



U-PGx Clinician`s Questionnaire

QUESTIONNAIRE for PHARMACISTS and PHYSICIANS

To whom the questionnaire addresses:

- physicians (treating and dosing patients)
- hospital pharmacists (therapy adjustments, dose adjustments)

Introduction

This is an anonymous questionnaire to evaluate the views and knowledge of current drug prescribers on pharmacogenomics and its role in individualizing patient treatment. This study is part of the work being carried out by a pan-European research collaboration called Ubiquitous Pharmacogenomics (U-PGx: <http://upgx.eu/>). The results of this questionnaire will support the development of a short e-Learning Tool on pharmacogenomics for clinicians and pharmacists. This questionnaire is anonymous. However, the outcome of the questionnaire will be published in a scientific journal. We are grateful to you for taking the time to answer the following questions.



SECTION 1: EXPERIENCE AND ATTITUDE

1)

Please rank.

disagree

agree

1

2

3

4

Pharmacogenomics is relevant to my current practice.

0

0

0

0

2)

How are you involved in the U-PGx project?

- I am not involved at all
- I treat patients that get tests
- I adjust doses/provide recommendations
- I order tests by myself
- other: _____

(if other, please specify)

3)

In general, on which of the following do you predominantly base your drug dosing?
(please select all that apply)

- indication
- body weight
- body height
- body surface
- renal function
- liver function
- age
- sex
- therapeutic drug monitoring
- pharmacogenomics
- biomarker
- comorbidities
- comedication

(if other, please specify)

other: _____



4a)

- How many times did you order/ recommend a pharmacogenomics test last year?
- 0
 - 1/ month
 - 2-5/ month
 - 6-10/ month
 - 11-20/ month
 - >20/ month

4b)

Please select why you would not order a test:
(please select all that apply)

- not applicable
- concerns about privacy
- little-or-no, or uncertain about the value of testing
- lack of insurance coverage for testing
- not enough personal knowledge about genomic testing
- not familiar with the legal issues and regulations of pharmacogenomics testing
- patients' resistance to genomic testing
- I do not prescribe drugs with genomic tests available or recommended
- other: _____

(if other, please specify)

4c)

If ≥ 1 , could you use the test result?

- Yes
- No, I did not know how to interpret it.
- No, because it took too long for the pharmacogenomics test result to come back
- There was no abnormality.
- other: _____

(if other, please specify)

4d)

If ≥ 1 , who paid for the test? (one)

- patient
- clinic
- health insurance
- other: _____

(if other, please specify)

5)

Why do you usually order pharmacogenomics tests?
(please select all that apply)

- obligatory companion diagnostic
- preventing/ explaining side effects
- dose adjustments
- for research purposes
- tumour diagnostic
- not applicable
- other: _____

(if other, please specify)



SECTION 2: KNOWLEDGE

Please rank your perceived knowledge on a scale.

6a)

I am familiar with classical genetics.

disagree		agree	
1	2	3	4
0	0	0	0

6b)

Where did you learn about this topic?

university
 as a junior staff member
 conference
 journal
 internet
 never
 other: _____
 (if other, please specify)

6c)

When did you learn about this topic the last time?
(How many years ago?)

1-2
 2-3
 3-5
 5-10
 >10
 never

Please rank your perceived knowledge on a scale.

7a)

I am familiar with pharmacology and drug metabolism.

disagree		agree	
1	2	3	4
0	0	0	0

7b)

Where did you learn about this topic?

university
 as a junior staff member
 conference
 journal
 internet
 never
 other: _____
 (if other, please specify)

7c)

When did you learn about this topic the last time?
(How many years ago?)

1-2
 2-3
 3-5
 5-10
 >10
 never



Please rank your perceived knowledge on a scale.

8a)

I am familiar with pharmacogenomics.

disagree

1 2 3 4

agree

0 0 0 0

8b)

Where did you learn about this topic?

- university
- as a junior staff member
- conference
- journal
- internet
- never

(if other, please specify)

other: _____

8c)

When did you learn about this topic the last time?
(How many years ago?)

- 1-2
- 2-3
- 3-5
- 5-10
- >10
- never

Please rank your perceived knowledge on a scale.

