monitors
  - ED utilization is very important for a rural hospital, although it is costly to maintain given the often high self pay population
    - A generally high % of admissions come from ED (84% in KVMH's case)
    - ED provides a significant % of ancillary utilization
    - ED is not only the front door of the hospital, but the front window – first and lasting impressions are made here
    - ED often viewed as <u>the</u> most important service provided by the local hospital
    - ED provides an opportunity to encourage the service area to use KVMH to meet their needs when appropriate
      - Patient satisfaction with ED is of utmost importance especially when there are other hospitals within driving distance
      - Patient satisfaction survey response rate for Qtr1, 2006 was low (3)
      - Of those who responded, patient satisfaction drastically decreased
        - ➢ RPM outcomes to be discussed during upcoming BSC training

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- Findings and Analysis (continued)
  - RPM ED data collection has not been re-initiated at this time
    - RPM was not being used for ED since the outsourced physician company was tracking data
    - Plans are to re-activate – will provide data time to triage, time to provider, ALOS, CMS core measures
  - ED physicians are now contracted by KVMH effective Sept. 06
  - Nursing staff consists of a Nurse Manager who is retiring at the end of Dec. 2006
    - 2 RN 24/7 + a 7-3 and 3-11 unit secretary (7-3 position presently open)
      - Patient registration is done by ED staff
      - Unit secretary is expected to float to Med/Surg or ICU as needed
      - 2nd RN in ED may become the 2nd RN in ICU if needed
    - Busiest times have been identified as 11 am to 9 pm so sometimes ED is staffed with 1 RN from 7 am to 7 pm and 7 pm to 7 am with a 3rd RN from 11 am to 11 pm
    - A known benchmark for staffing is 2.0 to 2.2 paid nursing hours per ED visit
      - 4,728 visits x 2.1 (average) paid hrs = 9929 / 2080 worked hrs/FTE = 4.8 FTE, or
      - At an average of 13 visits/day x 2.1 = 27.3/12 hr/shift = 2.3 staff member needed per 24 hrs
        - 1 RN 24/7 + 1 RN for busiest time should meet the needs as long as registration is done by clerical staff
        - Benchmarks are only guideline therefore staffing policy requires review of the types of patients seen in ED – level, acuity, availability to call nurse manager or supervisor to assist, location of the ED and the frequency of other OP procedures that the staff is responsible to assist with

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- Findings and Analysis (continued)
  - ED used to register SDS patients, which has been changed, with good reasons, but patients still come in through ED entrance
    - Staff notifies registration of their arrival and the patient waits in ED waiting area until called
    - Lack neat processes to inspire confidence not to mention how far the patient has to go to be registered
  - Staff is recommended to have ACLS, PALS, NALS, and ATLS
    - At this time all have ACLS, all have PALS, but some are due for recert and 1 has ATLS
    - Mixed opinions from physicians and nursing as to the level of capability from nursing staff
  - Nursing documentation to support higher level or mirror what took place reportedly has room for improvement
  - Charges are on a sticker system and there is no double checking to see that all charges have been documented and entered before it goes to the billing department

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- Recommendations
  - ED must be part of the facility planning for reasons mentioned on prior slides
  - Budget for centralized monitoring as soon as possible to ensure appropriate surveillance
  - Organize an improvement team made up of registration, SDS, and ED to brainstorm the patient flow issue
    - Ask physicians' offices to direct all patients to front lobby registration when coming for SDS
      - Will make it easier on the patient and improve image through a better sense of organization
  - Implement policy for all past 24-hr ED forms to be reviewed for documentation and compared to charges before being sent for coding
  - If and when KVMH decides to adopt an up-front collection policy, ensure sufficient staff training and understanding of expectations regarding co-pay collection
    - Requires visible posting of expectations for patient/visitors to see
    - Also requires process to assist the patient who states he/she has no means to pay, such as Medicaid application and/or time to see a financial counselor
  - Take advantage of all that can be tracked through RPM to better measure ED indicators, graph out and post for all staff to be aware of the outcome
  - Review patient satisfaction survey ASAP if not already done and challenge the team to identify what needs to change and set expectations

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- Recommendations (continued)
  - Track visits by hour by day at different intervals along with patient's level to assist in determining staffing needs
  - Continue reviewing transfers by types and time of day to ensure proper plan of care
  - ED nurses to be familiarized with admission criteria for acute or Observation to assist physicians and UR
  - Access to ongoing education for ED nurses on the web is an inexpensive method to increase comfort level for both ED and Med/Surg. nurses
    - http://www.google.com/search?hl=en&lr=&q=Emergency+Nursing+CEUs&btnG=Search
  - See website below for a copy of the MS Board of Nursing – Nursing Practice Law and Rules & Regulations (effective 07/01/06) as a sample
    - http://www.msbn.state.ms.us/pdf/rulesandregulations2006.pdf
  - RN triage – consider *Emergency Severity Index, Version 4: Implementation Handbook* published by the Agency for Healthcare Research and Quality
    - *See web site: http://www.ahrq.gov/research/esi/esihandbk.pdf#search=%22Emergency%20Severity%20Index%2C%20Version%204%3A%20Implementation%20Handbook%20published%20by%20the%20Agency%20for%20Healthcare%20Research%20and%20Quality%22*

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UM Rural Qua Measures

- Recommendations (continued)
  - PI indicators for ED to include:
    - Tracking ED transfers: reason, to where, time to transfer, transfer documentation to identify opportunities for improvement (decrease transfers, improve time, improve documentation)
  - Expand Performance Improvement projects
    - Note that rural hospital quality metrics under review by CMS include an emphasis on ED processes and transfer protocols
    - Click on embedded document titled “UM Rural Quality Measures” for more information and quality improvement opportunities
    - Begin tracking time from admission to provider evaluation
      - Turn-around-time (time admitted to time discharged) also important to measure and track, but requires analysis of additional variables such as laboratory and radiology turn-around-times
    - Track outcome of CMS core measures, graph, and post
      - Focus team approach if not at 100%
    - Review reports of ancillary denials from ED and determine need for physician and staff training
    - Review X-Ray variance reports of preliminary ED report vs. final radiology reading
    - Review documentation to support level of care and charges or vise versa, charges to support documentation and to identify opportunities
  - Ensure that ED staff understand the need to promote patient satisfaction survey to improve return rate – provide locked box for survey to ensure privacy
    - Consider completing telephone surveys if written one does not work

# Surgery

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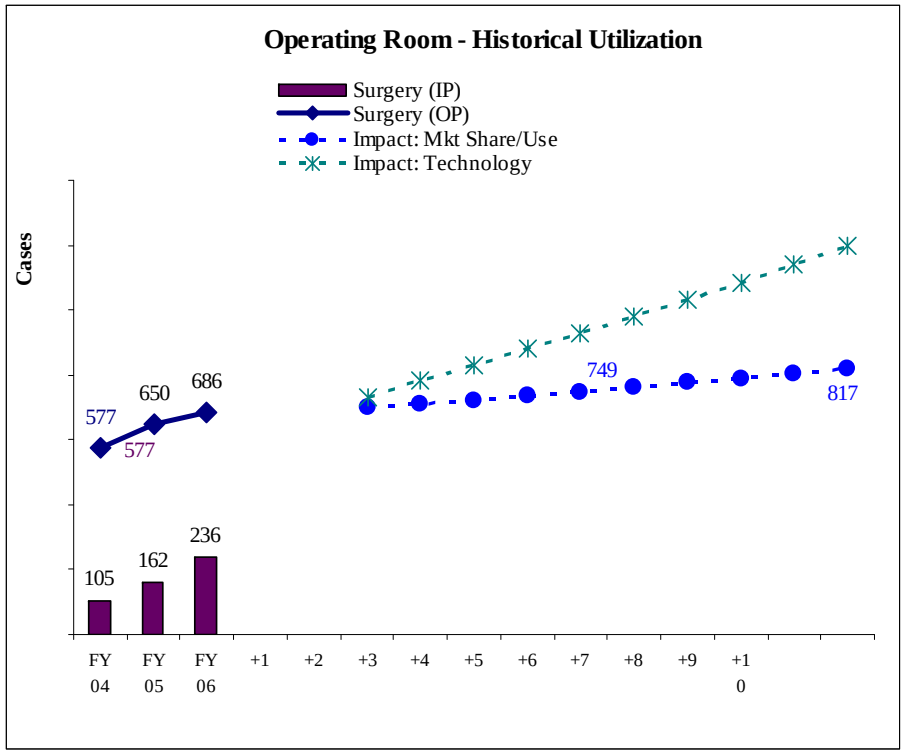
- Utilization Data – Findings and Analysis




- 35% increase in total procedure over the past 3 years
- 74% of the reported surgical procedures are on an OP basis which is within the range in rural
- OP % down from 85% in FY04 due to increase in IP Ortho surgery in past 2 years

  - The 2001 PIC report encouraged continued growth in surgery and KVMH committed to that strategy
    - Total procedures = 700 in FY01 and now up to 922 in FY06
  - Universal Almanac Utilization data (2004) reports an estimated 59.8 *total* surgical procedures (IP and OP) per 1000 population
    - 15,185 / 1000 x 59.8 = 908 proc.
    - KVMH estimated to be at 82.5% market share

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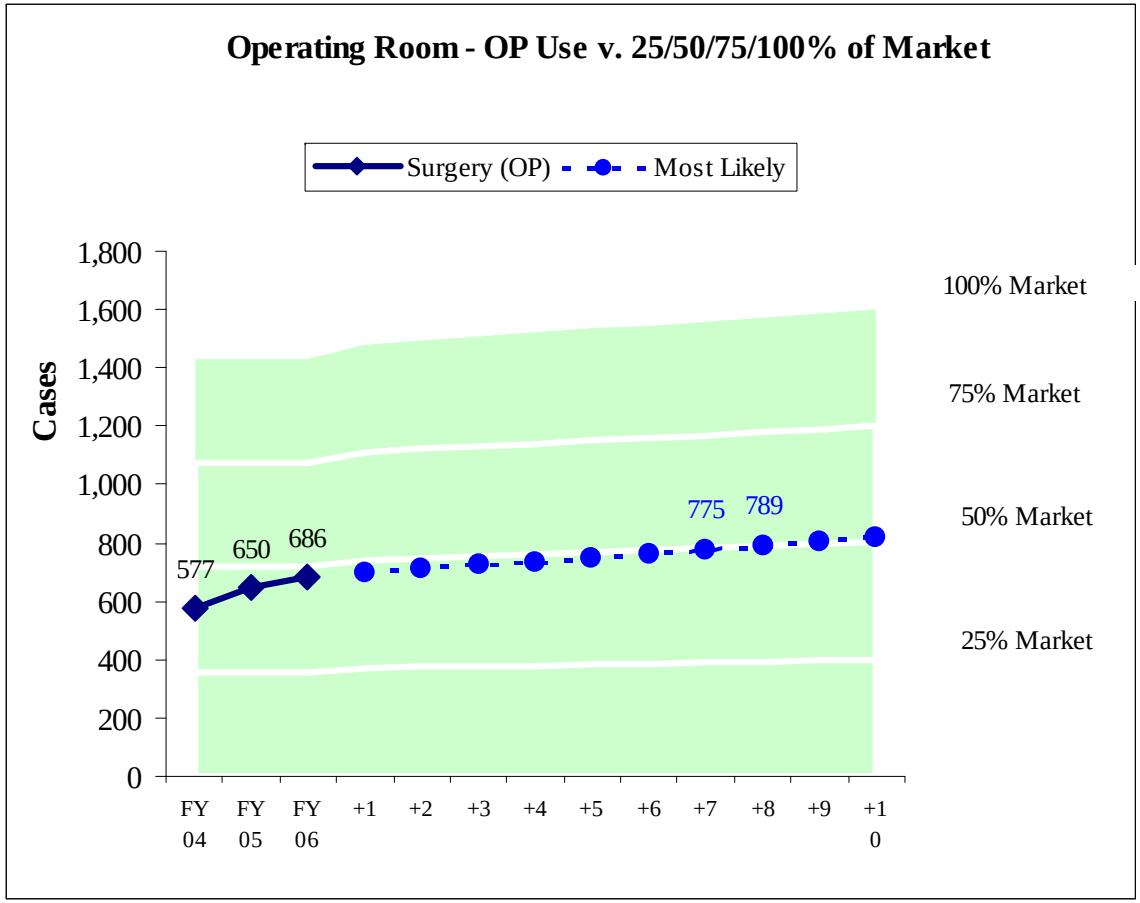


- According to Solucient data KVMH presently has 48% of the market share for ***all*** OP surgeries alone

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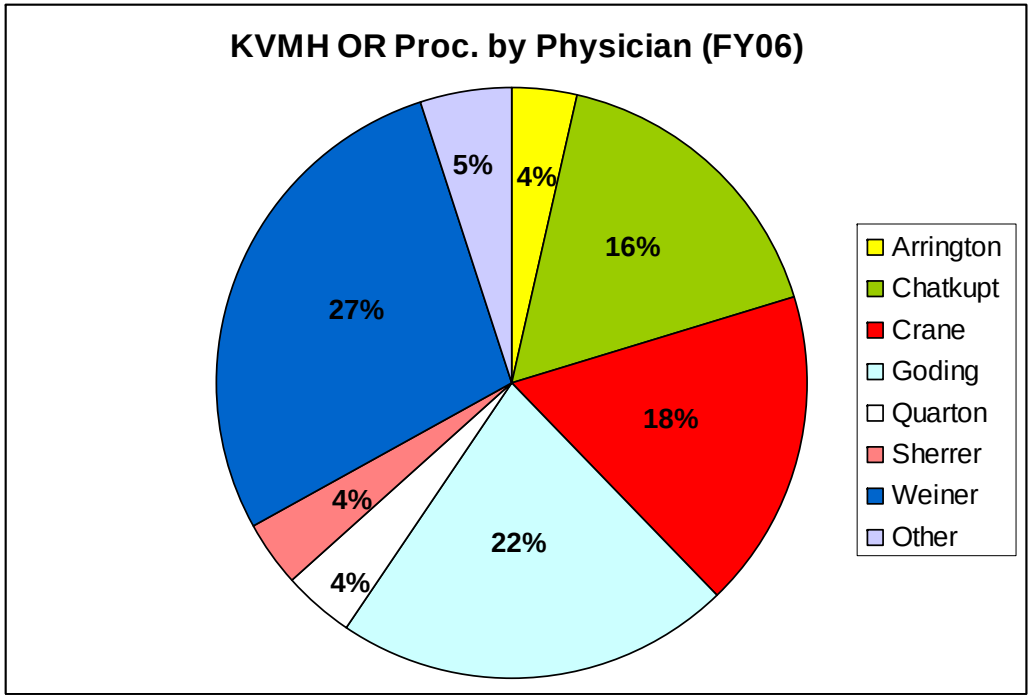
- Utilization Data (continued)




•Reportedly, surgeries are limited at KVMH due to lack of surgical nursing team and space

  - Dr. Weiner has greatest % of surgeries, but reportedly most consists of OP procedures
  - Closely followed by Dr. Goding who mostly performs IP joint surgery
    - Specializes in knee, shoulder, and ankle surgery
  - Ophthalmology consists of 25% of the procedures (mostly cataract) with Dr. Crane, Quarton, Sherrer, and most recently, Dr. Shein
  - Dr. Chatkupt equally active with OB/GYN procedures

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- Utilization Data (continued)

| KVMH OR Procedures by Physician (FY06) | | | | |
|---|---|---|---|---|
| **Physicians** | **Sub-Spec.** | **#** | **% of total** | **Avg/mo** |
| Arrington | GS | 34 | 4% | 3 |
| Chatkupt | OB/GYN | 150 | 16% | 13 |
| Crane | Ophthal | 161 | 18% | 13 |
| Goding | Ortho | 197 | 22% | 16 |
| Quarton | Ophthal | 34 | 4% | 3 |
| Sherrer | Ophthal | 33 | 4% | 3 |
| Weiner | GS | 256 | 28% | 21 |
| Other | | 45 | 5% | 4 |
| **Total surgical procedures** | | **910** | **100%** | **76** |

| KVMH OR Proc. By Physician (4 months of FY07) | | | | |
|---|---|---|---|---|
| **Physician** | **Sub-Spec** | **#** | **% of tot** | **Avg/Mo** |
| Biuk | GS | 46 | 10% | 12 |
| Chatkupt | OB/GYN | 52 | 11% | 13 |
| Crane | Ophthal | 121 | 26% | 30 |
| Goding | Ortho | 81 | 17% | 20 |
| Quarton | Ophthal | 12 | 3% | 3 |
| Shein | Ophthal | 6 | 1% | 2 |
| Sherrer | Ophthal | 28 | 6% | 7 |
| Weiner | GS | 110 | 23% | 28 |
| Williams | GS | 3 | 1% | 1 |
| Wong | OB/GYN | 13 | 3% | 3 |
| Other | | 1 | 0% | 0 |
| **Total** | | **473** | **100%** | **118** |

- 55.7% increase in average # of procedures over 1st 4 months of FY07 vs. average/month in FY06
- Dr. Arrington retired in FY 2006
- Dr. Williams is a GS contracted by KVMH in the Waimea clinic and performs most surgery at Wilcox reportedly at patient's requests or lack of availability
- IP surgery mostly consists of Orthopedic surgery, some GYN and GS

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- Findings and Analysis
  - Space is an issue – very crowded area which again has the potential of inspiring less than full confidence
    - Only 2 suites – no GI room + 3 RR stretcher + space for 4-5 pre & post beds for SDS
    - Getting difficult to meet every surgeon's needs
    - Very difficult to imagine KVMH holding on to all of its surgeon and more with present work space
      - –Goal is for 4 OR suites, 1 GI room, 6 RR, and 10 pre-post op beds for SDS
  - Nurse Manager was not available for interview but the following info was gathered:
    - Nursing staff consists of 6 RNs including Head Nurse + 1 RN per diem to assist with call schedule + 2 scrub techs (1 open position) + 1 central supply aid (+ 2 per diem)
    - 1 RNFA contracted at $75/hr mostly to assist with Ortho surgery
    - Rotating housekeeper, which is making it very difficult to train and retain efficiently to meet the demands and expectations
    - Head nurse would like for 2 to be cross-trained which would allow for coverage while increasing efficiency which is imperative with the few rooms, and the need for fast turn around time between surgery
  - Space and staff are not keeping up with available surgeons
    - Comment was made that "we are at the moon with surgeons but still on the launching pad with the staff"
    - In general Nursing rated at a 5 or 6 out of a potential score of 10 – NMgr received high rating
  - Anesthesia services is covered by 2 individual on a PRN basis

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- Recommendations
  - Continue with plans to renovate and expand or build new surgical suite to meet the needs
    - If construction is a "pipe dream," KVMH will require a full assessment of the space and analysis of what could be done with the space available to meet the needs
  - Lacking data to assess staffing, but recommend benchmarking with hospitals other than rural given the array of surgical staff in comparison
    - Some guidelines available are as follows:
      - 10 to 11 paid hrs/case or 6.73 to 7.40 pd hrs per OR time (by hour)
      - Endoscopy – 2 to 2.2 paid hours per case
      - 3 to 3.3 paid hrs per patient in Recovery Room
      - 3 to 3.3 paid hrs per pre & post op cases
  - Lack of physician satisfaction with the staff may be due to difficulty in being organized with the available space therefore imperative to take a "time-out" to evaluate processes, expectations, who does what, and what could it be done by a non-RN
  - Discuss needs with physicians and develop an education plan with time line if that is the case
  - Physician recruitment should alter until staff is up to "par" in #s and capabilities
    - Determine OR manpower needed now and for upcoming additions of OB/GYN and Ortho and initiate a recruiting campaign now to ensure sufficient in capacity and capability to service the array of surgeons KVMH was so fortunate to recruit

