



Making the Calculations Curriculum Count

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BACKGROUND

Data from the North American Pharmacist Licensure Examination (NAPLEX) indicates Domain 4 (Perform Calculations) is an area where graduates underperform nationally.

OBJECTIVE

To identify opportunities to infuse calculations instruction, application, and assessment throughout the didactic, skills lab, and experiential curriculum, with a focus on NAPLEX preparedness.

METHODS

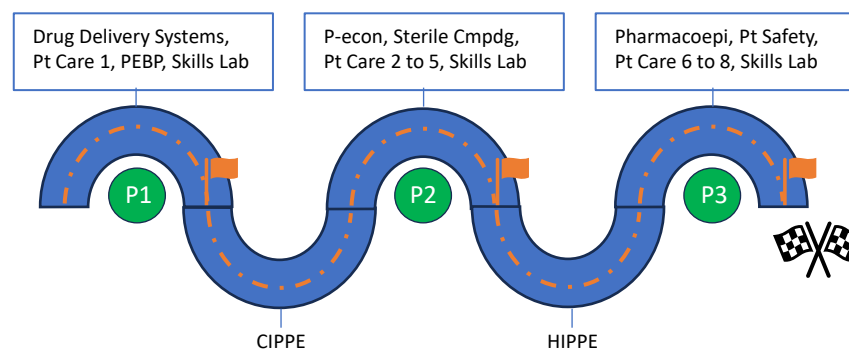
- Created calculations workgroup
- Reviewed syllabi of required courses to identify calculations content across the curriculum
- Determined breadth and depth of assessments of calculations throughout curriculum
- Mapped calculations content, assessments, and yearly milestone examinations to NAPLEX blueprint
- Presented recommendations to Curriculum Committee

RESULTS

Calculations Milestones* Mapped to NAPLEX Blueprint

NABP Area	P1	P2	P3	Total
4.1 Patient parameters/lab measures	1	1	1	3
4.2 Quantities of drugs to be dispensed or administered	5	1	5	11
4.3 Rates of administration	-	5	2	7
4.4 Dose conversions	1	-	1	2
4.5 Drug concentrations, ratio strengths, osmolarity, osmolality, or extent of ionization	9	8	9	26
4.6 Quantities of drugs or ingredients to be compounded	9	6	7	22
4.7 Nutritional needs and the content of nutrient sources	-	-	-	-
4.8 Biostatistics, epidemiological, or pharmaco-economic measures	-	2	-	2
4.9 Pharmacokinetic parameters	3	2	2	7

*Each milestone is 20 items in constructed-response format



RECOMMENDATIONS

Recommendations to Curriculum Committee	Timing
Increase compounding calculations contact time and number of items on high-stakes assessment in Drug Delivery Systems	P1
Add items on 4.1 to 4.4 to weekly skills lab quizzes	P1, P2
Add calculations to CIPPE and HIPPE workbooks and quizzes	P1, P2
Expand calculations for therapeutic drug monitoring by adding PK case scenarios to Patient Care and Skills Lab activities	P2, P3
Add biostatistics calculations to journal club assignments	P2, P3
Increase items on milestones from 20 to 30 and mimic pace of NAPLEX	All years
Add to appropriate milestone: nutrition calculations, biostatistics items, and variety of patient parameter items	All years

CONCLUSION

- Systematic curricular review provided opportunities to identify, reinforce, add and better assess calculations concepts within current courses
- Next steps include assessment of performance on calculations milestones and NAPLEX to evaluate the impact of changes to the calculations curriculum

❖ Special thanks to UF COP Calculations Workgroup