

## CLINICAL INVESTIGATION

## Medications for Children: A Survey of Community Pharmacists

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**BACKGROUND:** Seamless and safe discharge of children from hospital requires successful collaboration with community pharmacists, for whom pediatrics is often a small part of their practice.

**OBJECTIVES:** The purpose of this study was to understand community pharmacists' comfort level and confidence in providing care for children.

**METHODS:** We conducted a self-administered online survey of community pharmacists in Ontario, Canada. Respondents rated their comfort and confidence on a scale of 1 to 7 in each of 3 scenarios: oral morphine, prednisone, and amoxicillin. We also evaluated the relationship between participants' comfort level and demographics.

**RESULTS:** We included 622 responses (377 completed and 245 partially completed surveys). A total of 182 participants (48%) were female, 271 participants (72%) had children of their own, and they had practiced pharmacy for a median (interquartile range) of 19 (5-28) years. The percentage of respondents who were comfortable (5-7 on a 7-point scale) with filling the prescriptions as written was 64% for morphine, 58% for prednisone, and 61% for amoxicillin and was not different among the scenarios. Having children was associated with increased comfort ( $p = 0.02$ ), whereas other demographic variables were not. Compared to the amoxicillin scenario, pharmacists reported being significantly more likely to choose another course of action for prednisone ( $p = 0.01$ ) but not for morphine ( $p = 0.25$ ). Although 428 pharmacists (70%) agreed that they maintained adequate knowledge of pediatric topics, 558 (91%) were interested in more education.

**CONCLUSIONS:** Variability exists in the confidence and comfort levels of community pharmacists when dealing with children, and many are not comfortable with the common prescriptions in this survey.

**INDEX TERMS:** continuing education, pediatrics, pharmaceutical services, pharmacists, survey

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## BACKGROUND

Seamless and safe discharge of children from hospitals requires successful collaboration with community pharmacists, for whom pediatrics is often a small part of their practice. When hospitalized, many children are cared for at hospitals with pharmacists specialized in providing care for the young. Upon discharge, the responsibility shifts to the community pharmacist who may or may not deal with pediatric prescriptions on a regular basis. Providing care for children may become a source of anxiety for community pharmacists due to the limited education pharmacists may have received on this topic.<sup>1,2</sup>

Individualized drug dosages and administration are particularly important in children. The need for dose calculations, compounding

formulations, and sometimes limited clinical experience have all been shown to play a role in medication errors in children.<sup>3</sup> Medication errors occur at multiple levels of care, including extemporaneous compounding stage and medication administration.<sup>4</sup>

Previous surveys have shown the need for additional training to improve pharmacists' perceived knowledge and comfort level when dealing with children.<sup>5,6</sup> In a 2011 survey of community, hospital, and homecare pharmacists, respondents reported being more comfortable with conditions such as cough and cold, diaper rash, head lice, analgesics, and antipyretics but less comfortable with less common conditions such as enuresis, poisoning, cancer, and terminal illness.<sup>5</sup> Also, pediatrics is not a major focus in many pharmacy education programs. Students

**Table 1.** Three scenarios in the survey

Clinical Scenario	Age	Weight (kg)	Prescription
Morphine	10 yr	52	morphine 15 mg po q 4 hr prn x 30 doses
Prednisone	9 mo	5	prednisone 10 mg po daily x 5 days
Amoxicillin	11 yr	40	amoxicillin 450 mg po tid x 10 days

kg, kilograms; po, by mouth; prn, as needed; tid, three times daily

learn about various medical conditions, appropriate dosages, and monitoring parameters to assess improvement in adults. Pediatrics training is provided only in the form of elective courses or as a limited number of lectures throughout university.<sup>7</sup>

The primary objective of this study was to understand the comfort level of community pharmacists when they are providing care for children. The secondary objectives were to assess perceived confidence in ability to provide care for children and to determine whether pharmacists felt they had adequate pediatric resources in their workplace.