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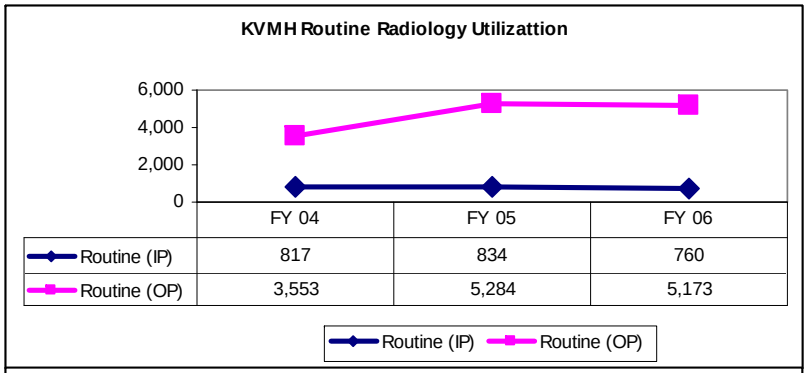
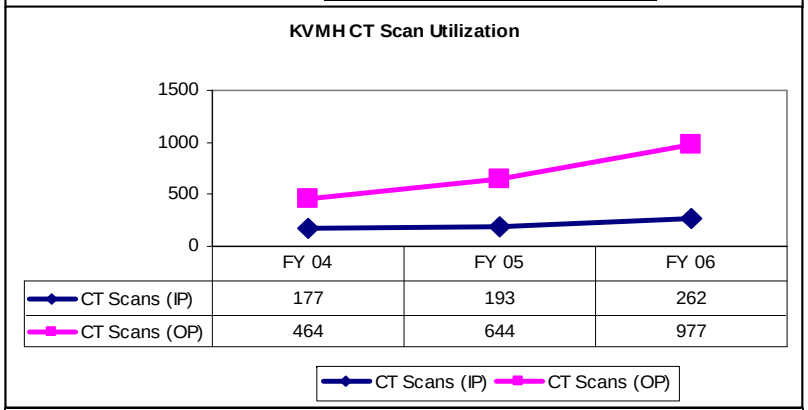
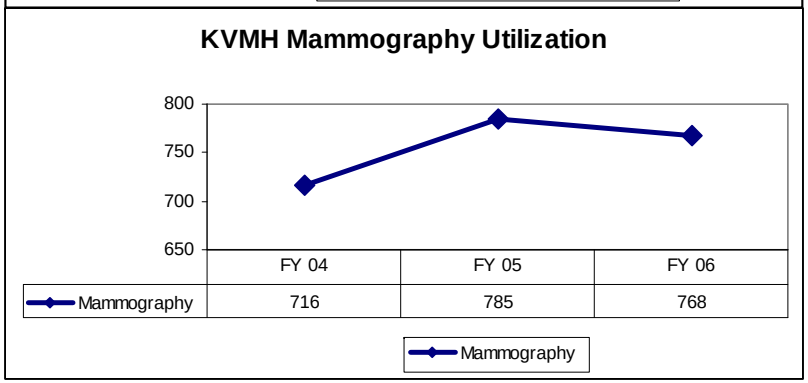
- Utilization Data




**Comparison of FY06 to FY04**

- Total Routine up by 36% and OP up by 46% but decreased seen in FY06 compared to FY05
- Total CT Scan up by 93% and OP up by 111%
- Mammography up by 7%

- Expected routine in routine given the trend to limited fluoroscopy and increase CT Scan utilization
- CT scan is a 16 slice
  - Includes Bone Densitometry studies done at KVMH
- Mammography consists of new equipment used for both screening and diagnostic reason offered x 2 days per week only with reportedly only a 2-day wait time

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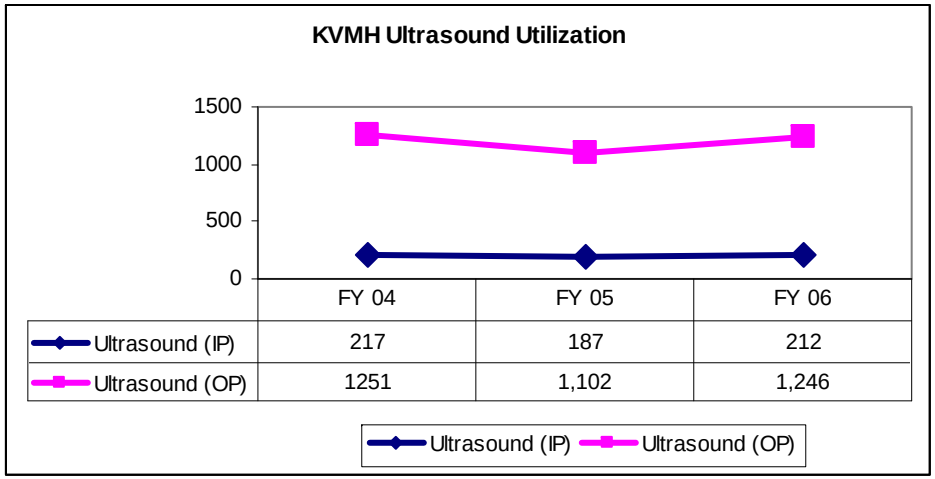
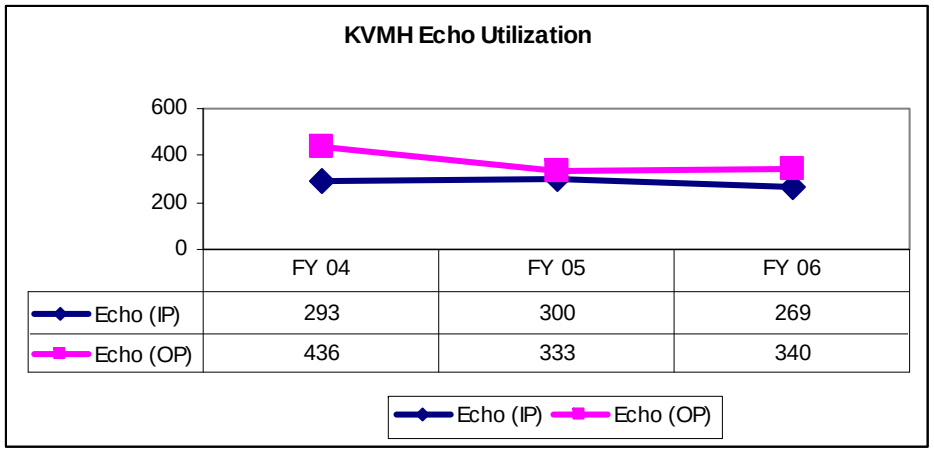
- Utilization Data (continued)




– Total OP Radiology utilization is at 85% which is consistent with rural hospitals

Comparison of FY06 to FY04

- US remaining status quo with total US down by 1% and OP down by 0.4%
- Total Echo down by 16% and OP down by 22%

US staff available every day of the week + call

– General and vascular

•Echo only available 2 days/week

•In the process of looking to purchase an extremity MRI especially in light of Ortho needs

– Concern re: space – requires at least a 10x10 room

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- Utilization Data
  - The graphs on the following slides demonstrate the following for each service that the data is available using Solucient and Market Planner Plus
    - Historical utilization status of the different imaging modalities on an OP basis
    - The blue dotted line represents the expected utilization growth, given availability and staff, but influenced by population growth
    - The green background represents 25%-50%-75% and 100% market share and where KVMH falls on the graph
      - The best, worst, and most likely scenario are based as described below

**Best Case**: 10% annual market share increase applied up to 100% of adjusted service area needs

**Worst Case**: 10% annual market share decrease applied down to 25% of adjusted service area needs

**Most Likely**: Fixed market share applied to projected population changes

# OP Service Estimation

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- Stroudwater uses Solucient data to determine market share and potential

## Solucient Source Notes for Outpatient Procedure Estimates

### Overview

Outpatient Procedure Estimates predicts the total annual volume of ambulatory procedures performed by ZIP Code, age group, sex, site of service and payer for every market in the United States. Procedures are defined and reported by 588 categories of CPT-4 and HCPCS codes, which are further grouped into clinical service lines as well as broad technical groups. Solucient used proprietary and public claims as well as Federal surveys to construct population-based use rates for all payers and all ambulatory care settings. These use rates are then applied to demographic and insurance coverage projections by ZIP Code to estimate outpatient utilization for 2005 and 2010. Solucient also provides technology growth trends for 2010 to predict the diffusion and adoption of specific technologies.

  - Some of the services are estimated to be above the expected market share
    - Assuming that the data is correct, reason over such high OP utilization could be:
      - Physician practice and/or
      - KVMH is pulling from out of the service area for ancillaries and/or
      - With increase local access and physicians, residents are being seen and tested more than Solucient's last calculation of utilization in the market
    - Potential that residents were going without

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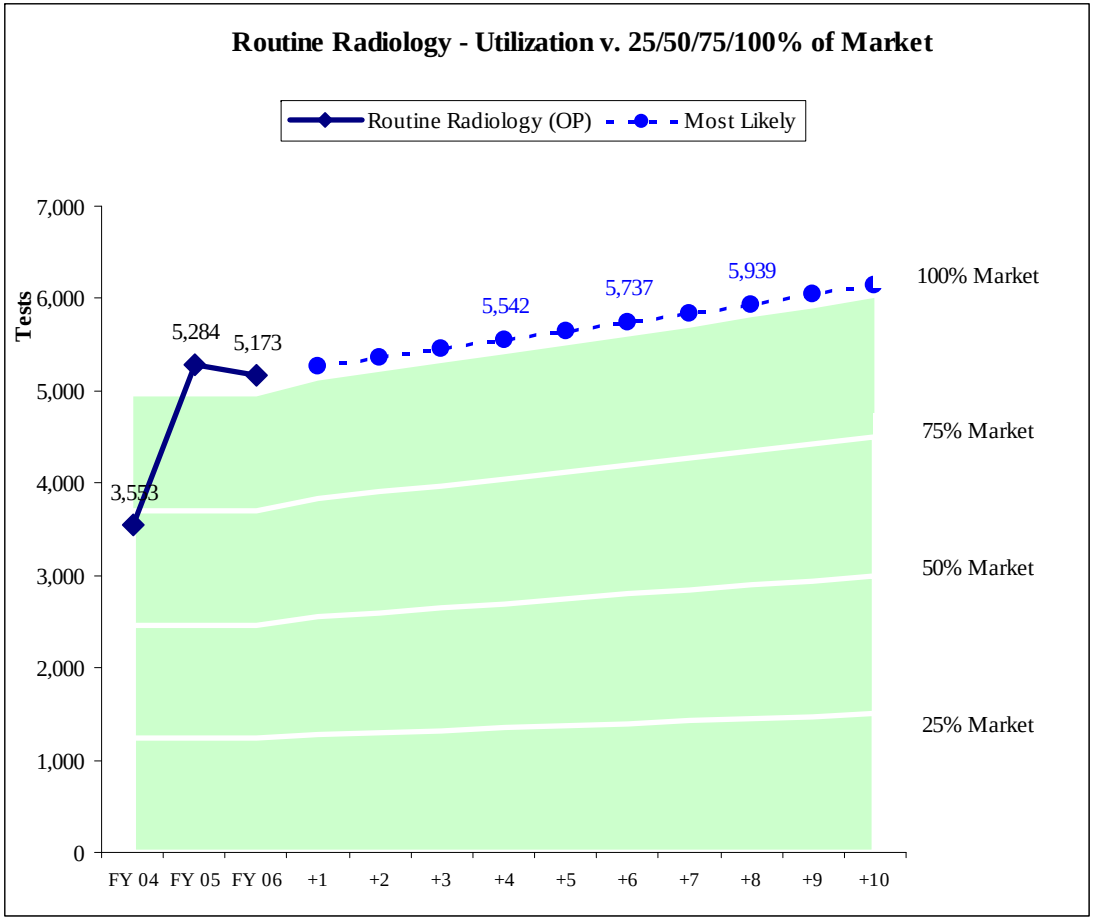
- Historical and Future Utilization




Graph represents OP utilization only

- Based on weighed population of PSA and SSA

  - Routine radiology utilization is at an estimated 104.9% of the market share

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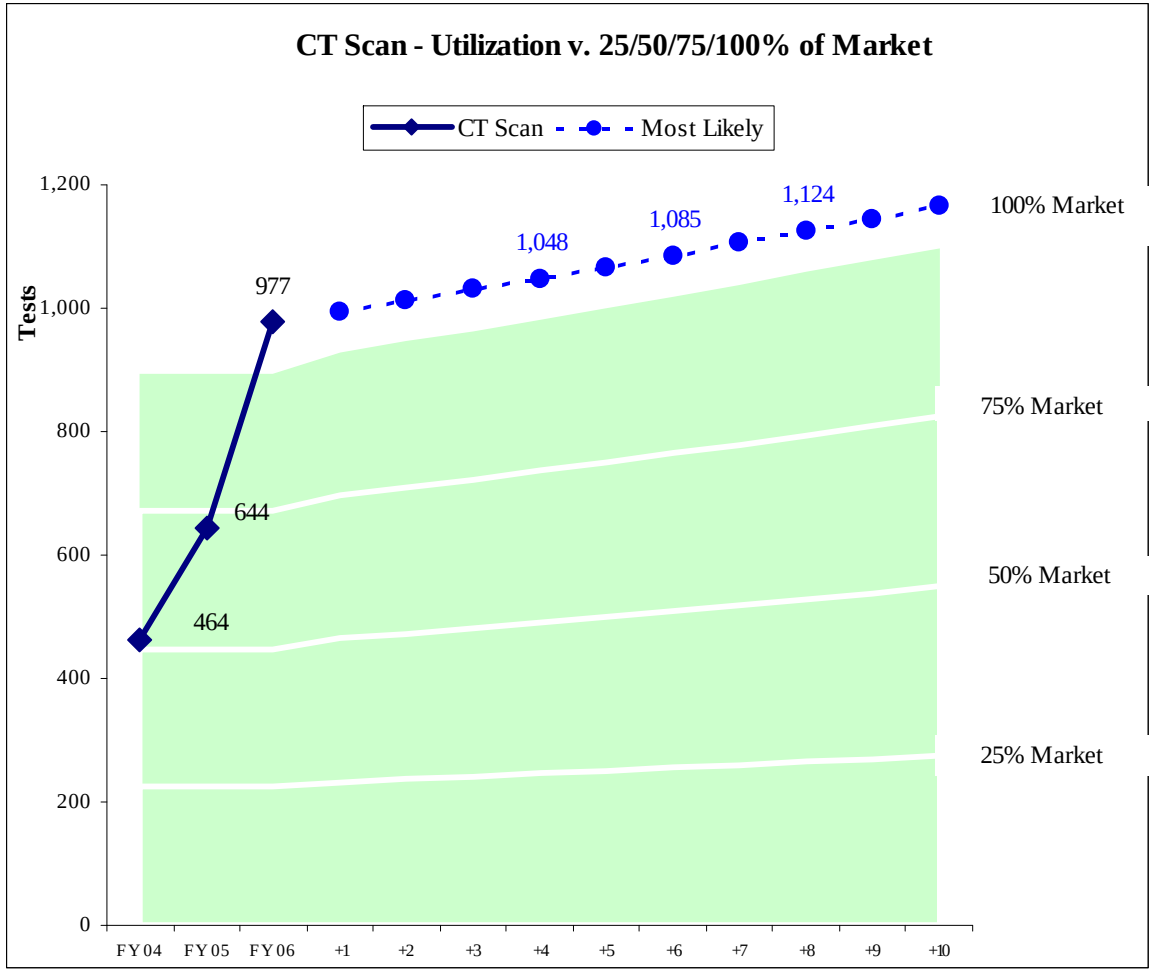
- Historical and Future Utilization




Graph represent OP only

- The Blue line indicates the expected growth which continues to be above the expected utilization rate

  - CT scan utilization is at an estimated 109% of market share

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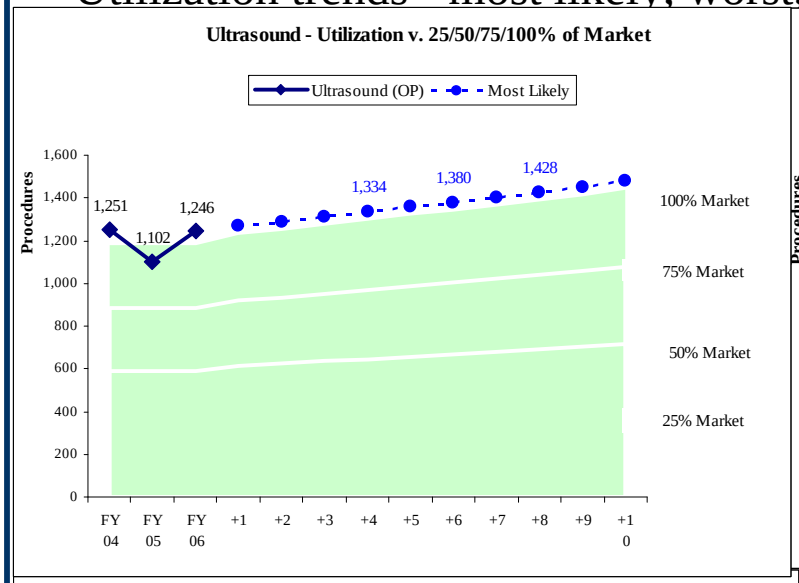
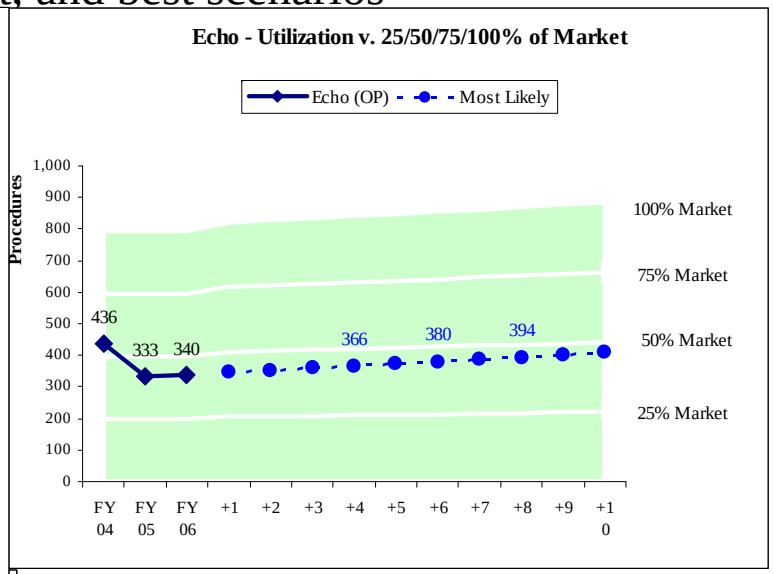
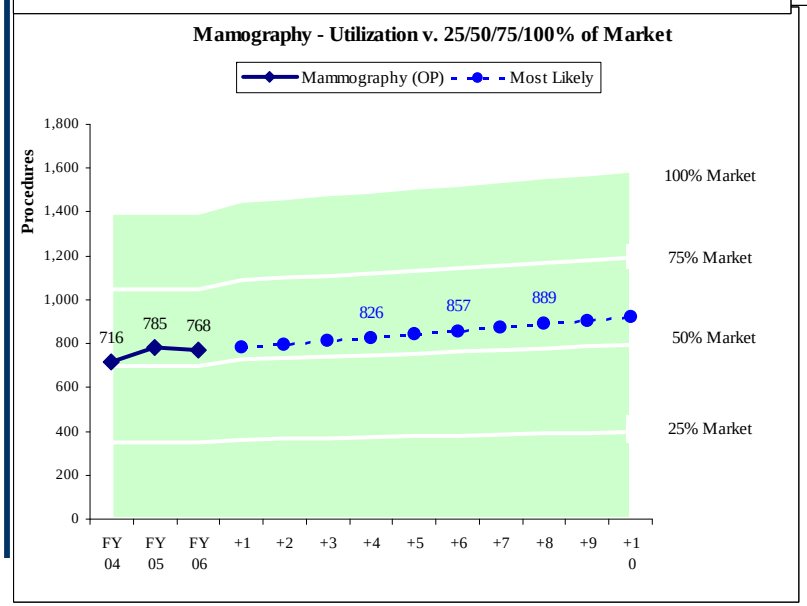
- Utilization trends - most likely, worst, and best scenarios




