



# Pharmacist Medication Reviews via Videoconference: A Prospective Cohort Pilot Study in Remote and Rural Underserved Communities

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## Background

- Canada has a publicly funded universal health care system, but not all residents have the same access to care, including that of a pharmacist
- Multidisciplinary telemedicine teams including pharmacists have demonstrated improved health outcomes
- Telemedicine, utilizing videoconferencing (VC) technology, has improved access to healthcare in remote communities; pharmacists have an opportunity to expand their care to patients who do not have in-person access to a pharmacist
- Patient eligibility for The Ontario Ministry of Health and Long-Term Care (MHLTC) MedsCheck Program requires that medication reviews be conducted in-person only
- For patients in isolated communities, without a community pharmacy, pharmacist medication reviews are non-existent

## Description

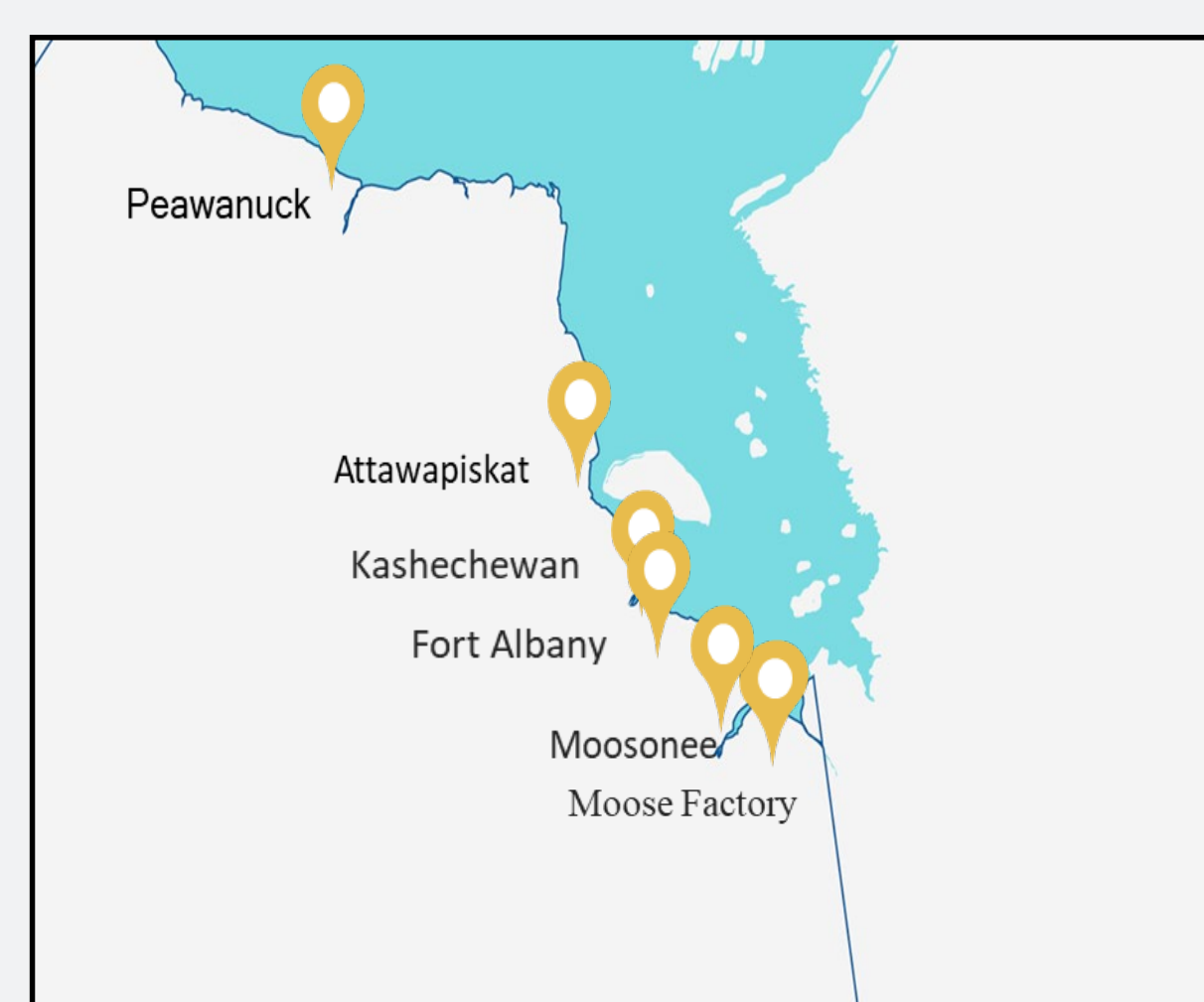
- This prospective cohort pilot study included interviewing patients in two remote communities in the James Bay region of Ontario
- The primary objective was to describe the feasibility of utilizing videoconference (VC) technology for pharmacists to communicate with patients as an alternative to in-person medication reviews
- Secondary objectives were: to determine patient acceptability, time requirements to conduct medication reviews, describe the occurrence, causes, interventions and outcomes of medication-related problems (DTP) identified and resolved by the pharmacist, and to describe barriers, inefficiencies and facilitators of VC interviews
- Patients who were eligible for a medication review (adults on at least three medications for chronic conditions or on one or more diabetes medications) were interviewed at their local hospital/nursing station via encrypted VC (Ontario Telemedicine Network or OTN)
- A pharmacy software search was conducted on Sept 9, 2017 for adult patients in the two study communities having filled their prescriptions in the previous 100 days (date range June 1-Sept 9/17), followed by a manual review to identify those meeting study eligibility

