



Improving utilization of 25-hydroxyvitamin D and 1,25-dihydroxyvitamin D testing

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MLSP 6905 Capstone Project Presentation

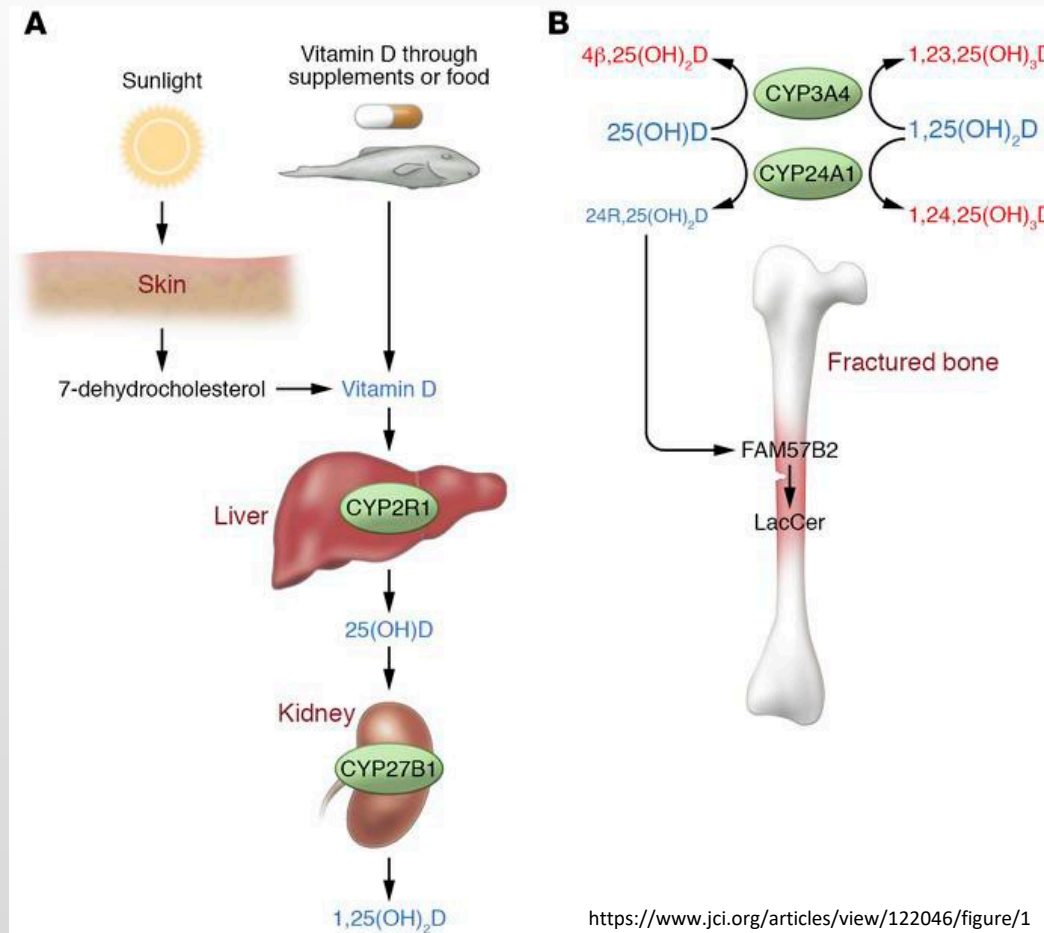
Project Research Question

- Reducing utilization of 25-hydroxyvitamin D
- Differentiation of 25-hydroxyvitamin D and 1,25-dihydroxyvitmin D
- Improving utilization of 1,25-dihydroxyvitamin D testing among inpatients

Literature Review / Background

- Right patient, right time
- Laboratory reimbursements for inpatients based on a single diagnosis related group (DRG)
- 25-hydroxyvitamin D useful for vitamin D deficiency or toxicity
- 1,25-dihydroxyvitamin D useful for kidney function or hypercalcemia

Relationship of 25(OH)D and 1,25(OH)₂D



Materials & Methods

- Inpatients and outpatients
- HeathEast (2016-2018)
- Changing the name of 25-hydroxyvitamin D to total vitamin D
- Putting in a best practice alert (BPA) in the EMR system for 1,25-dihydroxvitamin D
- Creating an alert in the EMR for the most recent total vitamin D result

Discussion

- 40% reduction in total vitamin D tests for inpatients
- 69% reduction in 1,25-dihydroxyvitamin D tests for inpatients
- 41% increase in total vitamin D tests for outpatients
- 46% reduction in 1,25-dihydroxyvitamin D tests for outpatients