OP estimated trending only

- US is at 105% of market share
- Echo utilization is at 53%
- Mammography is at 67.8%

Source: Solucient, Market Planner Plus

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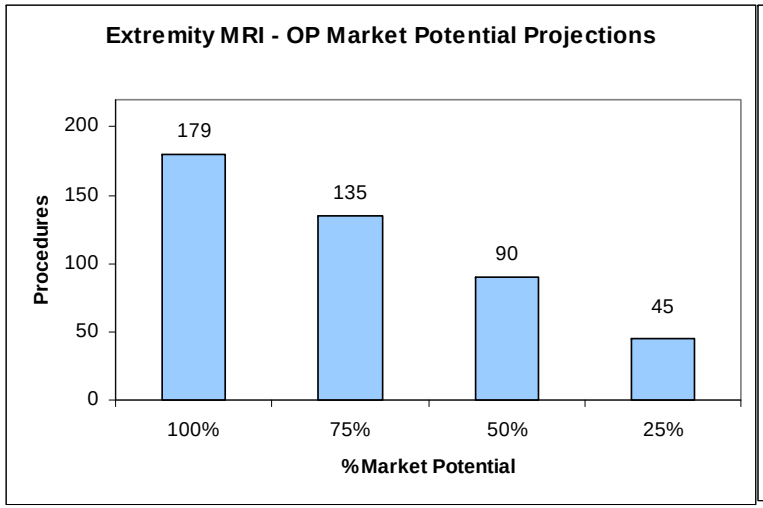
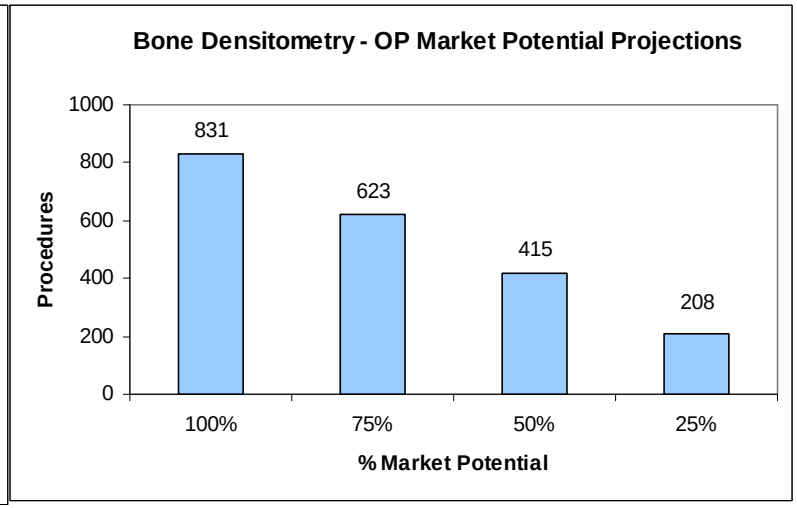
- Utilization trends – market potential




  - KVMH is considering the purchase of an extremity MRI
    - Wilcox has a full MRI but the wait time is long
    - Orthopedic surgeon reports the need as high
    - CT Scan does not provide the information needed to diagnose appropriately
    - Solucient data estimated low utilization (179), but Dr. Goding would be a better forecaster since he documents the times he has ordered an MRI or would have liked to
    - Extremity MRI may prevent Wilcox from contesting when time for CON
  - Bone densitometry requires reminders for physician and community education
    - Medicare recommend every other year after 65 y.o as a prevention measure
    - Recommended for woman with history or symptoms of osteoporosis and for woman post menopausal

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- Findings and Analysis
  - Radiologist of long term recently resigned stating the need to semi-retire and have less call
    - New radiologist outsourced through a radiology firm started full-time in mid-September and is on-site M-F
      - Virtual Radiology is used during off hours and radiologist completes reports during next day
    - KVMH is set up with PACS
  - Staffing consists of 4 general techs including the Director
    - 2 of which are qualified for mammography
    - 1 FTE US and Echo sonographer + 1 US tech x 2 days/week (sharing call) and getting "burned out" from it
      - FTE sonographer has since left her employment at KVMH
      - The part time sonographer now comes in x 3 days/week (M-W-F) and is reimbursed per test
      - No Echo service available
      - KVMH is in the process of recruiting
  - Techs are in-house 7:30 to 5:30 M-F and 7:30 to 3:30 on weekends and holidays
    - Otherwise on-call – no data available for the amount of time and cost incurred to come in off hours
  - Interviewed physicians report that the techs are very qualified and have low retake rate
    - Other issues consisted of the delays in getting the mammography reports timely and the lack of a Bone Dexa Scan
      - Sending patients out of the area for such or going without
        - ➢ Find the quality is not as good with CT Scan and too costly

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- Findings and Analysis (continued)
  - Imaging Director has not been available for a PIC interview during on-site visit or by phone; therefore, the information may not be totally sufficient
  - Department secretary believes that ABNs are addressed during registration
    - Aware of some denial reports, but not regarding reason or to what extent
  - No pre-registration and/or pre-payment collection for scheduled tests
    - Have tried centralized scheduling in the past but reportedly did not work
      - Staff was frequently unaware of upcoming tests and physician request was nowhere to be found
      - Presently, the call to schedule is to the department and they send the patient for registration when they come in
  - Staff enters charges in the billing system but system is not interfaced with registration so lacking charges at times
    - Patient registered with no charges or charges with no registration, especially after hours
    - It is believed that most incidences are caught at one point in some fashion
  - Major issue to grow the department is space to match all other departments
  - Unclear as to the extent of PI indicators the department presently tracks

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- Recommendations
  - Space assessment is a must in order to grow the department
    - What can we move, where can we expand, can we add a mobile unit which is easily accessible for IP care and for staff efficiency?
    - If ROI on bone densitometry is positive, but staffing is an issue, can we train another department such as RT if he still has room and time to grow?
      - Does not require an X-Ray tech to perform the test as long as they can demonstrate competencies
  - Assess staffing needs to ensure that workload can be met while allowing for job satisfaction – KVMH may be understaffed
    - A sample benchmark is 5.26 paid hours for Combined Imaging Services per adjusted discharges
      - 2852 adjusted discharges (FY06) x 5.26 = 1,5001.5 / 2080 = 7.2 FTE
        - Department now has 5.6 FTE, incl. the Director, US, and the secretary
        - Track productivity and use to know when to increase staff
  - Complete an ROI for MRI (Extremity) and Bone Dexa Scan
    - Use report and physician interview to determine potential utilization
  - Administration to look into re-implementing pre-registration and out-of-pocket collection to improve efficiencies and $$ collected
  - Discuss ABN utilization process with registration and lab to ensure compliance

# Radiology

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- Recommendations (continued)
  - Implement wellness program in all clinics if not presently the case
    - Allows healthcare decision-makers to see KVMH in a positive manner
    - Physicians' clinics should have plans to ensure all appropriate patients have had their initial mammograms and bone scan when appropriate and repeats per standard of care
      - Ensure reminder system is comprehensive and effective
    - Promotion of the service is done through community education programs such as:
      - Self-breast exam training including a presentation of what can be depicted on a film
      - Woman's health program where all standards are discussed (mammography, pap smear, bone scan, etc.)
  - Continue working with physicians and administration to identify a cardiologist willing and available to work with KVMH on a regular basis (see physician complement section for need) and discuss his/her needs to provide not only consultation through the visiting specialist clinic but to develop ancillaries using Echo and potentially nuclear med at some time in the future
    - Faster than average growth in NM utilization will arise from an increase in the number of middle-aged and elderly persons, who are the primary users of diagnostic procedures
  - See Performance Improvement section and attachments for comprehensive PI projects for which Radiology should participate in

# Laboratory

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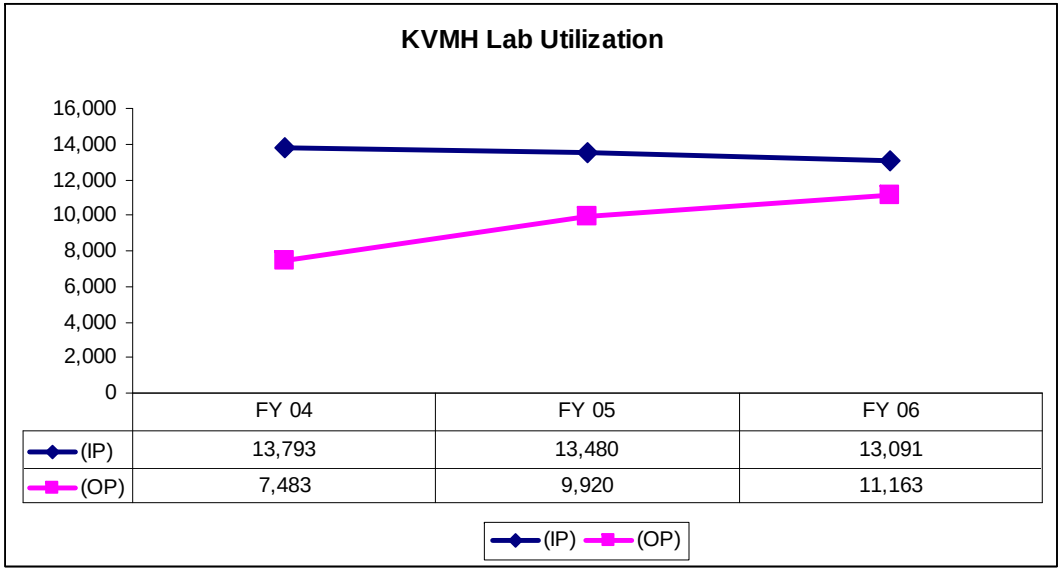
- Utilization Data




- IP is slightly trending down, which may be due to shift from acute to SB utilization
- OP has increased by 41% from FY04 to FY06
- OP lab consists of a low 46% of total which is much lower than other rural hospitals

- Findings and Analysis
  - Clinical Lab (CLH) is a reference lab partially owned by HHSC (parent company)
  - CLH provides the OP lab for the clinics and Wilcox's lab
  - CLH has a lab in KVMH's facility
  - CLH also serves as the Reference lab for KVMH
    - Currier at 10am and 2:30pm but flown to Honolulu at 7pm
    - KVMH's OP lab mostly used by ED and when turnaround time form clinic is expected sooner than later

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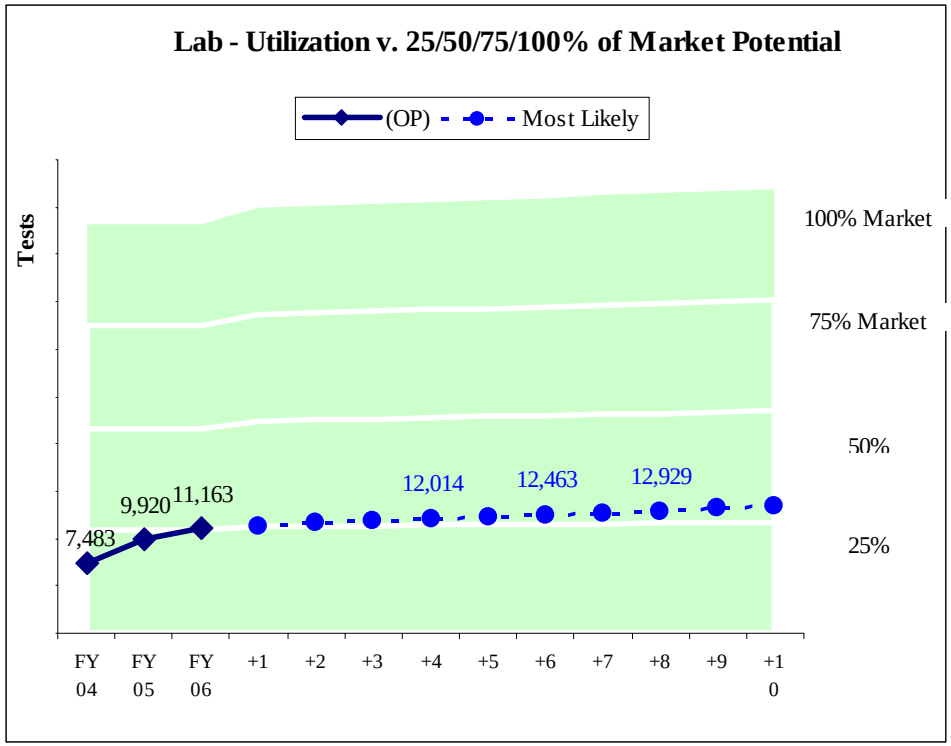
- Historical, projected utilization, and market potential




- OP utilization is at the 25% percentile mark for FY06

  - Staff consists of 2 Med. Lab Techs (including the Director who reports spending 75% of his time on "bench work" + 1 per diem (average of 2 days/week) + 1 FTE lab assistant
    - 1 opening for a budgeted position
    - In-house 7am – 4:30pm and 3 staff members share call (average of 2 to 4 calls after hours – not sufficient to remain in house)
  - Director reports a turn around time of 30 to 60 minutes

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- Recommendations
  - Evaluate financial implications of bringing all OP lab services in-house thus leveraging cost-based Medicare and Medicaid reimbursement
  - Although billing process not discussed, ensure good business practice
    - Appropriate use of ABN, accurate service/diagnosis match, reconciliation of service provided and revenue received, and claim denial summary
  - Design additional PI projects based on not only CAP and CLIA measures but on issues identified as potential or actual problems
    - See Attachments for PI project suggestions

# Rehabilitation

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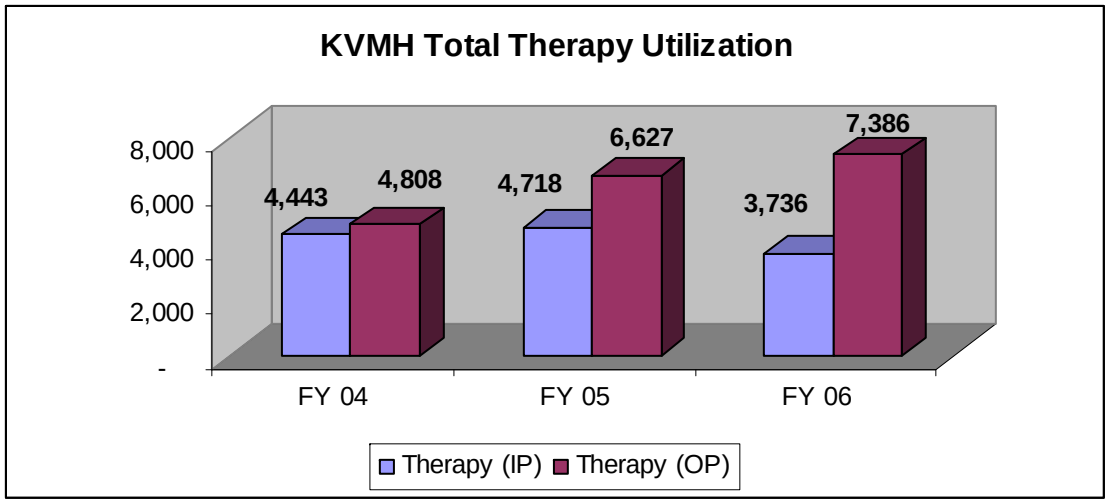
- Utilization Data




Rehab Therapy

20% increase in total billable therapy units from FY04 to FY06

- Rehab is provided by 2 department (PT and OT) vs. one Physical Therapy department
- Staffing consists of:
  - 2 PTs (one for last 11 months of FY06) + 1 PT Aid who mostly does the LTC "maintenance" program – non-billable
  - Plan is to have a 3rd PT hired by the time the 2nd Orthopedic surgeon is on-site
  - States presently often not able to offer therapy x 2 per day as requested by Ortho surgeon
  - OT x 1 FTE
  - 1 Unit clerk is shared between PT and OT
- PT hours are M-F from 6:30am to 4:30pm and OT hours are from 9am to 5:30pm

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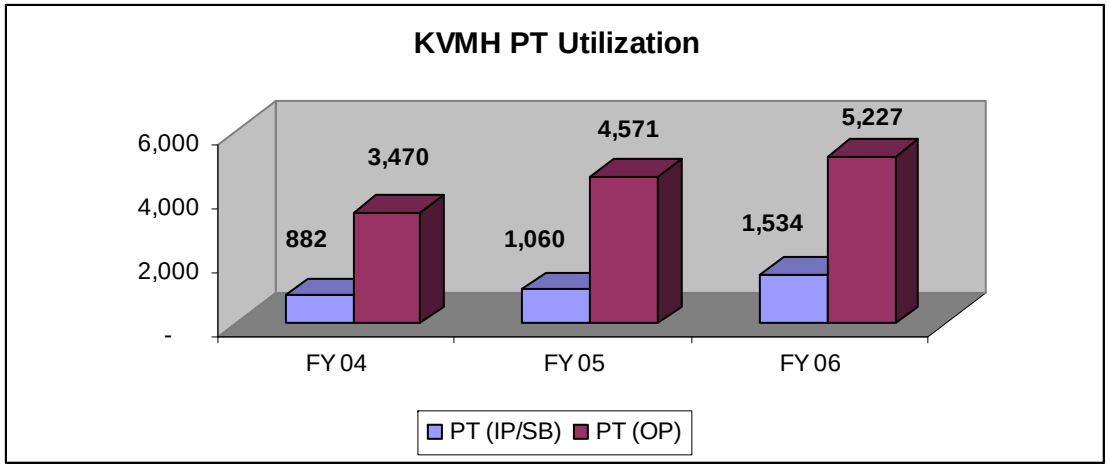
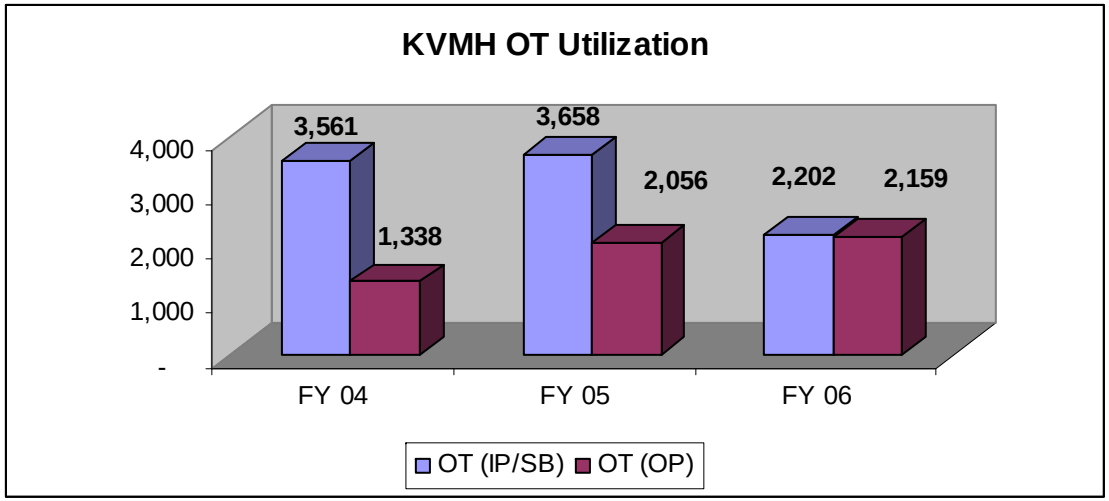