9a)

I am familiar with the role of drug metabolizer phenotypes (e.g. a poor metabolizer).

disagree

1 2 3 4

agree

0 0 0 0

9b)

Where did you learn about this topic?

- university
- as a junior staff member
- conference
- journal
- internet
- never

(if other, please specify)

other: _____

9c)

When did you learn about this topic the last time?
(How many years ago?)

- 1-2
- 2-3
- 3-5
- 5-10
- >10
- never



SECTION 3: KNOWLEDGE TESTING

Please answer the following questions to the best of your knowledge (select one answer only per question).

12)

What may be the consequence of a pharmacogenomic polymorphism?

- an individual cannot metabolize any drugs
- an individual has a higher risk for toxicity when using prescription drugs
- a single drug dose is appropriate for a given indication
- individualized dose adjustments should be made according to body surface area

13)

The European Medicine Agency currently includes pharmacogenomics information in the drug labels of how many medications?

- 5-10
- 11-50
- 51-100
- >100

14)

What does a poor metabolizer (PM) phenotype indicate?

- lower drug safety because of poor metabolism
- good drug efficacy because of poor metabolism
- decreased enzyme activity
- increased enzyme activity

15)

A person who is a PM for CYP2D6 gets a medication that induces CYP2D6. What may be a consequence?

- decreased CYP2D6 activity
- no activity of CYP2D6, no consequence
- increased CYP2D6 activity
- the person becomes an intermediate metaboliser (IM) for CYP2D6



SECTION 4: NEEDS ASSESSMENT

Please rank.	disagree				agree
16)	1	2	3	4	
I can identify drugs that require pharmacogenomics testing.	0	0	0	0	

Please rank.	disagree				agree
17)	1	2	3	4	
I am confident that I can use the results of pharmacogenomics tests to make an appropriate adjustment to a patient's drug therapy.	0	0	0	0	

- 18)**
To adjust therapy based on pharmacogenomics tests (more often) I would need...
(please select all that apply)
- better knowledge on genetics
 - better knowledge on pharmacology
 - better knowledge on drug metabolism
 - better knowledge on the basic concepts of pharmacogenomics
 - a better evidence base that pharmacogenomics improves clinical outcomes
 - better ability to apply my knowledge
 - better knowledge of legal regulations
 - support of my working institution
 - insurance coverage
 - expert counsel
- (if other, please specify) other: _____

- 19)**
What would be your preferred format for learning more about pharmacogenomics in the future?
(please select all that apply)
- scientific article
 - conference talk
 - accredited learning course
 - continuing medical education-accredited workshop
 - patient cases
 - medical app
 - e-learning course
- (if other, please specify) other: _____

- 20)**
How much time would you spend on an e-learning program on pharmacogenomics?
- < 30 minutes
 - 30 minutes
 - 60 minutes
 - 90 minutes



SECTION 5: DEMOGRAPHICS

Please tell us:

21)

Your year of birth? _____

22)

Your gender? _____ o male o female

23)

Your profession? _____ o pharmacist
(please select what applies best) o physician
(if other, please specify) o other: _____

24)

In which country do you work? _____
o Austria
o Great Britain
o Greece
o Italy
o Netherlands
o Slovenia
o Spain

25)

Number of years working within your profession since graduating from university? _____
o 1
o 2-5
o 6-10
o 11-20
o >20

26)

What is your primary practice setting? _____ o hospital outpatients or ambulatory care
(please select what applies best) o hospital inpatients
o community-based nursing home
o academia
o research
(if other, please specify) o other: _____



27)

What is your speciality? (one)

- anaesthetics
- biochemistry
- cardiology
- clinical pharmacology
- emergency or acute medicine
- endocrinology and diabetes
- gastroenterology
- general pharmacy
- genetics
- infectious diseases and microbiology
- haematology
- hospital pharmacy
- nephrology
- neurology
- obstetrics/gynaecology
- oncology
- pathology
- paediatrics
- primary care/ family medicine
- psychiatry
- radiology
- respiratory
- rheumatology
- surgery
- other: _____

(if other, please specify)

28)

How would you describe your practice setting? (one)

- university/academic
- urban
- suburban
- rural

(if other, please specify)

other: _____

29)

Please list any additional comments or feedback here: (max. 250 words)