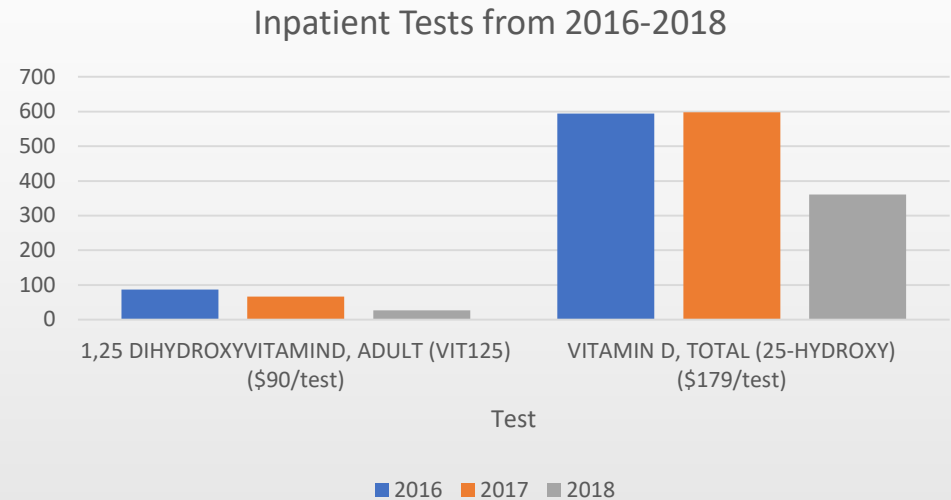


Figure 1: Inpatient tests for both vitamin D tests from 2016-2018

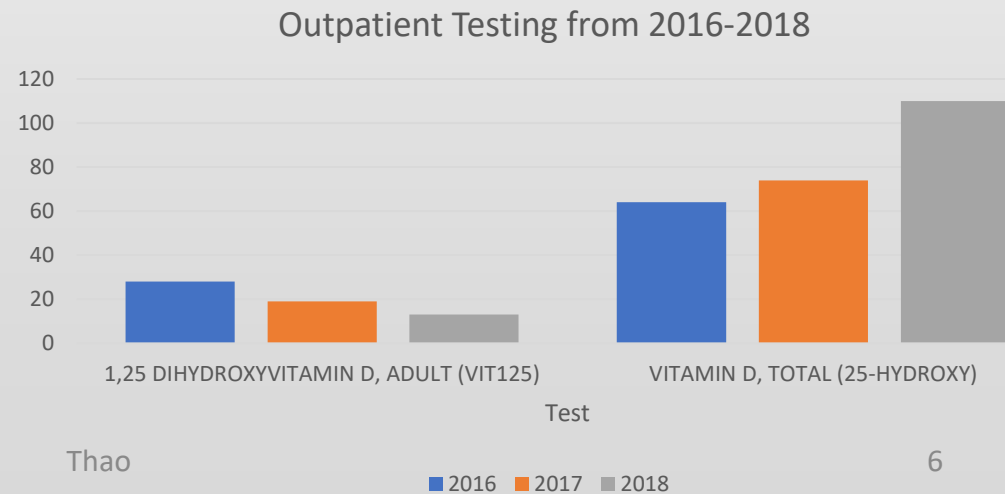


Figure 2: Outpatient tests for both vitamin D tests between 2016-2018

Discussion

- DRG's associated with both tests in 2016 were either reduced or no longer associated with the tests in 2018
- Total vitamin D (25-hydroxyvitamin D) associated more with kidney related diagnoses than 1,25-dihydroxyvitamin D

DRG MOST COMMON FOR VITAMIN D, TOTAL	2016	2017	2018
KIDNEY AND URINARY TRACT RELATED DIAGNOSES	24	23	27
BIPOLAR DISORDERS	26	52	7
DEGENERATIVE NERVOUS SYSTEM DISORDERS	55	1	4
PSYCHOSES	93	181	50
OTHER	383	324	269
NO DRG (MAINLY OUTPATIENTS)	76	91	114
GRAND TOTAL	657	672	471

Table 1: Total Vitamin D test and most common diagnoses related to testing

DRG MOST COMMON FOR 1,25-DIHYDROXYVITAMIN D	2016	2017	2018
KIDNEY AND URINARY TRACT RELATED DIAGNOSES	5	5	3
ALCOHOL, DRUG ABUSE OR DEPENDENCE RELATED DRG	8	6	0
MISCELLANEOUS DISORDERS OF NUTRITION, METABOLISM, FLUIDS AND ELECTROLYTES	7	10	10
SEPTICEMIA RELATED DRG	6	9	0
OTHER	59	36	14
NO DRG (MAINLY OUTPATIENTS)	30	20	13
GRAND TOTAL	115	86	40

Table 2: 1,25-Dihydroxyvitamin D test for adults and most common diagnoses related to testing

Conclusion

- Changes in the electronic medical record system effective in reducing test volumes for both vitamin D tests
- Name change was necessary for improved utilization of total vitamin D tests for outpatients
- EMR's are almost essential to help improve utilization of laboratory tests

Study Limitations / Next Steps

- Use of vitamin D supplementation unknown for patients
- Exact wording of BPA for 1,25-dihydroxyvitamin D unknown and limited to inpatients only

References

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