- PT units have increased by 55% in FY06 vs. FY04
- 77% provided on an OP basis
- Coincides with 1 extra PT staff member

**Note:** maintenance units have been removed from the equation




- OT units have decreased by 11% in FY06 vs. FY04 – unclear as to why the decrease
- 49.5% provided on an OP basis which is more common for OT depending on program available

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- Findings and Analysis
  - Units counted are the billable units and do not totally reflect the workload such as longer evals (1 unit regardless of the time), ITP meetings, documentation, discussions with physicians, etc.
    - PT billable units per day = approximately 30 assuming 230 days of work (not counting vacation and holidays)
      - Ortho complaining for the lack of availability for therapy time
      - Average wait time for OP is reportedly often 1 week including those with back spasm
      - Averages out to about 15 units per day per therapist = 3.75 billable hrs/day
      - Average benchmark is 6.5 billable hours per day
  - Possible reasons for lower productivity while feeling very busy is the space layout – difficulty treating more than one patient at a time
    - Not sure of the amount of time spent on the LTC unit but should be minimal unless it's for part-B billing
    - Are the PTs being used for what nursing or PT Aid should be providing whether in Med/Surg or the LTC?
  - OT has decreased by 39.8% this past FY on the IP basis, which is difficult to understand given the increase in rehab patients
    - OP only increase by 5%
    - Total averages out to about 19 billable units/day
      - OT does non-billable work for the LTC such as: monitors the activity program, facilitates group therapy x 1 per month, completes ADL assessments for the MDS
      - Also rarely performs Part B billable units

# Rehabilitation

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- Findings and Analysis
  - Space consists of a wing across from the LTC unit, which is used to house offices, Central Supply, and OB suite
    - Now is the home for: OT office/treatment space, a small room with gym equipment, a small whirlpool room, a small room for exercise and gait training, and a PT treatment room with 3 tables for modalities, a dietary office, an RT office/treatment room, housekeeping room, Central Supplies, a room used for x-ray film storage
      - Limited treatment space for presently treating an average of 10.7 patients/day (average of 45 minutes each) – limited room to grow
      - Unclear if using group therapy when appropriate for skilled rehab
        - Good motivator for the patients and improves productivity
  - Competition includes 3 independent clinics that opened up when HealthSouth left the State
    - Apparently, patients are frequently sent to other clinics – unclear if the reason is the busy schedule, more marketed by other therapists, keeping therapy for IP needs
  - OT believe he could increase OP business with the following
    - Time to educate the physicians on the services available (could promote both PT and OT)
      - When is it appropriate to use OT – many physicians lack that knowledge
    - Implement and promote Cognitive Training for Brain Injury and CVA
    - Home like space would allow OT to train for ADLs
    - Has been trained in Functional Capacity Evaluations (FCE) which there is a potential need for but requires equipment and computerized program
      - $10,000 to $12,000

# Rehabilitation

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- Recommendations
  - Imperative to re-gain or not lose the referrals to the competition by doing some of the following and more
  - Re-design work load
    - Complete a time study with specific tasks to determine what could potentially be done by somebody else
      - Can we add a rehab aid and become more productive yet much less cost?
      - Can rehab aid lead the group therapy in the LTC?
      - Is nursing using therapy for things they should be doing?
    - Assess billable workload
      - Can OT not take one of the daily therapy sessions for the IPs?
      - Can OT see an OP referred for shoulder or upper extremity rehab allowing PT to see the back pain sooner than later?
        - Goal is to be seen with 48 to max 72 hrs
  - Re-design work space
    - Can storage be elsewhere than patient areas?
    - Can walls be brought down without too much cost if facility planning is delayed?
  - Develop new OP programs and/or package them to promote to both physicians and community
    - OT to complete a full *quantifiable* needs assessment if the goal is to complete an ROI on FCE equipment
    - Is there not business for school OT program
    - Given the aging population, is here not potential for Balance Assessments and Re-training program
  - Revenue for the department comes from growing the OP business while assisting in growing the SB business as needed

# Rehabilitation

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- Recommendations (continued)
  - Imperative to track and assess data to better understand the needs and report on a monthly basis
    - Number of new referrals/month for OP (12/month is a good base for a viable program)
    - Wait time for an initial OP appointment (benchmark is 48 to 72 hrs or less)
    - Average number of units per visit (separate IP, SB, OP, NH, HH and others when provided)
      - Benchmark is 2-3 units/day for Acute depending on whether the patient will be needing SB, in which case it is less for the initial days
      - SB is x 2 visits/day at 2 to 3 units for PT and at least daily for OT with 3-4 units/visit when therapy is needed
      - 3 to 3.5 units/OP visit for PT and OT with 2 units for SLP for pedi and neuro
    - Average Length of Stay (ALOS) per OP – benchmark is 10-12 for Medicare
    - Track number of OP visits by program (ortho, neuro, wound, muscular, Pedi)
  - Measure productivity to determine when to increase staffing
    - 12 visits/therapist/day is a general guideline, but variable depending on number of neurology vs. Ortho cases seen and payer mix
      - Medicare population at this point still mandates 1:1 service
    - Another guideline is 6.5 billable hrs per therapist per day with 7 hrs for PTA or COTA
    - American Physical Therapy Association's 2002 productivity study for hospital-based OP clinics showed a mean of 24.5 billable units per day
  - Consider additional rehabilitative services
    - E.g., lymphadema care, incontinence training, vestibular training, splint design, hand therapy, wound management, school system OT, functional capacity assessments, and industrial rehab

# Rehabilitation

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- Recommendations (continued)
  - Develop rehabilitation services marketing strategy
    - Measure and continuously improve patient satisfaction
    - Interview physicians regarding rehabilitation service needs
      - Include referral physicians from other hospitals
      - Quantify referral sources and review on at least a quarterly basis to determine who to thank for support and who to increase visibility with
    - Provide easy to use referral forms/rehab prescription pads
    - Frequent visits to physician is very important: often tend to refer to the last company they saw
    - Provide patient outcomes to physicians and "thank you" notes for referrals
    - Strong community marketing to ensure that local residents know they have choices
      - Consider community education programs such as:
        - "Living With Back Pain" - "Back Pain Prevention"
        - "Stroke Prevention and Rehab Needs Post Stroke"
        - "Making the Home Safe for the Elderly"
        - "Preparing for Your Hip Surgery," etc.
    - Highlight new services and/or new employees in the local media
  - Develop an action plan with time line to bring on new programs along with staff need and cost of equipment when it pertains

# Cardiopulmonary

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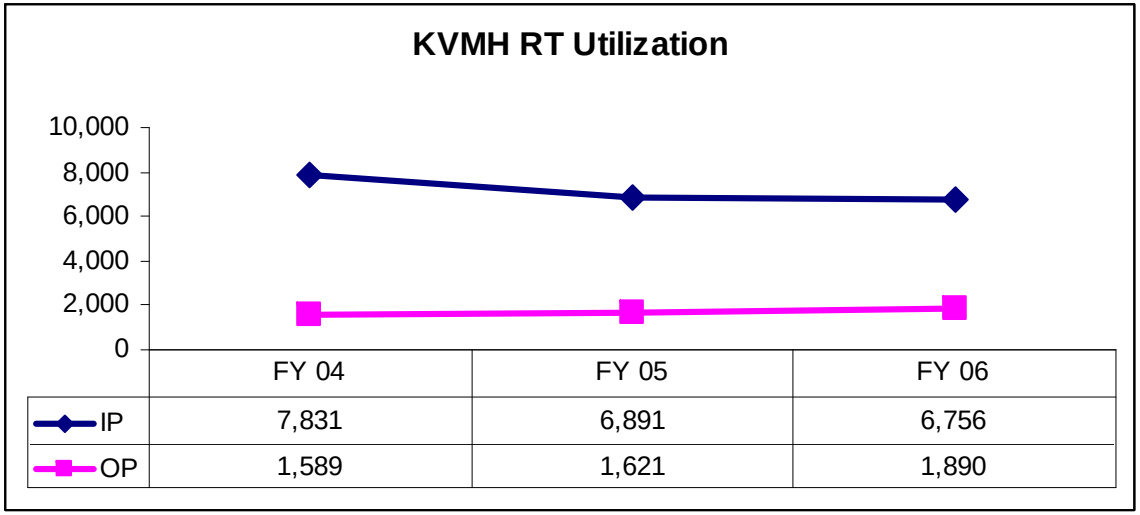
- Utilization Data




- 18.9% OP growth from FY04 to FY06
- 21.9% of total is on an OP basis – very good for a rural hospital

  - Respiratory Therapy Director is new as of one year ago and is successfully working to change the IP/OP mix
    - Have added Peak Flow and Spirometry assessments and comprehensive PFT
    - Sought out Sleep Lab on site at $569/patient (no minimum) with good reimbursement
    - Increase OP RT treatment through education of physician and community
    - Plan is to add Stress Testing
  - Protocol-based guidelines have been implemented for IP
  - RT feels comfortable with weanable vents
  - Staff consists of 2 Registered RT (including Dir.) + 1 Cert. tech
  - The County has a 110% mortality rate due to Chronic Lower Pulmonary Disease and RT notes that incidence of asthma in the area is high

# Cardiopulmonary

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- Recommendations
  - Encourage Department Manager to continue looking for opportunities for OP services to meet the needs
    - Physician needs assessment followed by recruitment of visiting specialist (for needed services) and then ROI at all times before obtaining equipment that may not be used
  - Work closely with cardiologist to develop a cardiology clinic
    - Potential to keep a physician and other staff very busy on clinic days with stress test, Echos, HM, EKGs, etc.
    - Requires intensive organization to allow cardiologist to be very efficient and productive
  - Begin a physician and community need assessment for outpatient cardiopulmonary services – pursue a visiting Pulmonology specialist if identified as a need
    - Pulmonology clinic allows for high ancillary services also: PFTs, Respiratory treatments, Pulmonary stress test
  - Have RT trained in Bone Densitometry if purchased
  - Track utilization by modality to determine utilization by physician and education needs

# Quality Improvement

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- Findings and Analysis
  - NOTE: *Quality Improvement* (QI) addresses the clinical component of a comprehensive *Performance Improvement* (PI) approach
    - Please see Performance Management analysis and recommendations in the Organizational Architecture section
    - Quality improvement policies and procedures should be established within a Performance Improvement Program
    - Program memorialized in policy improves implementation
  - Senior leadership support is critical to an effective QI program
    - QI participation by all departments should be compulsory
    - Administrator should attend QI Committee to demonstrate commitment to QI process – quality often central to a hospital's *mission*
  - Department Directors require assistance for PI project design implementation and reporting
    - Department managers, and especially non-clinicians, need assistance designing, implementing, and reporting quality improvement

# Quality Improvement

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- Findings and Analysis (continued)
  - Department managers report at least QC activity, but apparently minimal coordination across departments
    - To be maximally effective, quality improvement activity requires support from the QI Director acting as a coach and educator to department directors
    - Furthermore, a unified quality improvement program (integral to a Performance Improvement Program) helps departments understand the effects of QI activity across the organization
    - "Quality is more than a department, and more than meeting survey criteria, we are saving lives!"
  - Good intentions and good processes, but staff is "not buying into PI/QI paper work part of it"
    - Constant battle to have everyone do their share, enter data, etc.
    - PI/QI activities are mostly done because it's a mandate and not a way of working
- Recommendation
  - Develop a *culture* of quality improvement and patient safety
    - Begin at the administrator level – include in every leadership/staff discussion
      - See www.justculture.org for developing a blame-free culture
    - Integrate QI and PI within strategy, operations, and budget
    - Improve healthcare quality and patient safety activity effectiveness through active involvement of all hospital staff (engenders a culture of quality and safety)
    - Although Quality Improvement Director leads quality efforts, administrator remains directly accountable to employees, Medical Staff, and Board for hospital quality improvement
  - Review attachments for QI activities
  - Incorporate QI in the BSC project which will be re-activated by mid-December

# Detailed Findings, Analysis, and Recommendations

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# Benchmark Analysis

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- KVMH Performance Against Benchmarks
  - Overview
    - Comparison of KVMH to National Small, Rural Hospital Percentiles
      - Source: "2005 Sourcebook," Solucient, and KVMH 2005 cost report
      - Uses standardized measures to compare hospitals
    - "Adjusted Discharges" and "Adjusted Average Daily Census" are used to transform revenue generating activities into common denominators
      - Hospitals with greater outpatient activity will have higher adjustment factor
    - KVMH has an "adjustment factor" increasing from 2.61 in FY 2004 to 3.06 in FY 2006 due to increasingly higher outpatient volume with growth in physician practice business, relative to inpatient volume

| Calculation of Adjusted Discharges | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|
| Hospital Revenue (Gross Charges) | $ 16,815,000 | $ 21,214,000 | $ 24,768,000 |
| Inpatient Acute Revenue (Acute/Swing Bed) | $ 6,450,909 | $ 7,254,060 | $ 8,103,285 |
| Adjustement Factor | 2.61 | 2.92 | 3.06 |
| Actual Acute/Swing Bed Discharges | 832 | 900 | 933 |
| Adjusted Discharges | 2,169 | 2,632 | 2,852 |

| Calculation of Adjusted Average Daily Census | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|
| Hospital Revenue (Gross Charges) | $ 16,815,000 | $ 21,214,000 | $ 24,768,000 |
| Inpatient Acute Revenue (Acute/Swing Bed) | $ 6,450,909 | $ 7,254,060 | $ 8,103,285 |
| Adjustement Factor | 2.61 | 2.92 | 3.06 |
| Average Daily Acute/Swing Census | 8.4 | 10.9 | 10.9 |
| Adjusted Average Daily Census | 21.8 | 31.9 | 33.2 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

# Benchmark Analysis - Reimbursement

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- KVMH Performance Against Benchmarks (continued)
  - Revenue Benchmarks
    - **Gross Patient Revenue per Adjusted Discharge** is consistently between the 25th percentile and median of peer hospitals due to reasonable charge structure and generally lower acuity services increasingly comprised of clinic operations

| Gross Patient Revenue per Adj. Discharge | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|
| Total Gross Patient Revenue** | $ 16,815,000 | $ 21,214,000 | $ 24,768,000 |
| Adjusted Discharges | 2,169 | 2,632 | 2,852 |
| Hospital Rate | **$ 7,753** | **$ 8,060** | **$ 8,685** |
| Benchmark* | | | |
| 75th percentile | $ 10,516 | $ 11,494 | $ 12,472 |
| Median | $ 8,299 | $ 8,982 | $ 9,665 |
| 25th percentile | $ 6,703 | $ 7,181 | $ 7,659 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

*Note: 2003 Benchmark updated for future years based on growth trend.

    - **Deductions as a % of Gross Revenue** significantly below the 25th percentile of peer hospitals representing high cost-based reimbursement rates, a low mark-up ratio (see following page), and relatively low bad debt expense

| Deductions as a Percentage of Gross Revenue | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|
| Gross Revenue | $ 16,815,000 | $ 21,214,000 | $ 24,768,000 |
| Total Deductions (includes bad debt)* | $ 4,684,974 | $ 5,982,598 | $ 6,564,000 |
| Hospital Rate | **28%** | **28%** | **27%** |
| Benchmark | | | |
| 75th percentile | 50% | 50% | 50% |
| Median | 43% | 43% | 43% |
| 25th percentile | 36% | 36% | 36% |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

*Total deductions calculated as difference between gross revenue from 2005 cost report and net patient revenue from 2005 audited financial statements

# Benchmark Analysis - Reimbursement

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- KVMH Performance Against Benchmarks (continued)
  - Revenue Benchmarks (Continued)
    - **Net Operating Revenue per Adjusted Discharge** is between the Median and 75th percentile of peer hospitals, indicating reasonably high cost-based reimbursement from Medicare, Medicaid, and HMSA senior product and low bad debt expense

| Net Operating Revenue per Adj. Discharge | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|
| Net Operating Revenue | $ 12,771,558 | $ 16,053,448 | $ 18,824,000 |
| Adjusted Discharges | 2,169 | 2,632 | 2,852 |
| Hospital Rate | **$ 5,889** | **$ 6,099** | **$ 6,601** |
| Benchmark | | | |
| 75th percentile | $ 6,082 | $ 6,463 | $ 6,844 |
| Median | $ 4,918 | $ 5,165 | $ 5,412 |
| 25th percentile | $ 4,007 | $ 4,131 | $ 4,255 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

*Note: 2003 Benchmark updated for future years based on growth trend.

    - **Ancillary Service Mark-up Ratio** is significantly below the 25th percentile of peer hospitals, largely driven by high operating expenses (see following page)

| Ancillary Service Markup Ratio | FY 2005 |
|---|---|
| Total Ancillary Charges | $ 9,187,673 |
| Fully Allocated Costs | $ 6,006,643 |
| Hospital Rate | **1.53** |
| Benchmark | |
| 75th percentile | 3.24 |
| Median | 2.77 |
| 25th percentile | 2.36 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

# Benchmark Analysis – Expenses

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- KVMH Performance Against Benchmarks (continued)
  - Expense Benchmarks
    - **Operating expenses per adjusted discharge** exceed the 75th percentile of peer hospitals partially driven by high salary and benefit expenses, primarily from high costs per FTE (see below)

| Operating Expense per Adjusted Discharge | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|
| Total operating expense (excludes bad debt exp) | $ 15,197,294 | $ 18,499,238 | $ 22,101,000 |
| Adjusted Discharges | 2,169 | 2,632 | 2,852 |
| Hospital Rate | **$ 7,008** | **$ 7,029** | **$ 7,750** |
| Benchmark* | | | |
| 75th percentile | $ 5,965 | $ 6,304 | $ 6,643 |
| Median | $ 4,891 | $ 5,129 | $ 5,367 |
| 25th percentile | $ 3,974 | $ 4,138 | $ 4,302 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

*Note: 2003 Benchmark updated for future years based on growth trend.

    - **Salary and benefit expense per FTE** is well above the 75th percentile of peer hospitals, driven by union negotiation of compensation and rich benefits package

| Salary and Benefit per FTE | FY 2005 |
|---|---|
| Salary and Benefits | $ 10,612,252 |
| Full Time Equivalents | 158.7 |
| Hospital Rate | **$ 66,866** |
| Benchmark* | |
| 75th percentile | $ 51,334 |
| Median | $ 45,214 |
| 25th percentile | $ 39,500 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

*Note: 2003 Benchmark updated for future years based on growth trend.