## Action

- The pharmacist identified eligible patients via Kroll<sup>®</sup> Pharmacy Software.
- Eligible patients were contacted by telephone to set up a VC interview with the pharmacist
- The pharmacist used a motivational interviewing approach
- Identified drug therapy problems (DTP or DRP) were discussed with the patient and/or their prescribers
- Following the interview the patients were asked to complete an anonymous satisfaction survey on the pharmacist interview
- DTPs were documented using the Pharmaceutical Care Network Europe Foundation V6 classification system (PCNE V6)
- Inefficiencies, barriers and facilitators of completing a medication review interview were documented by the pharmacist

## Results

Figure 1: James Bay Region, ON



### TRANSPORTATION

- Commercial/charter aircraft
- Train to Mooseonee (400 km)
- Barge to Moose Factory
- Barge to other communities (summer)
- Winter road as far as Attawapiskat

Figure 2: Study Flow Diagram

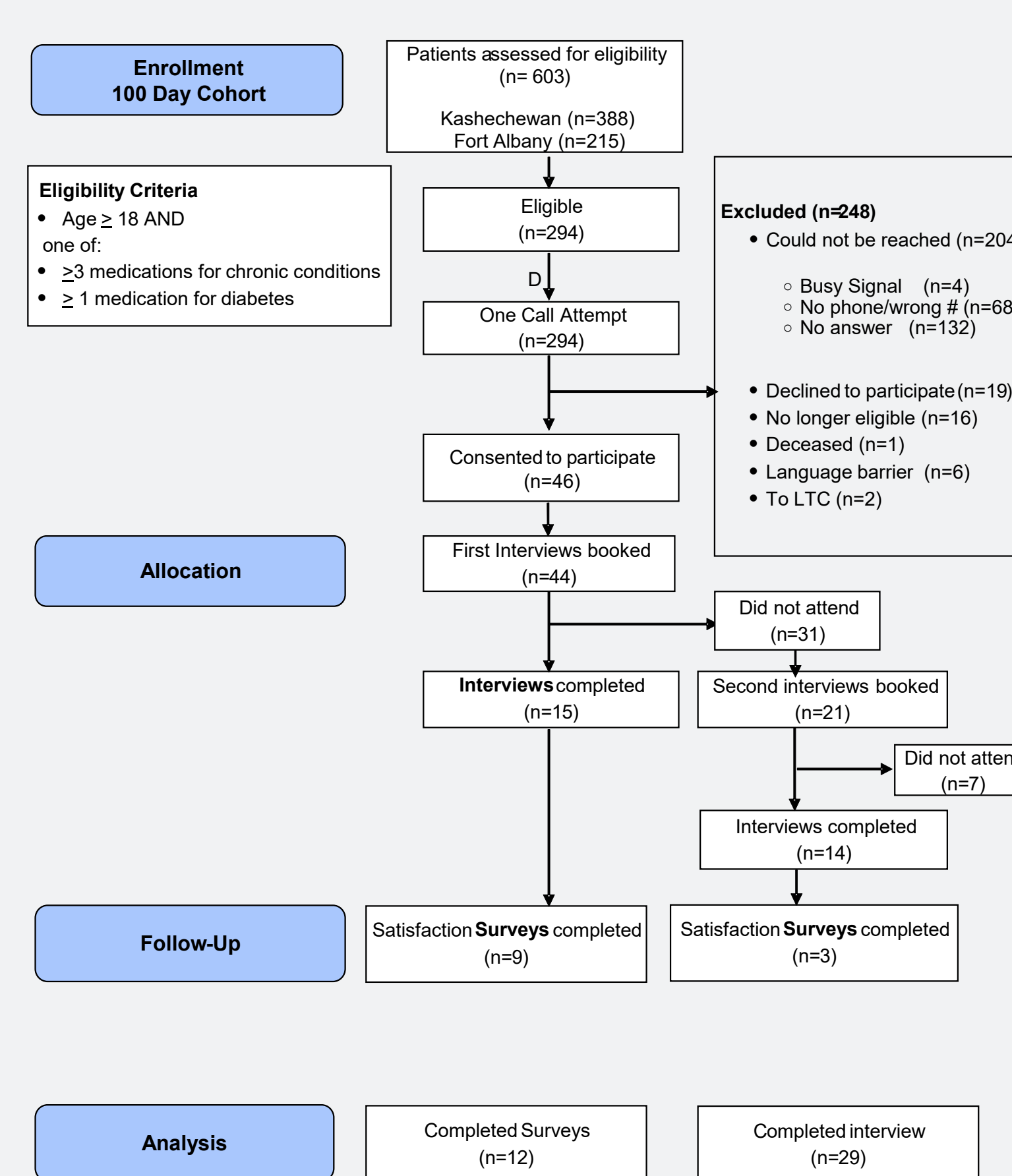


Figure 3: Patient at Risk of Drug Therapy Problem

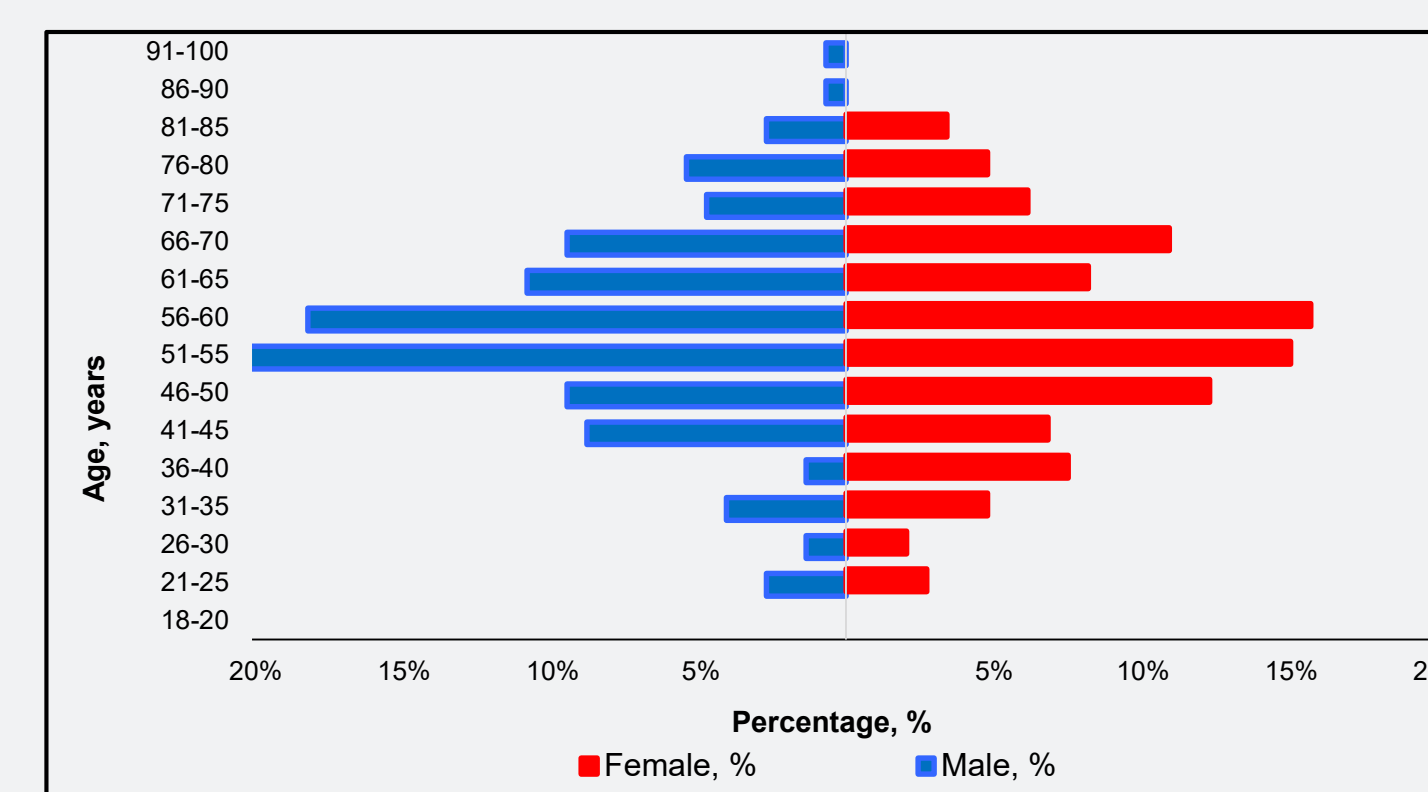


Figure 4: Study Participants

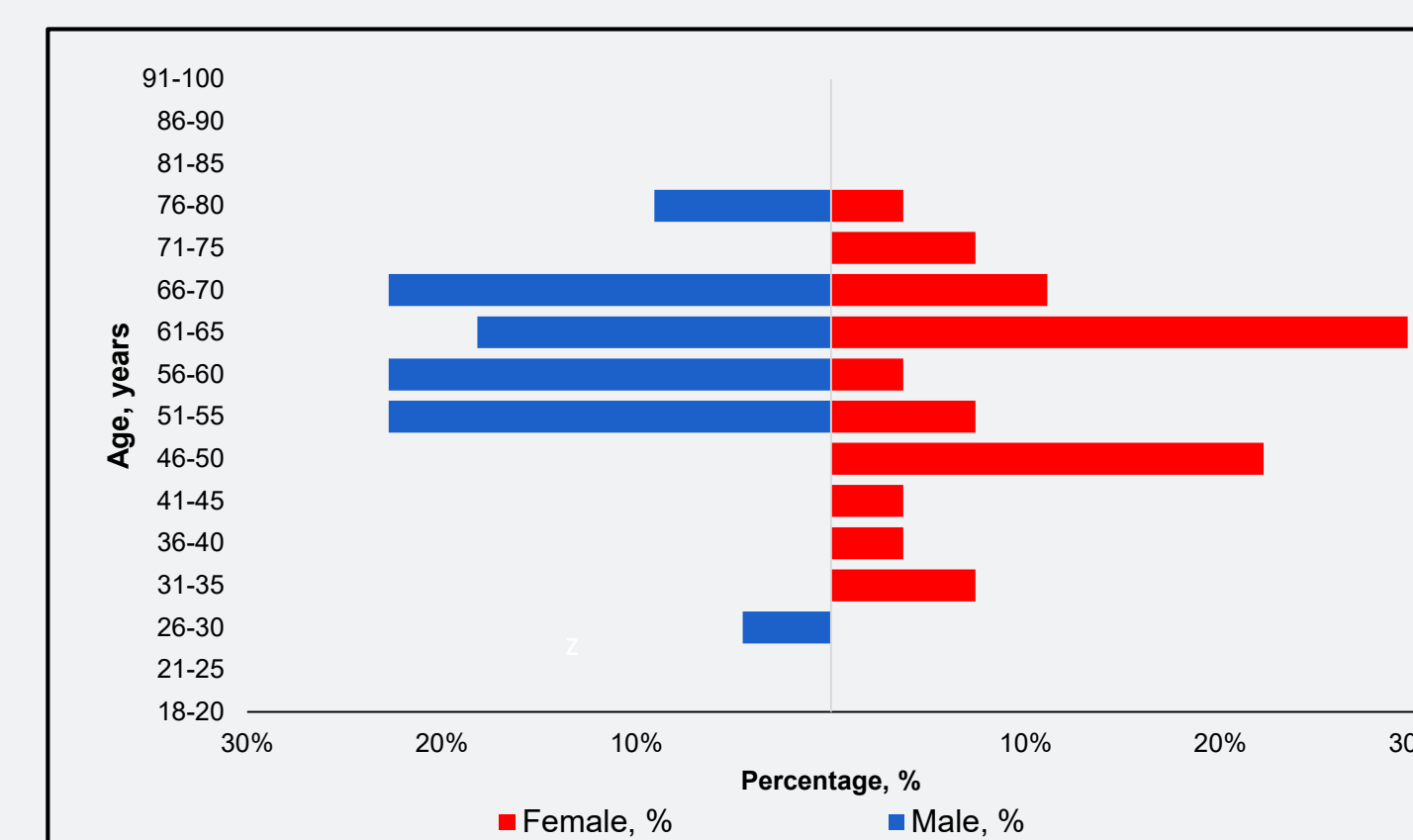


Figure 5: Drug Therapy Problems: Type\* and Rate

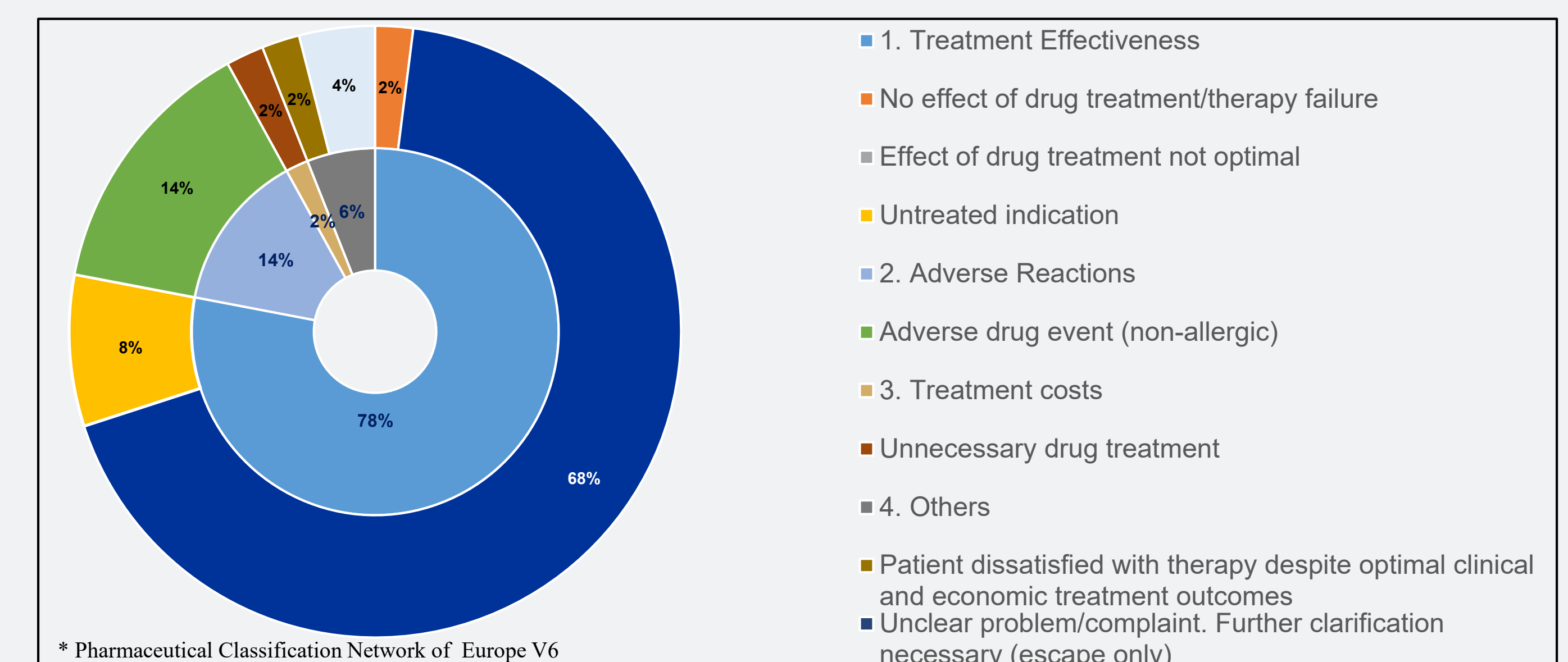


Table 1: Study Interview Characteristics

Interview characteristics	Value	SD
Average number of medications per patient, count	9.7	3.3
Average number of DRPs per patient, count	1.8	0.9
