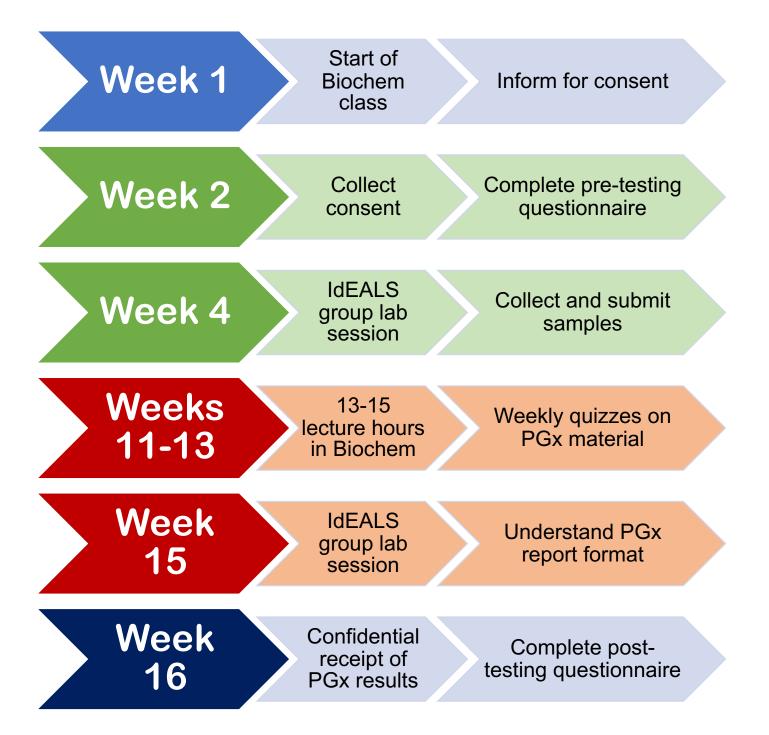
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### INTRODUCTION

ALL Pharmacy students should know their PGx profile from the moment they enter the pharmacy school curriculum.

### **METHODS**



All procedures were approved by the East Tennessee State University/VA Campus IRB.

### PGx tests used were:

Fall 2018: DNA2Rx test for 18 genes; Dr. Tim Wiltshire, UNC Eshelman School of Pharmacy; and

Fall 2019: RightMed® test for 24 genes; OneOme Co, Minneapolis, MN).

Tests were given FREE of charge to ALL consenting students.

### **RESULTS**



### **DISCUSSION**

Early immersion provides a useful template for PGx education. Student interest for PGx in the clinical curriculum was raised. PGx testing can be a foundation for pharmacy education.

# Individual PGx testing for ALL incoming PharmD students promotes PGx learning through

the ENTIRE curriculum.

## The future, one swab at a time

Pharmacy students try determining what drugs work and how well via DNA testing

When Abby Lopp, a firstyear pharmacy student at
East Tennessee State
University Bill Gatton
College of Pharmacy,
received the report back of
how her body processes
different pharmaceutical
compounds, also called her
pharmacogenomics (PGx)
profile, it shined new light
on her medical history.
"I used to take Zyrtec in
high school and remember
feeling tired and drowsy,"
said Lopp, from Jefferson,



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TSU College of Pharmacy students take their DNA swab tests that will tell them how their bodies process certain medications and how to change medications for the most bang for their bucks.





### Personal PGx analysis for all first-year PharmD students: A foundation for guided implementation

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Student participant during APPE training;
‡ Student participant in the Concentration in Pharmacy Research Program;

Department of Pharmaceutical Sciences, Bill Gatton College of Pharmacy (BGCOP)

	F2018		F2019		ALL
Median Age (yrs.)	21		22		22
Age range	19 - 31		20 - 39		19 - 39
Ethnicity	#	%	#	%	%
White or Caucasian (not Hispanic or Latino)	72	85.7	49	69.0	79.1
Asian	6	7.1	9	12.7	9.8
Black or African American	2	2.4	9	12.7	7.2
Hispanic or Latino	2	2.4	4	5.6	3.9
American Indian or Alaska Native	1	1.2	0	0.0	0.7
Native Hawaiian or Pacific Islander	0	0.0	0	0.0	0.0
Other: Egyptian	1	1.2	0	0.0	0.7
TOTAL	84		71		

	F2018		F2019		Sum	
	#	%	#	%	#	%
Taking any medications?						
Yes	25	30.9	46	64.8	71	46.7
No	56	69.1	25	35.2	81	53.3
Medications ineffective?						
Yes	26	32.1	30	42.3	56	36.8
No	55	67.9	41	57.8	96	63.2
Medication side effects?						
Yes	54	66.7	38	53.5	92	60.5
No	27	33.3	33	46.5	60	39.5

Gene	DNA 2 Rx test	RightMed® test
name	(UNC)	(OneOme)
CYP1A2		++
CYP2B6	++	++
CYP2C9	++	++
CYP2C19	++	++
CYP2C Cluster*		++
CYP2D6	++	++
CYP3A4	++	++
CYP3A5	++	++
CYP4F2	++	++
ABCB1	++	
BCHE	++	
COMT		++
DPYD	++	++
DRD2		++
G6PD	++	
HLA-A		++
HLA-B		++
HTR2A		++
HTR2C		++
IFNL4		++
NAT2	++	
NUDT15	++	++
OPRM1		++
RYR1	++	
SLC6A4		++
SLCO1B1	++	++
TPMT	++	++
UGT1A1	++	++
VKORC1	++	++
Total genes	18	24