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- KVMH Performance Against Benchmarks (continued)
  - Expense Benchmarks (Continued)
    - **Salary and benefits as a % of total operating expenses** exceed the 75th percentile for peer hospital, driven by union negotiation of compensation

| Salary and Benefit as a % of Total Oper. Exp | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|
| Salary and Benefits | $ 9,404,752 | $ 10,612,252 | $ 12,585,000 |
| Total operating expense | $ 15,197,294 | $ 18,499,238 | $ 22,101,000 |
| Hospital Rate | **62%** | **57%** | **57%** |
| Benchmark | | | |
| 75th percentile | 55% | 55% | 55% |
| Median | 51% | 51% | 51% |
| 25th percentile | 46% | 46% | 46% |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

    - **FTEs per adjusted acute daily census** are below median levels of peer hospitals driven partially by higher proportion of swing beds that require lower intensity services, partially by staff FTEs incurred by HHSC corporate and not allocated to KVMH, and reasonable staffing levels

| FTEs per Adjusted Average Daily Census | FY 2005 |
|---|---|
| Number of FTEs | 158.7 |
| Adjusted ADC | 31.9 |
| Hospital rate | **5.0** |
| Benchmark | |
| 75th percentile | 6.4 |
| Median | 5.4 |
| 25th percentile | 4.4 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

# Benchmark Analysis – Expenses

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- KVMH Performance Against Benchmarks (continued)
  - Expense Benchmarks (continued)
    - **Capital costs as a % of operating costs** are at the median of peer hospitals reflecting a recent investment in the Medical Office Building and other equipment investments

| Capital Costs as a % of Operating Expense | FY 2005 |
|---|---|
| Total Operating Expense | $ 18,499,238 |
| Capital Costs (Source: 2005 CR WS A-7) | $ 1,166,512 |
| Hospital Rate | **6.31** |
| Benchmark | |
| 75th percentile | 7.71 |
| Median | 6.11 |
| 25th percentile | 4.68 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

    - **Average Age of Plant** is above the 75th percentile of peers indicating significant under investment in plant, equipment, and technology, primarily related to HHSC's somewhat limited ability to invest in plant and equipment

| Average Age of Plant, Total Facility | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|
| Accumulated Depreciation | $ 10,452,148 | $ 11,757,149 | $ 12,723,000 |
| Depreciation Expense | $ 614,346 | $ 593,533 | $ 749,143 |
| Hospital Rate | **17.01** | **19.81** | **16.98** |
| Benchmark | | | |
| 75th percentile | 12.99 | 12.99 | 12.99 |
| Median | 10.07 | 10.07 | 10.07 |
| 25th percentile | 7.98 | 7.98 | 7.98 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

# Benchmark Analysis Summary

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- Conclusions
  - Revenue
    - Reasonable levels of Gross Charge and Net Revenue Per Adjusted Discharge
    - Relatively low Deductions as a Percent of Gross Charges driven primarily by high portion of cost-based reimbursement paying fairly high costs per adjusted discharge, as well as relatively low bad debt expense
    - Ancillary markup ratio is low compared to peers, a result of high operational expenses and cost allocation from HHSC
  - Expenses
    - Operating expenses and all expenses benchmarked by salary and benefit costs are higher than peer hospitals, driven by employee union contracts
      - However, State of Hawaii recognizes high union contract amounts through an annual grant to reflect increased cost of collective bargaining contracts
    - Capital costs are relatively low compared to peers, but will increase as KVMH makes additional capital investments in property, plant, and equipment
      - Average age of plant will decrease with these investments

# CAH Designation

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- Findings and Analysis
  - KVMH adopted CAH status effective April, 2001
    - The following analysis provides an updated review based on the FY 2005 Cost report to determine the benefit of CAH status considering only cost-based Medicare services
      - Note that KVMH also received cost-based reimbursement from Medicaid and HMSA Senior

**Retrospective Cost Based Impact Analysis - FY 2005 Cost Report**

| Inpatient Service Analysis | Acute | Swing | CAH Impact |
|---|---|---|---|
| PPS Payment/Day (estimated) | $ 1,446 | $ 275 | |
| Fully Allocated Cost/Day | $ 2,717 | $ 1,447 | |
| Diff | $ 1,271 | $ 1,172 | |
| Medicare Days | 526 | 393 | |
| Net Gain (Loss) | $ 668,726 | $460,707 | $ 1,129,000 |
| **Outpatient Service Analysis** | | **Total** | |
| Net OPPS Impact | | $ 112,074 | |
| Cost Based vs. Fee Schedule | | | |
| Laboratory | | 47,373 | |
| Physical Therapy | | 19,263 | |
| Subtotal | | $ 178,710 | $ 179,000 |
| | | **GRAND TOTAL** | $ 1,308,000 |

- Stroudwater's review of the 2005 Cost Report indicates approximately $1.3M financial advantage for CAH designation in FY 2005 and supports KVMH's continued CAH designation status

# CAH Designation

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- Findings and Analysis (continued)
  - Year End Settlements
    - Historically, KVMH has not run contractual allowance models on an interim basis that would estimate cost-based revenue based on costs rather than per-diems
      - Accordingly, during the year, KVMH interim financial statements are either understated or overstated depending on costs-based payers cost relative to interim per diems
    - Many CAHs have created "Net Revenue Models" for estimating cost-based revenue on a monthly or quarterly basis to monitor monthly CAH cost-based reimbursement relative to interim payment amounts received from Medicare
      - See Attached model for example
  - Method II billing option is available, upon annual election, to CAHs which allows CAHs to receive 115% of the physician professional fee for registered outpatients, including emergency room visits, radiology readings, and visits associated with provider based clinics
    - During FY 2007, this issue became much more significant for KVMH when KVMH began billing for ER physician services
    - Reported by management that current billing system does not allow for combined billing


CAH Net Revenue Model


CAH Method II Billing

# CAH Designation

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- Recommendations
  - Continue with CAH designation
  - Using the attached Medicare revenue model or any other method for calculating cost-based revenue, accurately calculate Medicare, Medicaid, and HMSA Senior cost-based revenue on an interim basis and use this information to post a cost-based "due to/due from" on an ongoing basis
  - Evaluate financial benefit of electing Method II billing being sure to include Medicare, Medicaid, and HMSA Senior as relevant cost-based payers, and determine payback period on investment in IT system to allow all-inclusive billing methodology
    - If deemed worthwhile, KVMH must make election annually, 30-days prior to the beginning of the Cost Report period (May 31, 2007)

# 2005 Medicare Cost Report

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- Findings and Analysis
  - A desk review of the FY 2005 filed cost report was completed to look for common errors in preparation or opportunities to enhance revenue or decrease expense. The following were identified as opportunities for improvement:
    - Clinic Direct Costs – WS A, Line 100, Column 1 and 2
      - KVMH reports over $2.5M in costs associated with the West Kauai Clinic. Further, through the cost report step down process, an additional $1.2M in costs are allocated to the Clinic. As all administration and general costs are allocated through the A&G allocation, KVMH should evaluate whether any A&G related costs are directly costed to the clinic and consider reclassifying them to the Administration and General cost center
    - Medicare Bad Debts – WS E, Part B, Row 27
      - KVMH does not claim any Medicare bad debts primarily because the FI is requiring that KVMH has a documented collection process that KVMH cannot provide due to the outsourcing of the collection agency process. Most CAHs have developed systems to document the collection process and record Medicare bad debts on their cost report for 100% charge recovery.
- Recommendations
  - Evaluate areas identified above including Clinic costs and Medicare bad debts to determine whether an opportunity exists to improve the cost report accuracy

# Third-Party Contracting/Charge Master Updates

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- Findings and Analysis
  - Approximately 38% of KVMH's gross revenue is from government payers: Medicare 16%; Medicaid 22% (based on FY 2005 audited financial statements)
    - HHSC negotiates reimbursement contracts for all system facilities
      - Major third party payer in Hawaii is HMSA (Blue Cross) which is very aggressive in contract negotiations with HHSC and generally pays at highly discounted rates
    - As a CAH, margin must be derived from commercial payers as Medicare and Medicaid will only pay costs (plus 1%)
  - HHSC maintains charge master, which is standardized across all facilities
    - Quarterly reviews are performed by independent consultants with recommendations for improvements made on a quarterly basis
- Recommendations
  - No recommendations for KVMH, third party contracting, and charge master updates performed by HHSC

# Revenue Cycle Functionality

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- Findings and Analysis
  - Overview
    - Admitting office and billing office is regionalized, serving both KVMH and SMMH
  - Performance Metrics
    - Days Net Revenue in Net A/R and Days of Gross Revenue in Gross A/R both indicate that KVMH underperforms its peers, as it is operating above the 75th percentile
      - Goal to reduce days in A/R from 80 to 60, with the recent/planned addition of 3 new billing clerks
        - Until recently, increased patient volume did not result in any incremental FTEs in the business office resulting in a decline in performance

| Days in Net Accounts Receivable | 6/30/2003 | 6/30/2004 | 6/30/2005 | 6/30/2006 |
|---|---|---|---|---|
| Net Accounts Receivable* | $ 1,712,482 | $ 1,751,447 | $ 3,100,968 | $ 3,635,000 |
| Net Patient Revenue* | $ 10,923,290 | $ 12,090,077 | $ 15,572,777 | $ 18,515,000 |
| Hospital Rate | **57.2** | **52.9** | **72.7** | **71.7** |
| Benchmark | | | | |
| 75th percentile | 74.0 | 71.0 | 71.0 | 71.0 |
| Median | 60.0 | 59.0 | 59.0 | 59.0 |
| 25th percentile | 50.0 | 49.0 | 49.0 | 49.0 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

**Note: Net of contractual allowances and bad debt expense*

| Days in Gross Accounts Receivable | 6/30/2003 | 6/30/2004 | 6/30/2005 | 6/30/2006 |
|---|---|---|---|---|
| Gross Accounts Receivable | $ 3,011,460 | $ 2,953,572 | $ 4,966,695 | $ 6,000,667 |
| Gross Patient Revenue | $ 15,044,000 | $ 16,815,000 | $ 21,214,000 | $ 24,768,000 |
| Hospital Rate | **73.1** | **64.1** | **85.5** | **88.4** |
| Benchmark | | | | |
| 75th percentile | 74.0 | 71.0 | 71.0 | 71.0 |
| Median | 60.0 | 59.0 | 59.0 | 59.0 |
| 25th percentile | 50.0 | 49.0 | 49.0 | 49.0 |

Benchmark for small, rural hospitals from 2005 Sourcebook (Solucient, based on 2003 data).

# Revenue Cycle Functionality

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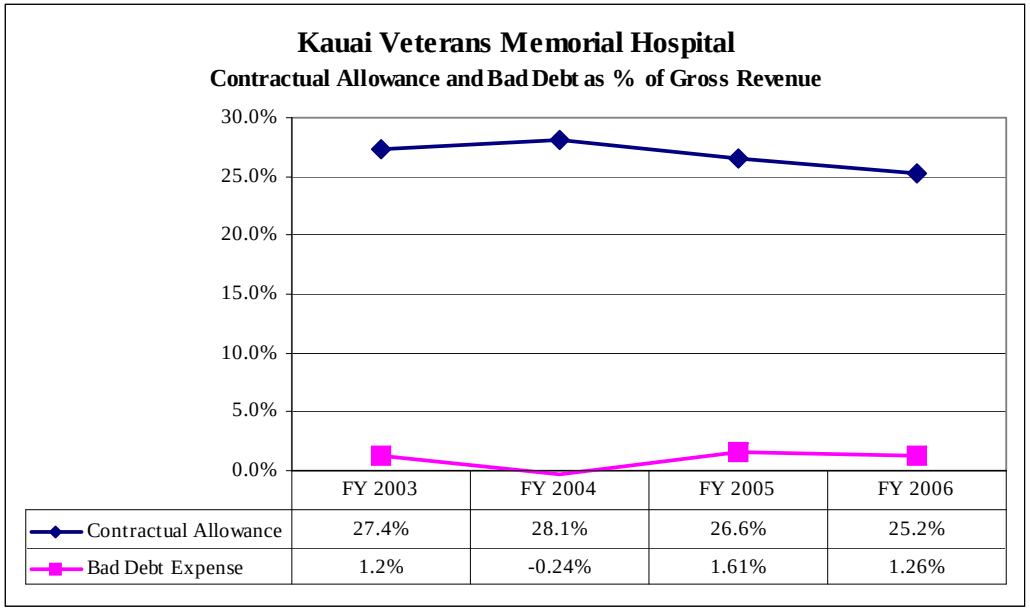
- Findings and Analysis (continued)
  - Performance Metrics (continued)




| | FY 2003 | FY 2004 | FY 2005 | FY 2006 |
|---|---|---|---|---|
| Contractual Allowance | 27.4% | 28.1% | 26.6% | 25.2% |
| Bad Debt Expense | 1.2% | -0.24% | 1.61% | 1.26% |

- Contractual allowances as a % of gross revenue fell slightly from FY2004 to FY2006 primarily related to increased physician practice volume with generally lower contractual allowance percentages than hospitals
- Bad debt expense has remained very low -- under 2% of gross charges
- KVMH maintains excellent “key performance indicators” report that tracks several metrics
  - Key performance indicators report not provided to Patient Financial Services Manager on a regular basis
  - Patient Financial Services Manager receives weekly report of cash receipts and days in A/R for KVMH

# Revenue Cycle Functionality

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- Findings and Analysis (continued)
  - Patient Registration
    - Registration Hours: 7:45am – 4:30pm Monday - Friday, 6:45am – 3:30pm Saturday
    - Registration handled by nurses in ED during off hours; admitting handled by ward clerks
      - ER registrations sent to registration for review and any corrections
    - KVMH currently does no upfront collection of co-payments or deductibles
    - KVMH has a charity care program
      - Patient must apply for Medicaid card and get approved or denied
      - KVMH registration assists patients with Medicaid enrolment forms
    - KVMH has authority to offer prompt pay discount up to 30%
      - There is no standard procedure in place for offering prompt pay discount
    - Patient insurance information verified on line via insurance company web sites
    - Pre-registration for surgery only; no centralized scheduling makes pre-registration difficult
    - KVMH has ABN software but it does not function for all services
      - ABN software works for certain x-ray procedures, physical therapy, and occupational therapy

# Revenue Cycle Functionality

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- Findings and Analysis (continued)
  - Charge Entry/Coding/Medical Records
    - X-Ray, PT, and OT enter own charges usually the same day patient is seen
    - Charges sent to registration for data entry for ER, OR, and OB usually day after patient is seen
    - Holds on all claims are currently 5 days for inpatient discharges, and 3 days for outpatient discharges
      - Best practice CAHs generally have 3-day holds for inpatient discharges and 2-day holds for outpatient discharges
    - HIM director is out on leave and one coder recently resigned
      - Patient Financial Services Manager and one clinic employee are coders, both have been working overtime
      - KVMH plans to contract with coders to alleviate workload issue

# Revenue Cycle Functionality

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- Findings and Analysis (continued)
  - Billing/Collections
    - "High Dollar List" A/R report printed monthly and distributed to all billing clerks
    - Billing clerks act as collectors – 3 current billing clerks cannot keep up with demand; KVMH plans to hire 3 additional clerks
      - Current internal accounts per patient financial services FTEs are three times larger than other system hospitals
    - Bills are dropped manually to minimize back end work of cleaning up claims before they are dropped
      - KMVH has a claims scrubber
    - All patient statements are sent out by company on Oahu
      - After 2.5 to 3 statements, collection letter is sent to patient
      - Collections process includes KVMA checking Medicaid website for patient enrollment
      - KVMH uses 3 collection agencies; 2 do not perform well so most accounts are sent to the best performing agency
      - Denied claims handling: accountant makes copies of remittance advice and provides to billing clerk

# Revenue Cycle Functionality

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- Recommendations
  - General
    - Develop regular reporting of key metrics to all business office employees, not just senior management
  - Patient Registration
    - Expand ward clerk hours in ER through busy evening shift
    - Registration at SMMH to report to Revenue Cycle Director and not SMMH accountant
    - Develop point of service (POS) system for up front collection of co-pays and deductibles
    - Standardize system for prompt pay discounts
    - Develop a pre-registration system, with centralized scheduling
    - Develop consistent procedures for producing ABNs
  - Charge Entry/Coding/Medical Records
    - No recommendation for charge entry/coding
  - Billing/Collections
    - Continue with plans to hire 3 additional billing clerks to support business growth

# Information Technology

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- Findings and Analysis
  - Stroudwater believes that successful hospitals of the future will deliver ***demonstrable*** quality, patient safety, and customer service
    - Information technology will be an essential component of demonstrating quality
  - KMVH is using McKession HBOC version 10 platform
    - Using for 20 years and is up-to-date on series
    - HBOC does not have a strong finance package
      - Does not have departmental reporting functions; departmental reporting currently being performed manually using excel
    - Clinics are using DOS based system with no ability to interface with HBOC
      - RFP has been sent for clinic software replacement
    - 2001 HHSC proposal to update to new HBOC platform, but was turned down due to $2M necessary financial commitment
  - Payroll is not linked because state payroll system does not allow interface
    - Demonstration took place at Hilo to move HHSC payroll off the State system; the goal is to transfer to “Cronos”

# Information Technology

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- Findings and Analysis (Continued)
  - Two Electronic Medical Record (EMR) initiatives currently under way
    - Kauai pilot test for the HHSC system, partially supported by Hawaii SORH, for "Open Vista" EMR scheduled for October
      - Kauai is the best location, with two critical access hospitals and clinics
    - Parallel EMR RFP for the entire system. RRP will be delayed until the results of Open Vista pilot test are known.
      - Physicians are interested in "EPIC" EMR
  - When HHSC Chief Information Officer reduced IT staff, IT support services to KVMH became more limited
    - Concern that EMR is seen as an end goal rather than EMR as a component of improved quality, patient safety and community based health
- Recommendations
  - Continue with current vision to make IT in integral part of the organization
    - Define vision beyond EMR
      - EMR is a means to an end with the "end" being improvement in quality and managing patient population
  - Make addition of a finance package to HBOC a strong priority
  - Consider additional programmers to develop better interfaces among modules to eliminate redundant work at affiliate entities
  - Consider Kauai region as a test site for new IT platform that would integrate financial, clinical and physician practice systems

# Facility Planning/Access to Capital

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- Overview
  - KVMH's patient volume growth over the past 4 years has eliminated any available space in the KVMH facility and increasingly the facility will limit further volume growth
    - Accordingly, KVMH, along with HHSC, is now evaluating on a system-wide basis each of the facilities in a master facility planning process
  - Facility planning and capital investment projects currently under consideration at KVMH include:
    - Master facility planning process currently underway, aided by NBBT
    - Architects undergoing assessment of new surgery building, administration space, and parking structure
      - New OR facility to include surgical suites and endoscopy, renovated ER, and 10-bed inpatient rehabilitation unit
        - KVMH hired Dr. Biuk, an excellent trauma surgeon from New York, in July
    - $1.6M investment in the "1957 wing," including an emergency generator, update of electrical systems, and plumbing
    - Distinct part skilled unit for rehabilitation patients via expansion of current LTC space
    - Addition of extremity only MRI

# Facility Planning/Access to Capital

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- Findings and Analysis
  - As noted previously, Benchmarking analysis indicated that the average age of the plant is over 19 years, comparing unfavorable to the median of peer hospitals at 10 years
    - Facility is structurally sound
    - 1967 OB/GYN wing was recently renovated
    - Major renovations going forward will be to support necessary expansions for service growth
    - Kalaheo and Eleele clinic space is rented in strip malls: insufficient square footage at both clinics to meet needs
      - Currently looking at another site with 2,800 square feet to meet requirements of Eleele clinic which presently occupies only 1,300 square feet