Average time for preparation per patient, min	14.0	4.7
Average duration of the interview per patient, min	19.6	6.3
Rate of Potential Problem, %	86	-
Rate of Manifest Problem, %	14	-
Rate of available physician approval, %	65	-
Rate of patient participation, %	63	-

Table 2: Patient Satisfaction Survey using the 5-point Likert Scale (n=12)

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
I feel my care is better because the pharmacist uses the video to see me	33.3%	50.0%	16.7%	0.0%	0.0%	100.0%
I feel comfortable with my pharmacist visiting me using the video	25.0%	75.0%	0.0%	0.0%	0.0%	100.0%
If a pharmacist is not available to see me in person I would rather not use the video to see me	0.0%	33.3%	25.0%	33.3%	8.3%	100.0%
Communicating with the pharmacist with the video is easy	58.3%	41.7%	0.0%	0.0%	0.0%	100.0%
I support the use of the video to meet with the pharmacist	41.7%	58.3%	0.0%	0.0%	0.0%	100.0%
The video makes it more difficult for me to communicate the way I would like to	0.0%	25.0%	33.3%	33.3%	8.3%	100.0%
I feel the video is annoying	0.0%	18.2%	0.0%	54.5%	27.3%	100.0%
The use of the video for pharmacists to interview patients should be a regular practice	33.3%	58.3%	8.3%	0.0%	0.0%	100.0%
I am concerned the pharmacist cannot properly discuss my medications using the video	0.0%	33.3%	8.3%	41.7%	16.7%	100.0%
If the pharmacist is not available to see me in person, using the video is not a caring way to see me	0.0%	16.7%	8.3%	41.7%	33.3%	100.0%

### Overall Survey Responses:

77% positive

10% undecided

13% negative

Figure 6: Drug Therapy Causes: Type\* and Rate

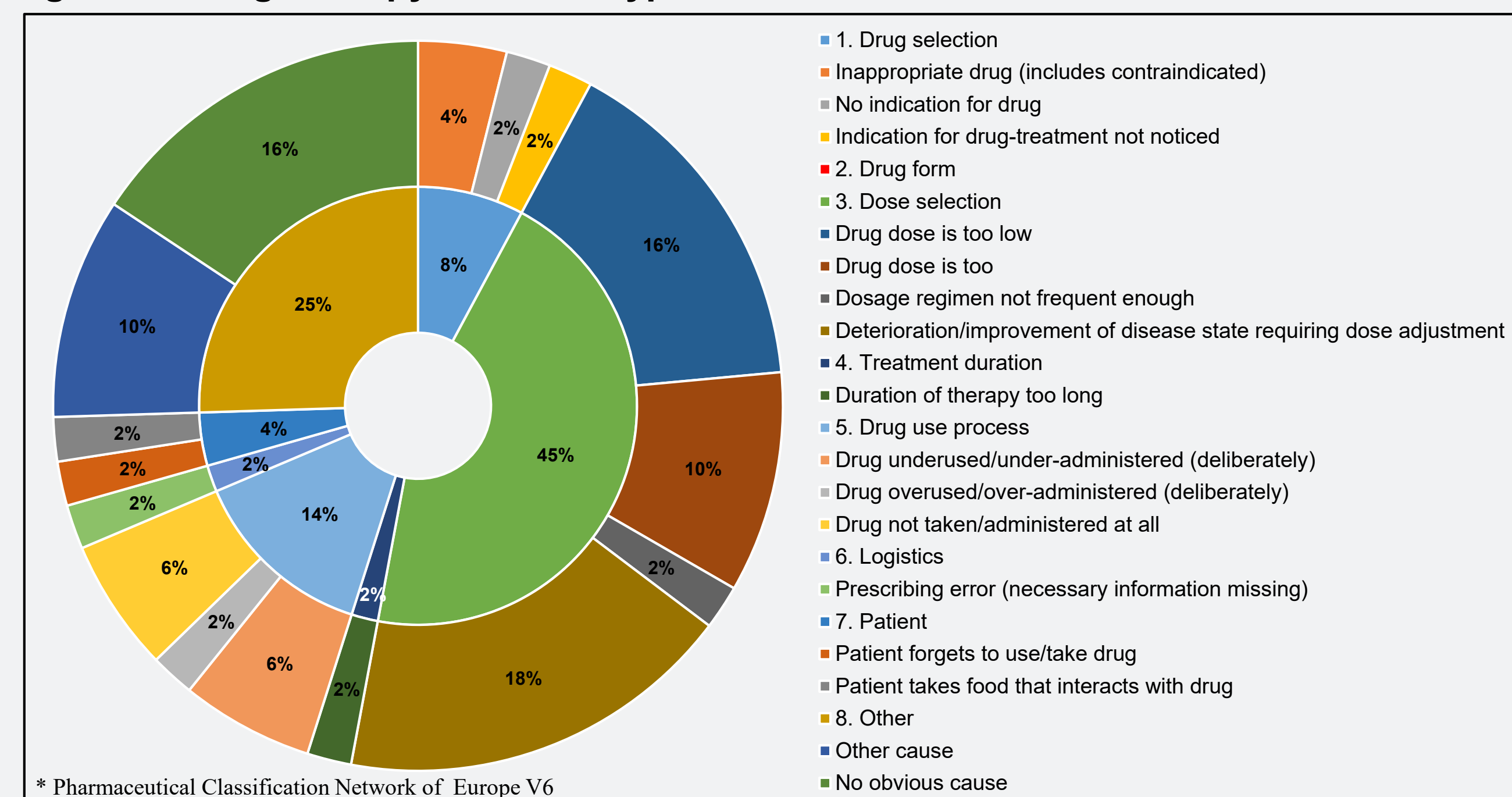
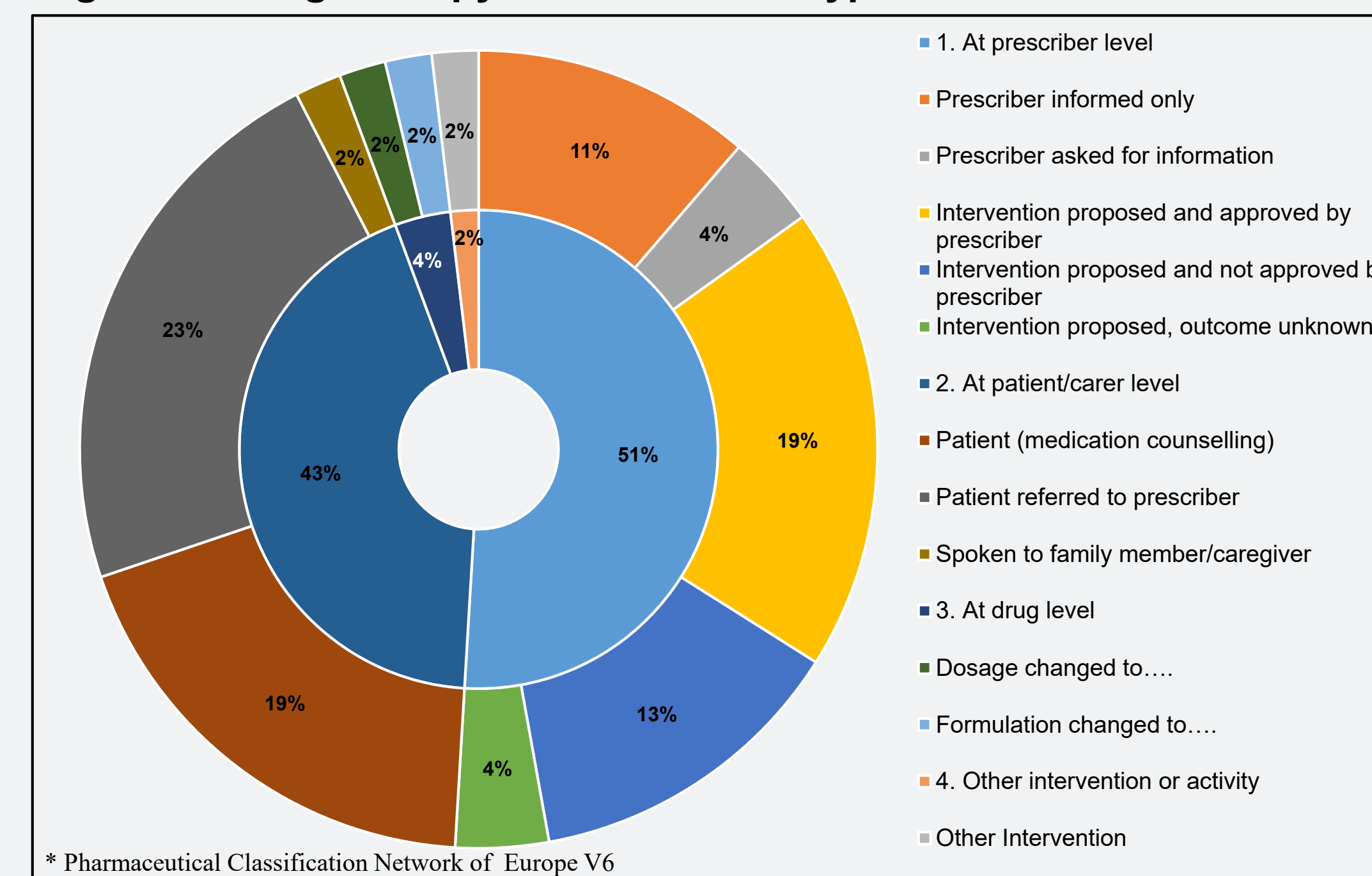