# Facility Planning/Access to Capital

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- Findings and Analysis (continued)
  - HUD, USDA, and private lenders have now developed programs that allow access to capital for renovations and plant replacements
    - Most lenders require a debt service coverage ratio of 1.25
    - Analysis below demonstrates KVMH's lack of borrowing capacity
      - 1.25 debt service coverage ratio assumed

| Kauai Veterans Memorial Hospital Debt Capacity | | | | |
|---|---|---|---|---|
| | | 2004 | 2005 | 2006 |
| Debt Service Coverage Ratio | | | | |
| Change in Net Assets | | (2,108,892) | (1,919,525) | (3,400,326) |
| Interest Expense | | - | 3,215 | - |
| Depreciation Expense | | 593,533 | 749,143 | 984,000 |
| Total (A) | | (1,515,359) | (1,167,167) | (2,416,326) |
| Necessarty Debt Service Coverage Ratio | | 1.25 | 1.25 | 1.25 |
| Annual Debt Service Available | (I) | (1,212,287) | (933,734) | (1,933,061) |
| Portion of Debt Service representing Incremental Capital Costs | | 100% | 100% | 100% |
| Incremental Reimburseable Capital Costs | | (1,212,287) | (933,734) | (1,933,061) |
| Medicare Payer Mix (Source: Audited Financials*) | | 18% | 16% | 16% |
| Incremental CAH Cost Based Reimbursement | (II) | (218,212) | (149,397) | (309,290) |
| Payment available for debt | (I)+(II) | (1,430,499) | (1,083,131) | (2,242,351) |
| Assumed Interest Annual Interest Rate | | 7.0% | 7.0% | 7.0% |
| Assumed Years | | 25 | 25 | 25 |
| Present Value | | $ (16,670,438) | $ (12,622,357) | $ (26,131,418) |

  - KVMH Standalone Debt Capacity Analysis
    - Based on KVMH maintaining a 1.25 debt service coverage ratio, KVMH does not have any debt capacity through either HUD or USDA unless guaranteed by HHSC and essentially the State of Hawaii

# Debt Capacity: Scenario Modeling

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- Overview
  - KVMH is interested in understanding the financial implications of replacing its current facility as well as renovating a portion of its existing facility
- Base Assumptions
  - Total project cost: $60,000,000 with cost allocations among buildings, land improvements, etc. as documented below
  - Cost based reimbursement for Medicare, Medicaid and HMSA Senior
    - Medicare Mix % FY2005: 16%; Medicaid Mix % FY2005: 22%; and HMSA Senior % (estimated): 15%; Less estimated non cost-based business: 13%

| | | | |
|---|---|---|---|
| Total Project Cost | | | $ 60,000,000 |
| Interest % | | | 7.00% |
| Lending Period (years) | | | 25.00 |
| % Medicare & Medicaid | | | 40.00% |
| Depreciation Estimates: | | | |
| | % of Total | $ Allocation | Useful Life |
| Building | 75% | 45,000,000 | 25 |
| Land Imp. | 5% | 3,000,000 | 20 |
| Fixed | 10% | 6,000,000 | 15 |
| Maj. Moveable | 10% | 6,000,000 | 12 |
| | 100% | 60,000,000 | |

# Debt Capacity: Scenario Modeling

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- Scenario Modeling: $16M Operating Suite (continued)
  - The following analysis evaluates the impact on net cash flow related to the $60M expansion without consideration any potential profit from expanded services

| | Year 1 | Year 5 | Year 10 | Year 15 | Year 20 | Year 25 |
|---|---|---|---|---|---|---|
| Reimburseable Capital Costs: | | | | | | |
| Depreciation | 2,850,000 | 2,850,000 | 2,850,000 | 2,350,000 | 1,950,000 | 1,800,000 |
| Interest | 4,170,922 | 3,875,313 | 3,368,526 | 2,650,091 | 1,631,621 | 187,811 |
| Total Reimburseable Capital Costs | 7,020,922 | 6,725,313 | 6,218,526 | 5,000,091 | 3,581,621 | 1,987,811 |
| Cost-Based Payer Mix | 40% | 40% | 40% | 40% | 40% | 40% |
| Cost-Based Recapture of Depr and Interest | 2,808,369 | 2,690,125 | 2,487,410 | 2,000,037 | 1,432,648 | 795,124 |
| Expenditures: | | | | | | |
| Debt Service on New Facility Mortgage | (5,088,810) | (5,088,810) | (5,088,810) | (5,088,810) | (5,088,810) | (5,088,810) |
| Total Expenditures | (5,088,810) | (5,088,810) | (5,088,810) | (5,088,810) | (5,088,810) | (5,088,810) |
| Net Impact on Cash | (2,280,441) | (2,398,685) | (2,601,400) | (3,088,774) | (3,656,162) | (4,293,686) |

  - Analysis indicates that KVMH will incur net “out of pocket” cash losses of $2.3M in the first several years, growing to $2.6M between years 6-10
    - In early years of the project, depreciation and interest expenses are high, thus generating additional cost-based revenue
    - Important to note that profit generated on an appropriate mix of services performed in this unit was not considered in the analysis and will likely exceed any negative cash exposure

# Facility Planning/Access to Capital

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## Recommendations

- Continue with Master facility planning efforts with NBBT
- Continue with assessments for replacement hospital
  - See the Clinical section for comments regarding IP Rehabilitation unit
  - See Clinical section regarding space issues for almost every departments

# Detailed Findings, Analysis, and Recommendations

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# Physician Practice Management Overview

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- Findings and Analysis
  - KVMH owns three free standing clinics
    - Waimea Clinic
      - Dr. Chatkupt (OB/GYN) - M-F
      - Dr. Wong (OB/GYN) – M-F (will be leaving)
      - Dr. Goding (Orthopedics) – M,W: Waimea; T,Th: OR; F: Kuhio
      - Dr. Biuk (Orthopedics) M,Th: Waimea; F, ½ S: Kalaheo; W: OR
      - Dr. R Weiner (General Surgery) M,T am, Th am; W,F: OR; T pm, Th pm Kalaheo
      - Dr. Coleman (Pediatrics) M-F
      - Dr. Paul (Internal Medicine) M-F
    - Eleele Clinic
      - Dr. Jenkins (Internal Medicine) M-F
      - Dr. Raelson (Pediatrics) M-F
      - Ms. Beck (PA Women's Health)
    - Kalaheo Clinic
      - Dr. Shanahan (Family Practice) M-F: noon – 8pm
      - Dr. L Weiner (Pediatrics) M-F; S am
      - Dr. Pixler (Internal Medicine) M-F (note: contract provides 3 months off/year)
      - Dr. Cohen (Internal Medicine) M-F (note: new in FY 2006)
  - In addition, KVMH contracts with Dr. Williams (General Surgery) who rents space in Dr. Esaki's clinic and the Kuhio Medical Center

# Medicare Clinic Designation

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- Findings and Analysis
  - As indicated, the KVMH owned clinics are currently designated as "free standing" whereas an opportunity may exist for KVMH to consider converting practices to "provider-based"
    - Provider-Based Clinic Designation
      - Primary issue related to provider-based definition for the clinics is meeting criteria for being "Integral and Subordinate" of KVMH
        - Location requirements – within 35 miles of main provider
        - Organizational structure requirements – 100% ownership by main provider, held out to public as single entity
        - Operational requirements – administrative integration, financial integration, reporting requirements using same intensity, frequency, and level of accountability
        - Clinical integration – unified medical record retrieval system, medical staff of main provider responsible for medical activities, same monitoring and oversight
        - Management contract requirements – cannot contract out the management of a provider-based department
      - On the surface, the KVMH clinics meet (or will meet with minor modification) the criteria of provider-based designation

# Medicare Clinic Designation

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- Findings and Analysis (continued)
  - Provider-Based Clinic (continued)
    - Primary benefits of CAH owned provider-based clinics include:
      - Clinics can bill both professional fees and a "technical" component for Medicare and HMSA Senior visits (??)
      - CAH's can elect method II billing and receive 115% of Medicare professional fees
      - CAHs with provider-based clinics adjust off the Medicare cost report physician compensation which reduces the administrative and general overhead allocation to the clinics and increases to other departments in the hospital
        - For FY 2006, the issue has become more acute with the addition of orthopedics and new providers, substantially increasing provider compensation, and the allocation of hospital overhead costs to a non-cost based "department"
  - KVMH had considered a Stroudwater "Primary Care Options Assessment" that would have quantified the benefit to KVMH of converting each of the clinics to provider-based
    - Study was placed on hold as other strategic priorities arose
- Recommendations
  - Perform a primary care options assessment to quantify the impact of converting each of the KVMH owned practices to provider-based
    - Use information to determine whether provider-based clinic designation should be elected

# Physician/Provider Productivity

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- Findings and Analysis
  - Benchmarking – Primary Care Productivity
    - Waimea Primary Care

| Waimea Primary Care | | | | | |
|---|---|---|---|---|---|
| | 12 month period ended | MGMA (2005 Report - 2004 Data) | | | |
| Productivity Measures | 6/30/2006 | 25th Percentile | Mean | 75th Percentile | 90th Percentile |
| IM Benchmarks: | | | | | |
| Charges (excludes TC) | | 380,089 | 506,045 | 590,225 | 743,198 |
| Ambulatory Encounters | | 2,756 | 3,617 | 4,310 | 5,261 |
| Relative Value Units | | 5,795 | 7,599 | 8,988 | 10,633 |
| Work Relative Value Units | | 3,223 | 4,036 | 4,702 | 5,614 |
| Comp to Work RVU | | 36.84 | 44.36 | 50.01 | 60.16 |
| PED Benchmarks: | | | | | |
| Charges (excludes TC) | | 392,979 | 520,267 | 626,336 | 751,001 |
| Ambulatory Encounters | | 3,548 | 4,633 | 5,511 | 6,732 |
| Relative Value Units | | 6,165 | 8,057 | 9,867 | 11,495 |
| Work Relative Value Units | | 3,384 | 4,249 | 5,018 | 5,863 |
| Comp to Work RVU | | 33.44 | 39.97 | 44.33 | 53.41 |
| Dr. Coleman, Peds | | | | | |
| Charges (excludes TC) | 338,420 | **X** | | | |
| Ambulatory Encounters | 3,161 | **X** | | | |
| Relative Value Units | 6,502 | | **X** | | |
| Work Relative Value Units | 3,223 | **X** | | | |
| Dr. Paul, IM | | | | | |
| Charges (excludes TC) | 215,142 | **X** | | | |
| Ambulatory Encounters | 2,901 | | **X** | | |
| Relative Value Units | 4,197 | **X** | | | |
| Work Relative Value Units | 2,107 | **X** | | | |

# Physician/Provider Productivity

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- Findings and Analysis (continued)
  - Benchmarking – Primary Care Productivity (continued)

| Kahaheo Clinic | | | | | |
|---|---|---|---|---|---|
| | 12 month period ended | MGMA (2005 Report - 2004 Data) | | | |
| Productivity Measures | 6/30/2006 | 25th Percentile | Mean | 75th Percentile | 90th Percentile |
| FP (no OB) Benchmarks: | | | | | |
| Charges (excludes TC) | | 360,901 | 452,560 | 560,132 | 683,471 |
| Ambulatory Encounters | | 3,265 | 4,287 | 5,088 | 6,167 |
| Relative Value Units | | 6,297 | 7,897 | 9,275 | 11,011 |
| Work Relative Value Units | | 3,300 | 4,047 | 4,647 | 5,603 |
| IM Benchmarks: | | | | | |
| Charges (excludes TC) | | 380,089 | 506,045 | 590,225 | 743,198 |
| Ambulatory Encounters | | 2,756 | 3,617 | 4,310 | 5,261 |
| Relative Value Units | | 5,795 | 7,599 | 8,988 | 10,633 |
| Work Relative Value Units | | 3,223 | 4,036 | 4,702 | 5,614 |
| PED Benchmarks: | | | | | |
| Charges (excludes TC) | | 392,979 | 520,267 | 626,336 | 751,001 |
| Ambulatory Encounters | | 3,548 | 4,633 | 5,511 | 6,732 |
| Relative Value Units | | 6,165 | 8,057 | 9,867 | 11,495 |
| Work Relative Value Units | | 3,384 | 4,249 | 5,018 | 5,863 |
| Dr. L. Weiner, Peds | | | | | |
| Charges (excludes TC) | 324,786 | X | | | |
| Ambulatory Encounters | 3,743 | | X | | |
| Relative Value Units | 6,356 | | X | | |
| Work Relative Value Units | 3,109 | X | | | |
| Dr. Shanahan, FP | | | | | |
| Charges (excludes TC) | 379,506 | | X | | |
| Ambulatory Encounters | 4,577 | | | X | |
| Relative Value Units | 7,710 | | | X | |
| Work Relative Value Units | 3,784 | | X | | |
| Dr. Pixler, IM (Grossed up by .25 FTE) | | | | | |
| Charges (excludes TC) | 324,786 | X | | | |
| Ambulatory Encounters | 3,743 | | X | | |
| Relative Value Units | 6,356 | | X | | |
| Work Relative Value Units | 3,109 | X | | | |

Kalaheo Primary Care Practice

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- Findings and Analysis (continued)
  - Benchmarking – Primary Care Productivity (continued)
    - Eleele Primary Care

| Eleele Clinic | | | | | |
|---|---|---|---|---|---|
| | 12 month period ended | MGMA (2005 Report - 2004 Data) | | | |
| Productivity Measures | 6/30/2006 | 25th Percentile | Mean | 75th Percentile | 90th Percentile |
| IM Benchmarks: | | | | | |
| Charges (excludes TC) | | 380,089 | 506,045 | 590,225 | 743,198 |
| Ambulatory Encounters | | 2,756 | 3,617 | 4,310 | 5,261 |
| Relative Value Units | | 5,795 | 7,599 | 8,988 | 10,633 |
| Work Relative Value Units | | 3,223 | 4,036 | 4,702 | 5,614 |
| Nurse Practitioner (FP) | | | | | |
| Charges (excludes TC) | | 193,247 | 288,660 | 350,180 | 462,061 |
| Ambulatory Encounters | | 2,351 | 2,992 | 3,740 | 4,543 |
| Relative Value Units | | 4,278 | 5,590 | 6,644 | 7,509 |
| Work Relative Value Units | | 2,060 | 2,688 | 3,281 | 3,573 |
| Dr. Jenkins, IM | | | | | |
| Charges (excludes TC) | 319,657 | X | | | |
| Ambulatory Encounters | 3,853 | | | X | |
| Relative Value Units | 6,470 | | X | | |
| Work Relative Value Units | 3,387 | | X | | |
| Ms. Beck, NP | | | | | |
| Charges (excludes TC) | 57,128 | X | | | |
| Ambulatory Encounters | 802 | X | | | |
| Relative Value Units | 1,067 | X | | | |
| Work Relative Value Units | 506 | X | | | |

# Physician/Provider Productivity

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- Findings and Analysis (continued)
  - Benchmarking
    - In general, work RVUs represents the best index of physician productivity
      - Use of work RVUs negates inappropriate influences of payer mix and service mix on productivity measures
    - Primary Care Productivity
      - Production measured by charges, RVUs, and ambulatory encounters is generally at or below the 25$^{th}$ percentile of peers for a majority of providers and should become target for continuing improvement
  - Compensation System
    - In general, providers are provided a productivity incentive equal to 50% of net collections, once physician compensation and practice overhead expenses are taken out
      - For most providers, the productivity incentive is not relevant as compensation and practice expenses exceed net collections
    - Management has expressed an interest in modifying provider agreements to more reflect straight productivity than net collections
      - Many hospital owned practices use RVUs or work RVUs as a basis for generating productivity incentives

# Physician/Provider Productivity

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- Findings and Analysis (continued)
  - Performance Reporting
    - On a monthly basis, the practice manager receives a computer generated Departmental Report showing charges and expenditures with current year compared to prior year
      - In addition, each provider receives manually prepared reports indicating their own gross charges, net collections, operating expenses (both direct and allocated), and an A/R control sheet
        - Information not shared include individual provider productivity quantified in RVUs or work RVUs
  - Facility/Systems/other
    - Kalaheo Clinic currently has 4 exam rooms
      - On a majority of days, three providers are practicing at clinic whereby bottlenecks are often created with only 5 exam rooms
    - Other Clinics report adequate exam room to physician ratios
  - Scheduling
    - Patients are generally scheduled in 15-minute blocks with exceptions for physicals and procedures
      - Reported that patients will always be seen if requested – if necessary, other clinics will be called to slot a patient in
      - Manual scheduling system used to schedule visits
    - When patients call in for a scheduled visit, staff request insurance information which is electronically verified prior to the scheduled visit

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- Findings and Analysis (continued)
  - Billing
    - Clinic charges are entered on a pre-printed Fee Ticket by the provider
      - Each day, fee tickets are accumulated at each site and sent by currier to the Kalaheo Clinic for data entry
      - Inconsistency between Fee Tickets used at each clinic site and reportedly need to update and standardize across sites
    - All charge entry and other billing/cash collection functions are provided by the physician practice business office at Kalaheo, which operates a separate practice management system than both the Eleele Clinic and Waimea Clinic as well as KVMH (hospital)
      - Important to consolidate all practice management operations on one practice management system
    - Co-payments and deductibles are collected up front, once the Fee Ticket is received from the provider, and prior to the patient exiting the office
    - Days of Revenue in Accounts Receivable is aggressive monitored

# Physician/Provider Productivity

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- Recommendations
  - Provider Compensation
    - Modify physician/mid-level compensation to provide bonuses based on incremental work RVUs or total RVUs
      - Track performance under new RVU based system – observe for performance improvement and unintended consequences
  - Benchmarking/Performance Measurement
    - Target improved productivity for providers with production at or below 25$^{th}$ percentile of peer performance
    - Develop productivity reports that aggregate individual provider productivity across locations and provide this information to the individual providers with performance reporting information that measures charges, patient visits, and relative value units
      - Reports should compare metrics relative to prior months as well as prior year
      - Charts/graphs can be most effective when presenting this information
      - Comparisons with MGMA benchmarks can be useful for establishing a peer comparison

# Physician/Provider Productivity

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- Recommendations (continued)
  - Systems/Other
    - Develop additional exam room capacity at Kalaheo so that each provider has a minimum of 2 exam rooms
  - Billing
    - Update Fee Ticket for latest CPT code guidance and standardize across practice locations
    - Standardize practice management software system across clinic sites
  - Scheduling
    - Evaluate benefits of electronic scheduling system, and consider whether centralized scheduling will further improve practice access

# Fee Schedule Review

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- Findings and analysis

| Code | Description | 2006 RVUs** | Current Fee | Conversion Factor |
|---|---|---|---|---|
| **Evaluation and Management Codes:** | | | | |
| 99201 | Office Visit New 1 | 0.97 | $ 75.00 | $ 77.32 |
| 99202 | Office Visit New 2 | 1.72 | $ 85.00 | $ 49.42 |
| 99203 | Office Visit New 3 | 2.56 | $ 124.69 | $ 48.71 |
| 99204 | Office Visit New 4 | 3.62 | $ 160.00 | $ 44.20 |
| 99211 | Office Visit Established 1 | 0.57 | $ 55.00 | $ 96.49 |
| 99212 | Office Visit Established 2 | 1.02 | $ 59.00 | $ 57.84 |
| 99213 | Office Visit Established 3 | 1.39 | $ 70.00 | $ 50.36 |
| 99214 | Office Visit Established 4 | 2.18 | $ 100.00 | $ 45.87 |
| 99215 | Office Visit Established 5 | 3.17 | $ 140.00 | $ 44.16 |
| 99222 | Hospital Care - Initial 1 | 2.98 | $ 175.00 | $ 58.72 |
| 99223 | Hospital Care - Initial 2 | 4.15 | $ 200.00 | $ 48.19 |
| 99232 | Hospital Visit - Sub 2 | 1.47 | $ 85.00 | $ 57.82 |
| 99233 | Hospital Visit - Sub 3 | 2.09 | $ 100.00 | $ 47.85 |
| 99238 | Hospital Discharge 1 | 1.87 | $ 85.00 | $ 45.45 |
| 99239 | Hospital Discharge 2 | 2.55 | $ 115.00 | $ 45.10 |
| 99392 | PE 1-4 | 2.33 | $ 125.00 | $ 53.65 |
| 99393 | PE 5-11 | 2.30 | $ 125.00 | $ 54.35 |
| 99394 | PE 12-17 | 2.54 | $ 125.00 | $ 49.21 |
| 99395 | PE 18-39 | 2.57 | $ 125.00 | $ 48.64 |
| 99396 | PE 40-64 | 2.84 | $ 125.00 | $ 44.01 |