Figure 7: Drug Therapy Interventions: Type\* and Rate



## Results

Table 3: Medication Review Process: Inefficiencies, Barriers and Facilitators

Process	Source
<b>Inefficiencies</b>	1. Electronic medical record (EMR) connectivity issues 2. Communication delays with prescribers for follow up 3. OTN connectivity delays/interruptions
<b>Barriers</b>	1. Language 2. Patient engagement 3. Patient medication knowledge
<b>Facilitators</b>	1. EMR access 2. Community Pharmacy software system access (Kroll) 3. Local nurse presence during interview 4. Translators

## Conclusions

- PATIENT EXPERIENCE WITH A PHARMACIST MEDICATION REVIEW BY VC WAS POSITIVE**
- 50% of patients were eligible** in these remote communities for a medication review
- Of those patients in which contact was possible, **71% agreed to an interview**
- Of those patients who were booked, or re-booked, **63% completed an interview**
- Majority of study patients and those that had DTP's were **middle aged adults**
- Average DTP's per patient was 1.8** - most identified DTPs were suboptimal treatment
- 85% of patients required pharmacist interventions**
- Average time to prepare for, and interview patients, was 14 and 20 minutes respectively.

## Implications

Utilizing videoconference technology to conduct medication reviews is **FEASIBLE, ACCEPTABLE TO PATIENTS, & AN OPPORTUNITY FOR PHARMACISTS** to address a significant disparity in the provision of healthcare to a large number of patients in remote communities with limited in-person access to a pharmacist who are otherwise eligible for the MedsCheck Program.

## Disclosure Summary

Newman P.	Employed by Northwest Telepharmacy Solutions
Chan D.	Employed by Northwest Telepharmacy Solutions
Polyakova O.	Employed by Northwest Telepharmacy Solutions
Dhaliwall S.	Employed by Northwest Telepharmacy Solutions
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