** 2006 Fully Implemented Non-Facility Total

# Fee Schedule Review

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- Findings and analysis (continued)
  - For the most frequently used CPT billing codes, current charges were divided by Medicare RVUs to derive KVMH's code specific conversion factors
    - Highly utilized CPT codes were analyzed to determine code specific conversion factors
    - Office visit code conversion factors generally range between $45 and $60 or 125% to 167% of Medicare
      - Opportunity to further standard internal conversion factor based on local market conditions
- Recommendations
  - Review E & M physician charges relative to RBRVS information and consider standardizing professional charge fee schedule using an agreed upon standard conversion factor between 125% and 150% of Medicare

# E & M Coding Relativity

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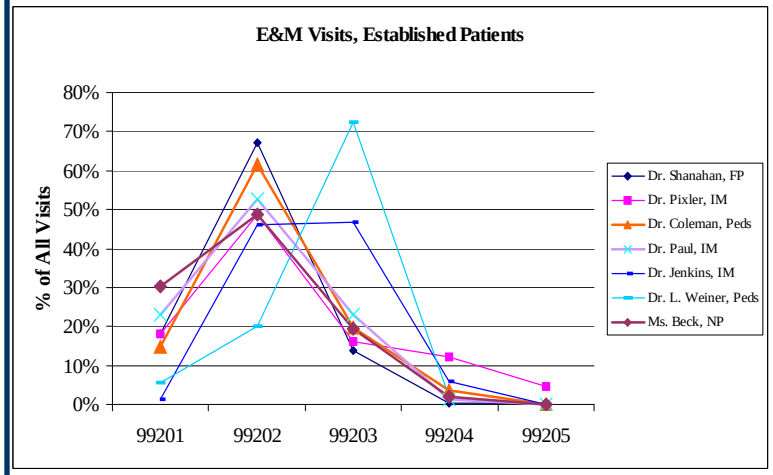
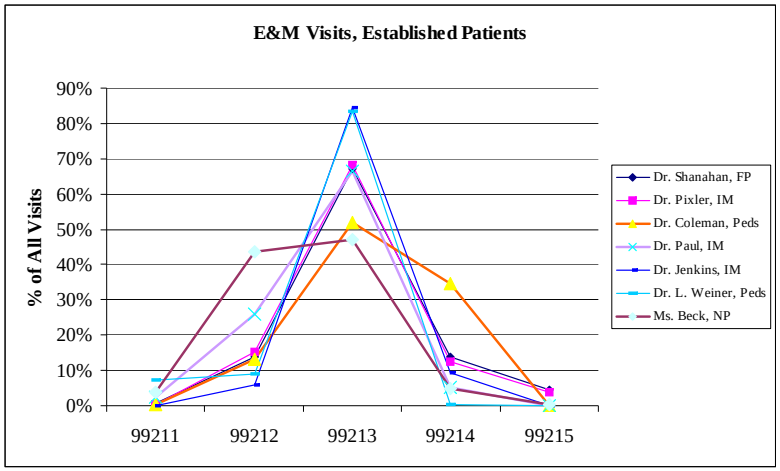
- Findings and Analysis
  - KVMH's distribution of E&M codes on a per provider basis approximates the expected "bell curve" of benchmark data for established patients and is skewed towards lower level codes for new patients (note: Chart reviews were not performed)




- Recommendations
  - Evaluate new patient charts relative to coding and determine whether appropriate codes are being selected and develop provider education programs if warranted

# Detailed Findings, Analysis, and Recommendations

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# Key Organizational Elements

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- Governance and Leadership
  - Visionary hospital leaders provide managers the resources to make wise and effective decisions
  - Visionary hospital leaders hold managers accountable for performance improvement and organizational value-added
- Decision Making and Accountability
  - Effective hospitals place decision-making at a level that leverages local information and improves hospital service value
  - Effective hospitals drive decision-making "down" as proximate to the consumer/patient as practical
- Performance Measurement and Reporting
  - Continuously improving hospitals empower managers and other employee decision-makers with relevant and timely data
  - Continuously improving hospitals demand performance data collection and reporting on a frequent and recurrent basis
- Compensation
  - Competitive hospital employers reward, recognize, reinforce employees
  - Competitive hospital employers encourage employee entrepreneurship

# Governance and Leadership

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- Findings and Analysis
  - KVMH is an affiliate of Hawaii Health Systems Corporation (HHSC) which has ultimate fiduciary responsibility for KVMH
    - HHSC has a 20-member Board of Directors, covering 5 major regions
    - 5 Regional Management Advisory Committees (MACs) were appointed by HHSC as mandated by Act 262
    - The 9-member Kauai MAC acts as an advisory body to both KVMH and SMMH
      - One member of each Region's MAC servs on HHCS's board
  - KVMH Administration consists of an 7-member Executive Management Team and 2 Medical Staff Officers
    - Most of the Executive Management Team Members are also administrators of SMMH
  - KVMH does not have a formal strategic plan to guide the organization
    - With current turmoil at Wilcox and continuing growth in service area population, it will be important to develop a formal plan
- Recommendations
  - Both the NBBJ facility planning report and the Stroudwater Performance Improvement Report, develop a three year strategic plan specific to KVMH operations

# Decision Making and Accountability

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- Findings and Analysis
  - Every Wednesday, all department heads have a roundtable meeting with Regional Chief Executive Officer
    - Monthly Departmental Reports (DPR) show expenditures, charges, for current period, last year, and budgeted
    - Department heads must justify all expenditures not in line with budget
  - Reported that somewhat limited accountability to budgets within organization tempered by civil service unions and limited upside potential for managers that meet targets
- Recommendations
  - No recommendations for changes to existing arrangement
    - Weekly department manager meeting is excellent for communicating to managers
    - Excellent senior management communication structure

# Performance Measurement and Reporting

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- Findings and Analysis
  - Monthly Departmental Reports (DPR) show expenditures, charges, for current period, last year, and budgeted
    - Roundtable meeting with CEO is an excellent forum for performance measurement for establishment of performance improvement goals
  - Budget process involves department managers developing expense budgets with limited input into volume assumptions

- Recommendations
  - Senior management team should mentor department managers on running their departments as business units with responsibility for achieving their budgets
    - Special focus should be placed on accountability for volume
    - Added involvement in budget creation is a tool used to get department managers to assume ownership and become more entrepreneurial
  - Work to improve the accuracy of interim financial statements
  - Pursue a financial module addition to HBOC

# Compensation

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- Findings and Analysis
  - All positions within KVMH and HHSC are union represented except for senior management positions
    - Hawaii Government Employees Association (HGEA) represents: professional, clerical, supervisors, scientific, and nurse employees
    - United Public Workers (UPW) represents: CNSs, LPNs, housekeeping, maintenance employees
  - Compensation set by collective bargaining with unions
    - Employees of the government are considered civil service, all are paid on salary basis
    - Class specifications are defined by state statute for all civil service jobs
      - If a job does not exist in class specifications, there is a process in place to create a new class
    - Unions negotiate wages for each job specification
  - Raises
    - After new hire, raises provided at 3 month and 6 month review, and annually thereafter at the end of each fiscal year
    - Annual reviews are performed for the union, compensation is not tied to reviews

# Compensation

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- Findings and Analysis (continued)
  - KVMH/SMMH management has historically enjoyed a good relationship with the unions
    - Hospital management is hindered when trying to implement changes in operations or job duties: union must be consulted and given 30 days to respond
  - Benefits
    - Two defined benefits retirement plans are offered to KVMH employees
      - Contributory Hybrid Plan: employee contributes 6% of gross salary, hospital must increase 2.5% per year of service, employee can withdraw all personal contributions
      - Non-Contributory plan: at age 62 and after 10 years of credited service, employee receives benefit of 1.25% of AFC times number of years of service
    - Other benefits include 21 sick days, 21 vacation days, 14 state holidays, and health insurance, 40% of which must be paid for by employee
- Recommendations
  - Compensation set by HHSC and Unions, with limited/no opportunities for improvement

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# Detailed Findings, Analysis, and Recommendations

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# Recommendation Summary

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- Key Recommendations:
  - The interface between KVMH, Wilcox Hospital, and SMMH will be integral to the strategic vision of KVMH
  - Potential to grow revenues through added or expanded services is great but facility in it's present design is a tremendous rate limiter
  - Current competitive landscape issues include:
    - New surgical suite in Wilcox Hospital
    - Radiology market share – KVMH planning to add extremity only MRI, SMMH plans to add CT
    - Nurses strike at Wilcox Hospital at 80$^{th}$ day at time of Stroudwater on-site visit
      - Strike over with since on-site visit but morale at Wilcox is low and mistrust toward administration is strong,
      - SMMH hired 3 nurses from Wilcox, with potential to hire a 4$^{th}$

# Clinical Services

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- Physician Complement
  - Imperative for KVMH administration to have open discussions with physicians of retirement age to determine the need and/or urgency of recruiting
  - Potential need for PCP recruitment
    - Total of FP and IM (+ mid levels which KVMH does not have) ranges from a need for 5.9 PCP to a surplus of 0.7
      - Physicians voiced the need for more, citing long waits to get appointments
      - 1 IM of near retirement age recently out on medical leave which has aggravated the need
        - A second IM of retirement age
      - See physician productivity report section to better determine the route to go
      - Elderly population from the community do not like to "cross the bridge" to go see physicians so reportedly tend to go without if not available
  - Presently 3 pediatricians in the service area with an estimated surplus of 0.2 to 1.5 FTE but to be kept in mind is that 1 Pedi is leaving in April and another is of retirement age
    - The calculated range is 1.5 to 2.8 leaning to higher with an OB service which KVMH has therefore recruitment may need to start soon depending on expected retirement plan

# Clinical Services

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- Physician Complement (continued)
  - Continue the pursuit of a second OB – ideal would be that he/she would be in place before the present OB leave for a smooth transition
  - Continue pursuing the 2nd Orthopedic surgeon but imperative to identify space, staffing and updated processes before he arrives
  - KVMH to be mindful of the population makeup when identifying providers
  - Imperative to work with the present medical staff to ensure commitment to the community and KVMH
  - Consider community focus meetings and survey to identify needs
  - Grow the Visiting Specialist clinic
  - See report for full details

# Clinical Services

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- Acute Inpatient/Swing Bed/Observation
  - KVMH is at a difficult crossroad:
    - Well situated to grow acute and swing bed but the space is a major rate limiter
    - Recommendations are interdependent: if then effect
    - Will be imperative to fully analyze the pros and cons of maintaining status quo or adding space or building brand new
  - The best return on investment, as demonstrated by the table on slide 52 compared to slide 49, is to grow the SB utilization
    - Easily doable, especially with a skilled Ortho rehab
  - Next best return is to increase IP acute
    - Again, it should be a reachable goal with the present physician and complement of services
  - The need for LTC beds must be addressed at the state level
  - Continue using Observation as appropriate to meet patient's needs while preventing acute admission denials
  - Aggressively analyze market share with community's input to design strategic plan, then monitor trend closely

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- Obstetric
  - No recommendations at this time
- IP Rehab Facility (IRF)
  - Opening an Acute Rehab Unit will not meet KVMH's needs
    - Most post-op orthopedic patients do not meet criteria for Acute Rehab
    - CoP, CMS regulations and Standards of care are difficult to meet at best
    - Would require strong and knowledgeable management to optimize reimbursement under PPS
- Distinct Part SNF
  - Recommendations are to not open a DPU SNF
    - Would not meet the Surgeon's intent of having a separate unit for post-op Ortho due to the need for 3 acute day stay before being transferred to a SNF bed
    - Would require strong and knowledgeable management to optimize reimbursement under PPS
    - Revenue would not equate the cost

# Clinical Services

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- Care Management
  - Assess staffing needs by first looking at processes, time extenders, paperwork, appropriate use of secretary etc…and then determine need to increase staff or not
    - Can some component of the RN or SW's work be done by someone else?
    - Does appear that staffing for these tasks (UR/DP/SS/SB Coordination and Infection Control) is maxed out (see report for more details)
  - Consider meshing UR and SW in one Case Management Department

- Nursing Staffing
  - Actual staffing was not reviewed given the lack of opportunities to flex the staff to meet the needs due to the collective bargaining agreement KVMH has with the Civil Service Union
  - Strongly encourage staff cross-training as much as the contract will allow
  - Nursing team(s) (may be on a rotating basis) to review processes and documentation to ensure that there is no duplication of work and systems are in place for maximum efficiency
    - Takes less time to evaluate and correct a process than to continue working with dysfunctional processes
  - Apply right staff mix when the need to increase staff is evident
    - E.g.: skilled level of care does not require same mix of RN - CNAs trained in medical and physical rehab can be very efficient to meet skilled rehab needs
  - Calculate present staffing to better understand the status
    - See report for more details

# Clinical Services

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- Emergency Department
  - ED must be part of the facility planning (see report for reasoning)
  - Budget for centralized monitoring as soon as possible to ensure appropriate surveillance
  - Organize an improvement team made up of registration, SDS and ED to brainstorm the patient flow issue
    - Ask physicians office to direct all patients to front lobby registration when coming for SDS
  - Implement policy for all past 24-hr ED forms to be reviewed for documentation and compared to charges before being sent for coding
  - If and when KVMH decides to adopt an up-front collection policy, ensure sufficient staff training and understanding of expectations regarding co-pay collection (see report for more details)
  - Take advantage of all that can be tracked through RPM to better measure ED indicators, graph out and post for all staff to be aware of the outcome
  - Review patient satisfaction survey ASAP if not already done and challenge the team to identify what needs to change and set expectations

# Clinical Services

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- Emergency Department (continued)
  - Track visits by hr by day at different intervals along with patient's level to assist in determining staffing needs
  - Continue reviewing transfers by types and time of day to ensure proper plan of care
  - ED nurses to be familiarized with admission criteria for acute or Observation to assist physicians and UR
  - Access to ongoing education for ED nurses on the web is an inexpensive method to increase comfort level for both ED and Med/Surg. Nurses
    - See report for sample web sites
  - RN triage – consider *Emergency Severity Index, Version 4: Implementation Handbook* published by the Agency for Healthcare Research and Quality
    - See report for web site

# Clinical Services

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- Surgery
  - Continue with plans to renovate and expand or build new surgical suite to meet the needs
    - If construction is a "pipe dream", KVMH will require a full assessment of the space and analysis of what could be done with the space available to meet the needs
  - Lacking data to assess staffing but recommend benchmarking with hospitals other than rural given the array of surgical staff in comparison
    - See report for guidelines
  - Lack of physician satisfaction with the staff may be due to difficulty in being organized with the available space therefore imperative to take a "time-out" to evaluate processes, expectations, who does what and what could it be done by a non-RN
    - Discuss needs with physicians and develop an education plan with time line if that is the case
  - Physician recruitment should alter until staff is up to "par" in #s and capabilities
    - Determine OR manpower needed now and for upcoming additions of OB/GYN and Ortho and initiate a recruiting campaign now to ensure sufficient in capacity and capability to service the array of surgeons KVMH was so fortunate to recruit

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- Radiology
  - Space assessment is a must in order to grow the department
    - Great potential but both space and staff are rate limiters
    - See report for more details
  - Assess staffing needs to ensure that workload can be met while allowing for job satisfaction – KVMH may be understaffed
    - See report for guidelines
    - Replace US/Echo sonographer ASAP
  - Complete an ROI for MRI (Extremity) and Bone Dexa Scan
  - Discuss ABN utilization process with registration and lab to ensure compliance
  - Continue working with physicians and administration to identify a cardiologist willing and available to work with KVMH on a regular basis (see physician complement section for need) and discuss his/her needs to provide not only consultation through the visiting specialist clinic but to develop ancillaries using Echo and potentially nuclear med at some time in the future
  - Ensure performance indicators beyond the regulated ones

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- Laboratory
  - Evaluate financial implications of bringing all OP lab services in-house thus leveraging cost-based Medicare and Medicaid reimbursement
  - Although billing process not discussed, ensure good business practice
    - Appropriate use of ABN, accurate service/diagnosis match, reconciliation of service provided and revenue received, and claim denial summary
  - Ensure performance indicators beyond the regulated ones

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- Rehabilitation
  - Imperative to re-gain or not lose the referrals to the competition by doing some of the following and more
  - Re-design work load (see report for more details)
  - Re-design work space (see report for more details)
  - Develop new OP programs and/or package them to promote to both physicians and community (see report for more details)
    - Revenue for the department comes from growing the OP business while assisting in growing the SB business as needed
  - Imperative to track and assess data to better understand the needs and report on a monthly basis
  - Measure productivity to determine when to increase staffing
    - See report for guidelines

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- Cardiopulmonary
  - Encourage Department Manager to continue looking for opportunities for OP services to meet the needs
    - Physician needs assessment followed by recruitment of visiting specialist (for needed services) and then ROI at all times before obtaining equipment that may not be used
  - Work closely with cardiologist to develop a cardiology clinic
    - Potential to keep a physician and other staff very busy on clinic days with stress test, Echos, HM, EKGs, etc.
    - Requires intensive organization to allow cardiologist to be very efficient and productive
  - Begin a physician and community need assessment for outpatient cardiopulmonary services – pursue a visiting Pulmonology specialist if identified as a need
    - Pulmonology clinic allows for high ancillary services also: PFTs, Respiratory treatments, Pulmonary stress test
  - Have RT trained in Bone Densitometry if purchased
  - Track utilization by modality to determine utilization by physician and education needs

# Clinical Services

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- Pharmacy
  - Department was not reviewed
- Quality Improvement
  - Redesign PI and QI using the multiple tools in the report
  - Increase staff's engagement through the use of the Balance Score Card

# Financial Management

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- Expense Management
  - KVMH must pursue aggressive expense management in areas other than salary and benefit expenses

- CAH Designation
  - Continue with CAH designation
  - To increase the accuracy of interim financial statements, post Medicare "due to/due from" on an ongoing basis
  - Using the attached Medicare revenue model, accurately calculate Medicare and Medicaid cost-based revenue on a monthly or quarterly basis
  - Ensure the Method II billing is elected for ER physician services, as well as the hospital-based physicians doing procedures
    - Under Method II billing, CAHs are reimbursed at 115% of the applicable Medicare Physician Fee Schedule payment amount
    - More important after September 2006 as KVMH employs and bills for all ER MDs
    - Must make election annually, 30-days prior to the Cost Report period

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- 2005 Cost Report
  - Clinic Direct Costs
    - Evaluate all direct costs being allocated to the clinics to ensure that these costs are not better allocated to "administration and general" or other cost centers
  - Medicare Bad Debt
    - Develop method to quantify Medicare bad debt for the entire HHSC system and establish processes to ensure reported Medicare bad debt is allowable
- Third-Party Contracting/Charge Master Updates
  - No recommendations for KVMH, third party contracting and charge master updates performed by HHSC
- Facility Planning/Access to Capital
  - Continue with Master facility planning efforts with NBBT
  - Continue with assessments for expansion: surgery and endoscopy suite

# Financial Management

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Attachments

- Business Office
  - General
    - Develop regular reporting of key metrics to all business office employees, not just senior management
  - Patient Registration
    - Expand ward clerk hours in ER through busy evening shift
    - Registration at SMMH to report to Revenue Cycle Director and not SMMH accountant
    - Develop POS system for up front collection of co-pays and deductibles
    - Standardize system for prompt pay discounts
    - Develop a pre-registration system, with centralized scheduling
    - Develop consistent procedures for producing ABNs
  - Charge Entry/Coding/Medical Records
    - No recommendation for charge entry/coding
  - Billing/Collections
    - Continue with plans to hire 3 additional billing clerks to support business growth

# Financial Management

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- Information Technology
  - Continue with current vision to make IT in integral part of the organization
    - Define vision beyond EMR
      - EMR is a means to and end with the “end” being improvement in quality and managing patient population
  - Make addition of a finance package to HBOC a strong priority
  - Consider additional programmers to develop better interfaces among modules

# Physician Practice Management

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Attachments

- Medicare Clinic Designation
  - Perform a primary care options assessment to quantify the impact of converting each of the KVMH owned practices to provider-based
    - Use information to determine whether provider-based clinic designation should be elected
- Physician/Provider Productivity
  - Provider Compensation
    - Modify physician/mid-level compensation to provide bonuses based on incremental work RVUs or total RVUs
      - Track performance under new RVU based system – observe for performance improvement and unintended consequences
  - Benchmarking/Performance Measurement
    - Develop productivity reports that aggregate individual provider productivity across locations and provide this information to the individual providers with performance reporting information that measures charges, patient visits, and relative value units
    - Target improved productivity for providers with production at or below 25$^{th}$ percentile of peer performance

# Physician Practice Management

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Attachments

- Physician/Provider Productivity (continued)
  - Systems/Other
    - Develop additional exam room capacity at Kalaheo so that each provider has a minimum of 2 exam rooms
  - Billing
    - Update Fee Ticket for latest CPT code guidance and standardize across practice locations
    - Standardize practice management software system across clinic sites
  - Scheduling
    - Evaluate benefits of electronic scheduling system, and consider whether centralized scheduling will further improve practice access
- Fee Schedule Analysis
  - Review E & M physician charges relative to RBRVS information and consider standardizing professional charge fee schedule using an agreed upon standard conversion factor between 125% and 150% of Medicare
- E & M Coding Relativity
  - Evaluate new patient charts relative to coding and determine whether appropriate codes are being selected and develop provider education programs if warranted

# Organizational Architecture

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Attachments

- Governance and Leadership
  - No recommendations
- Decision Making and Accountability
  - No recommendations for changes to existing arrangement
    - Weekly department manager meeting is excellent for communicating to managers
    - Excellent senior management communication structure
- Performance Measurement and Reporting
  - Senior management team should mentor department managers on running their departments as business units with responsibility for achieving their budgets
    - Special focus should be placed on accountability for volume
    - Added involvement in budget creation is a tool used to get department managers to assume ownership and become more entrepreneurial
  - Work to improve the accuracy of interim financial statements
  - Pursue a financial module addition to HBOC
- Compensation
  - Compensation set by HHSC and Unions, no opportunities for improvement

# Attachments

# Attachment I (1/2)

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**Attachments**

- Physician Need Calculations
  - Physician-to-population ratio data represents physician to 100,000 population rates from three large prepaid group practices that serve over eight million consumers
    - Source: Weiner JP, Prepaid Group Practice Staffing and U.S. Physician Supply: Lessons for Workforce Policy, *Health Affairs*, 4 February 2004.
  - Calculated need values for Family Practice developed by averaging Weiner data (above) and a state-specific ratio of family/general practice physicians to population
    - Source: Flowers et al. *State Profiles: Reforming the Health Care System*. AARP Public Policy Institute. 12th Edition. 2003
  - Area physician FTEs calculated as 18 days per month = 1.0 FTE. Mid-level provider FTE calculated as 0.80 FTE and added to Family Practice total

# Attachment I (2/2)

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**Attachments**

| Provider Demand/Supply (FTEs) for Service Area of | | | | | 15,185 |
|---|---|---|---|---|---|
| | Demand Indicators | | Supply Indicators | | |
| Primary Care | GMENAC | Hicks & Glenn | Kaiser | Group Health | Health Partners |
| Family Practice | 5.2 | 5.1 | 2.1 | 7.1 | 3.4 |
| Internal Medicine | 4.4 | 2.7 | 4.2 | 1.8 | 4.1 |
| Pediatrics | 2.3 | 2.0 | 1.8 | 1.2 | 1.6 |
| Subtotal | 11.8 | 9.7 | 8.1 | 10.1 | 9.1 |
| Non-Phys Providers | | | 2.0 | 3.5 | 1.0 |
| Medical | | | | | |
| Allergy | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 |
| Cardiology | 0.5 | 0.6 | 0.5 | 0.6 | 0.5 |
| Dermatology | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 |
| Endocrinology | 0.1 | 0.1 | 0.2 | 0.0 | 0.1 |
| Gastroenterology | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 |
| Hem/Oncology | 0.6 | 0.3 | 0.3 | 0.4 | 0.3 |
| Infectious Disease | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Nephrology | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 |
| Neurology | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 |
| Pulmonary | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 |
| Rheumatology | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 |
| Surgical | | | | | |
| ENT | 0.5 | 0.4 | 0.4 | 0.5 | 0.1 |
| General | 1.5 | 2.1 | 0.9 | 1.0 | 1.1 |
| Neurosurgery | 0.2 | 0.2 | 0.1 | 0.2 | |
| OB/GYN | 1.5 | 1.7 | 1.6 | 1.2 | 1.4 |
| Ophthalmology | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 |
| Orthopedic | 0.9 | 0.8 | 0.7 | 1.1 | |
| Plastic Surgery | 0.2 | 0.2 | 0.2 | | 0.3 |
| Urology | 0.5 | 0.4 | 0.4 | 0.5 | |

# Attachment II

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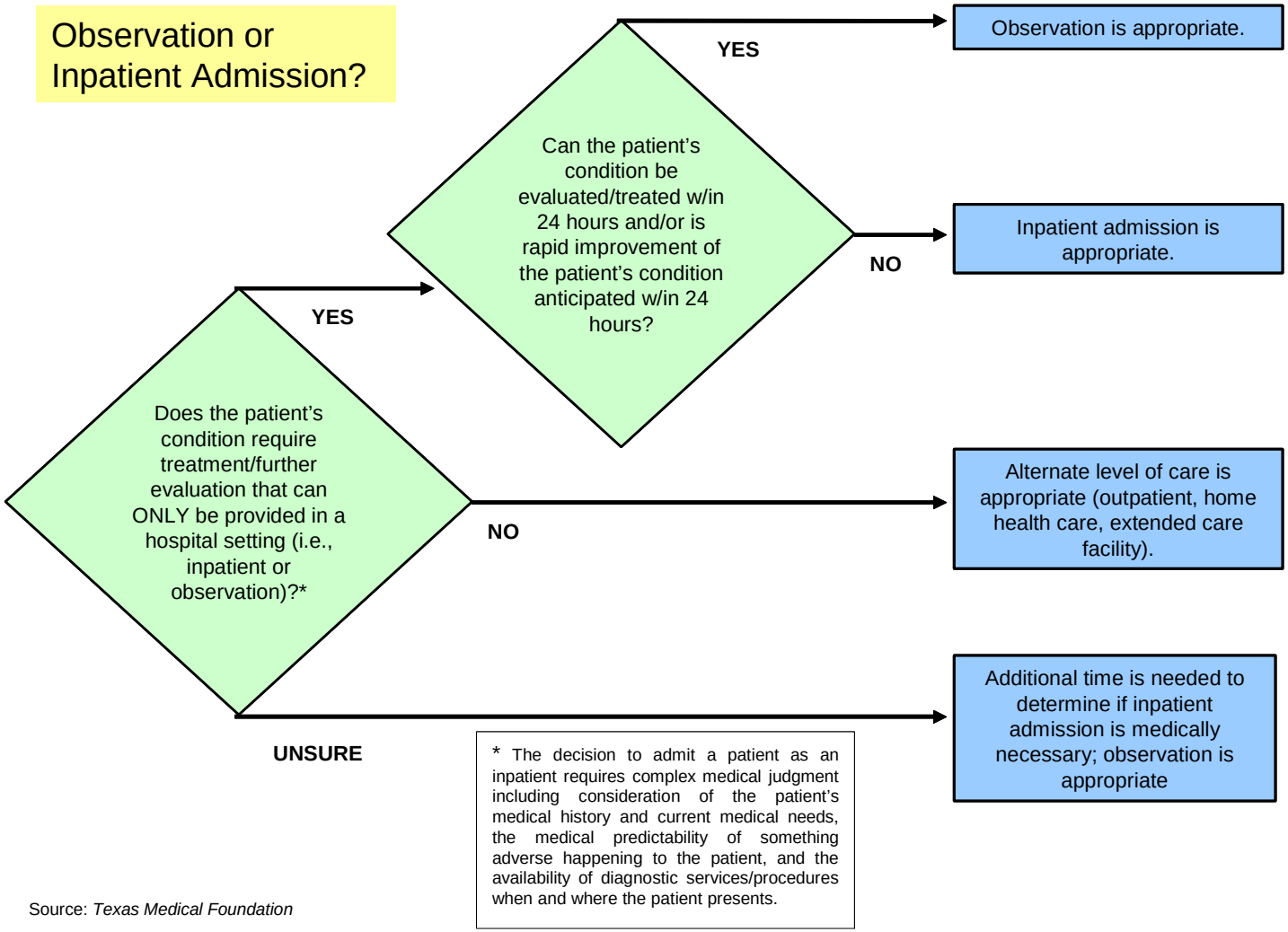
**Attachments**

## • Observation Utilization Decision Tree




* The decision to admit a patient as an inpatient requires complex medical judgment including consideration of the patient's medical history and current medical needs, the medical predictability of something adverse happening to the patient, and the availability of diagnostic services/procedures when and where the patient presents.

Source: *Texas Medical Foundation*

# Attachment III - Quality Improvement (1/8)

Introduction

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Attachments

Adverse Events

Safe Care

- Use Core Measures and 100k Lives Campaign as templates for hospital-wide QI activities
  - Design and implement PDSA cycles lasting 1-3 months testing interventions to improve individual components of a Core Measure diagnosis
  - Design composite scores for Core Measures (i.e., the percentage of patients that receive all interventions for a particular diagnosis)
  - See attachments for additional Lab and Radiology QI suggestions
- Survey organizational safety culture and address identified opportunities
  - See www.ahrq.gov/qual/hospculture for AHRQ survey and support information
- Select a high-risk process and perform a failure modes and effects analysis (FMEA)
- Perform a root cause analysis on all sentinel events and adverse events
- Track "Adverse Events"
  - Click on embedded document titled "Adverse Events" that lists Minnesota's Adverse Event Reporting Law details (Mississippi may have a similar law)
- Develop policies to address National Quality Forum-endorsed set of 30 Safe Practices for Health Care
  - Click on embedded document titled "Safe Care" for additional information
  - Note that NQF Safe Practices are being updated in 2006
- Join National Association of Healthcare Quality – www.nahq.org
- Explore Institute for Healthcare Improvement website regularly for quality improvement topics, tools, and resources – www.ihi.org/IHI
- See Attachments for additional resource websites

# Attachment III – QI (2/8)

Introduction

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**Attachments**

- Laboratory Quality Measure Options
  - **Percent of procedures varying from order** (denominator = total number of lab procedures) – *Measures accuracy of order legibility, transferring order request, patient identification, analyzer and/or laboratory information system data entry, etc.*
  - **Percent of unacceptable specimens** (denominator = total number of lab procedures) – *Identifies proper collection technique (e.g., proper collection tube) and specimen prep training opportunities.*
  - **Turn around time** (time in minutes from lab request to report transmission) – *Report transmission can be via telephone, fax, or hard copy (hard copy turnaround time must include delivery time). Select common, or time sensitive, lab tests for evaluation.*
  - **Percent of repeat lab analysis** (denominator = total number of lab procedures) – *This metric may be captured in part by percent of unacceptable specimens.*
  - **Percent change in incident reports related to lab error** (denominator = total number of lab procedures). *Change measure suggested because inter-hospital incident report frequency variation may be secondary to non-clinical issues such as ease of incident reporting and blame-free culture.*
  - **CLIA regulated analytes score –** *CLIA requires up to 86 analytes and enrollment in a proficiency testing (PT) program. Analyte score (samples sent to PT lab for analysis) may be used as a quality measure.*
  - **Frequency of equipment calibration and settings –** *Protocols provided by manufacturers.*
  - **Technician and pathologist continued education** (total CEU/CME hours divided by department FTEs) **–** *Minimum would be required hours per FTE for department and/or individual accreditation.*

# Attachment III – QI (3/8)

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- Radiology Quality Measure Options
  - **Percent change in procedure repeat rate** (denominator = total number of procedures) – *Change measure suggested because multiple variables will affect this rate including technique, equipment, physician ordering, radiologist preference, and workload. Not all variables indicate quality concerns. Goal is decreasing repeat rate. Value will be an analysis of where, who, and why procedures are repeated.*
  - **Percent of procedure results (images) reviewed with mentor** (denominator = total number of procedures) – *This can occur at two or more levels. A senior technician or an outside consultant could review images with department technicians. Also, a consortium of hospitals could hire a radiologist to review images ("over-reads") if this is not already performed by a radiology group.*
  - **Turn around time** (time in minutes from procedure request to report transmission) – *Report transmission can be via telephone, fax, or hard copy (hard copy turnaround time must include delivery time).*
  - **Mammogram review "score" by American College of Radiology (ACR)** – *Includes sending mammogram images to ACR for over-read. Required every three years.*
  - **Frequency of equipment calibration and settings –** *There are formal (ACR) and informal programs to complete this.*
  - **Ordering provider perception of radiology report quality –** *Requires surveying ordering providers. Survey question might read, "How well do radiology reports facilitate your patient care?"*
  - **Percent of procedures in adherence to evidence-based imaging protocols** (denominator = total number of procedures for which protocol is internally implemented) – *Protocols include contrast (type, volume, timing), number of sequences, type of scan, etc.*
  - **Technician and radiologist continued education** (total CEU/CME hours divided by department FTEs) **–** *Minimum would be required hours per FTE for department and/or individual accreditation.*

# Attachment III – QI (4/8)

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**Attachments**

- *Do Not Use* List of Dangerous Abbreviations
  - Write "units" – *do not use "u"*
  - Write "international units" – *do not use "IU"*
  - Write "daily" and "every other day" – *do not use "Q.D." or "Q.O.D."*
  - Write "1" and "0.5" – *do not write "1.0" and ".5".* Eliminate trailing zeros and use leading zeros
  - Write "Morphine" and "Magnesium" – *do not use abbreviations like MSO4, MgSO4, and MS*
  - Write "mcg" – *do not use the Greek letter "µ"*
  - Write out all chemotherapy names
  - Write "eye" "ear" "left" "right" and "both" – *do not use "ad" "as" "au" "od" "os" and "ou"*
- Further Resources
  - ISMP List of Error-Prone Abbreviations, Symbols, and Dose Designations www.ismp.org/PDF/ErrorProne.pdf
  - Joint Commission (Implementation Tips for Eliminating Dangerous Abbreviations) www.jcaho.org/accredited+organizations/patient+safety/05+npsg/tips.htm
  - Joint Commission Official "Do Not Use" Abbreviations List www.jcaho.org/accredited+organizations/patient+safety/npsg.htm

# Attachment III- QI (5/8)

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- Quality and Patient Safety Resources
  - Joint Commission (ORYX Core Measures) at http://www.jcaho.org/pms/core+measures/index.htm
  - National Quality Forum (quality and safety initiatives) at www.qualityforum.org/publications.html
  - Centers for Medicare/Medicaid Services (Hospital Quality Initiative) at www.cms.hhs.gov/quality
  - American Hospital Association (The Quality Initiative) at www.hospitalconnect.com
  - Institute of Healthcare Improvement (safety culture development) at www.ihi.org
  - 2004 ISMP Medication Safety Self Assessment® for Hospitals www.ismp.org/Survey/Hospital/Intro.htm
  - ECRI – Medication Safety Solutions Kit www.ecri.org/Products_and_Services/Products/Medication_Safety/
  - Safety survey at www.ahrq.gov/qual/hospculture and www.ihi.org/IHI/Topics/PatientSafety/SafetyGeneral/Tools

# Attachment III- QI (6/8)

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Attachments

- Pharmacy QI
  - Create a PI focus team to complete a "Medication Safety Self Assessment" to determine direction for performance improvement in medication patient safety arena
    - Click on embedded Institute of Medicine document "Preventing Med Errors"
    - Click on embedded document "Med Safety Self Assess" for process and tool
  - Implement the "do-not-use abbreviation list" if not in place
    - See Attachments for listing and resources
    - Requires physician and staff education
    - Posted reminders at key documentation areas
    - Tracking and graphing outcome through PI committee
      - May require tracking by staff members to know who to work with if not successful in meeting target


Preventing Med Errors


Med Safety Self Assess

# Attachment III – QI (7/8)

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Attachments

- Pharmacy QI (continued)
  - Begin work on Medication Reconciliation if process not in place yet
    - Click on embedded document "Med Recon" for additional information
  - Budget for an automated prescription drug dispensing equipment designed to reduce medical errors
    - Companies such as MGD Medical, Pyxis Corp., San Diego and Omnicell all provide such system
      - Some now have more affordable systems targeted to small hospitals
      - Some have the capability of adding bar-coding system which is the next step to ensure patient safety but requires being cognizant of the potential for "new" errors
      - Click on embedded document "Bar Coding Errors" for additional information
  - Additional resources
    - Tools for safe medication practice

      www.ismp.org/Survey/Hospital/Intro.htm
    - ECRI – Medication Safety Solutions Kit
      www.ecri.org/Products_and_Services/Products/Medication_Safety/


Med Recon


Bar Coding Errors

# Attachment III – QI (8/8)

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Attachments

- Pharmacy QI (continued)
  - Develop a KVMH medication error tracking and safety program
    - See www.qualityhealthcare.org for medication error tools and other innovative quality improvement ideas
    - Use National Coordinating Council and Medication Error Reporting and Prevention (NCC MERP) nomenclature. For index, algorithm, and other medication error information, see www.nccmerp.org/mederrorcatindex.html
    - Goal is to increase the proportion of errors that do not reach the patient, not decrease the total errors reported
    - Develop user-friendly medication error reporting mechanisms
    - Encourage non-punitive reporting (e.g., thank person reporting an error for opportunity to improve process)
    - Measurement goal is to increase the proportion of errors that do not reach the patient, and decrease the proportion of errors that do reach the patient

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# Quality of Life (cont') – CMS Clarifications

- See http://www.cms.hhs.gov/snfpps/downloads/cms-1282-f - display.pdf for more information
- **Program of Activities**: In accordance with 42 CFR 483.15(f), swing beds must provide "for" a program of activities.... If the hospital infrequently uses swing beds, or has a length of stay inappropriate to activities, they would need to have a plan for activities in policy and procedure to address when it would be appropriate and how they would provide the activities. If the activities are inappropriate from the medical point of view because of the condition of the patient and the length of stay, an activities program needs to be modified to be appropriate for the patient.