## METHODS

### Questionnaire Development and Testing

We conducted a self-administered, online scenario-based survey of community pharmacists in Ontario, Canada. The questionnaire consisted of three parts. First we asked general questions about the respondents' confidence in working with children, their perceived level of knowledge, and resources in their pharmacy. Second, we asked about their comfort level, usual course of action, sources of drug information, and the dosage form they would usually supply in three scenarios (Table 1). We used amoxicillin as the comparator because it is commonly used in community practice and would be most familiar to community pharmacists; morphine and prednisone are common discharge medications. Finally we asked their sex, years practicing pharmacy, and whether they had any children of their own. The Appendix contains the questionnaire. In developing these scenarios, we included children of different ages and sizes and medications that are commonly prescribed to children upon hospital discharge. We hypothesized that respondents would be most comfortable with amoxicillin and less comfortable with morphine. After drafting the questionnaire, we tested its

clinical sensibility. Seventeen community and hospital pharmacists with a range of pediatric experience used a six-item tool to assess the ease of use, content validity, and face validity of the questionnaire. We then revised the questionnaire based on their feedback.

### Survey Administration

We used multiple methods to reach our target population: community pharmacists practicing in Ontario, Canada. We did not calculate a sample size, a priori. We distributed a hyperlink to the online survey through the provincial college of pharmacists continuing education coordinator, the two schools of pharmacy in the province (University of Waterloo and University of Toronto), and a local pharmacy organization (Hamilton District Pharmacists Association), which also advertised the survey on their website and during local meetings. Participants could submit the questionnaire online or return it by email, mail, or fax. As an incentive, we offered participants a chance to win 1 of 3 copies of a pediatric dosage reference book. This survey was approved by the Hamilton Integrated Regional Ethics Board and funded by Hamilton Health Sciences.

### Statistical Analysis

We included all completed and any partially completed questionnaires, using the actual number of respondents for each question as the denominator in the analysis. We summarized continuous variables as medians (first quartile [Q1] to third quartile [Q3]), and binary data as count (percentage). We considered a rating of 5 or higher on a 7-point scale (where 1 = not confident, not comfortable, or strongly disagree, and 7 = very confident, very comfortable, or strongly agreed) to indicate confidence, comfort, or agreement, respectively. We used repeated measures logistic regression to compare the proportions of respondents comfortable with the prescription and reported typical course of action across the

**Table 2.** Characteristics of survey respondents

Characteristic	Respondents (n=622)
Median number of years practicing pharmacy (IQR)	19 (5–28)
Have children of their own (%)	271 (72%)
Females (%)	182 (48%)
Previous pediatrics experience (%)*	249 (58%)
Formal university education	113 (26%)
Continuing education in the previous 5 yr	65 (15%)
Residency training with pediatric rotation	7 (2%)
Previous work experience in pediatric setting	38 (9%)
Other <sup>†</sup>	26 (6%)

IQR, interquartile range.

\* Participants could select more than one option for previous pediatric experience. Percentages were calculated using actual number of respondents per question.

† Other pediatrics-related experience included community pharmacy experience, compounding pharmacy experience, and keeping up with pediatric literature.

three scenarios and logistic regression to assess relationships between participant characteristics and reported comfort. For all regression analyses, we used the amoxicillin scenario as the reference group, and if we found both of the other scenarios were statistically different from the amoxicillin scenario, we conducted a post hoc *t* test (using Holm-Bonferroni correction for multiple comparisons) to compare the other scenarios. We used an alpha of 0.05 as the criterion for statistical significance, and R version 3.1.1 software (R Foundation for Statistical Computing, Vienna, Austria) to perform the statistical analysis.

## RESULTS

### Respondents

We included 622 of 842 responses received (377 complete and 245 partially complete). We excluded 81 surveys from respondents who indicated they did not practice community pharmacy in Ontario and 140 who did not complete any questions. Table 2 shows the characteristics of the survey participants.

### Confidence in Providing Care

We considered a rating of 5 or greater on a 7-point scale (where 1 = not confident and 7 = very confident) to indicate that the respondents were confident. A total of 577 respondents (94%) reported being confident in their ability to counsel parents or guardians on the side effects of their children's medications, 566 (92%) reported being

confident in their ability to counsel on medication administration, and 526 (85%) reported being confident in their ability to select the most appropriate dosage form. Of those, 486 respondents (79%) reported being confident in their ability to discuss medications with children, 488 respondents (79%) reported being confident in their ability to assess the appropriateness of a dose, and 375 respondents (61%) reported being confident in their ability to adapt a pediatric prescription. Adapting a prescription in Ontario involves altering the dose, dosage form, frequency, or duration of a prescribed drug to benefit the patient. It can take place independently of the prescriber, who must be notified of prescription renewals and any significant adaptations in a reasonable amount of time.<sup>8</sup>

### Pharmacy Practice Site and Education

We considered a rating of 5 or greater on a 7-point scale (where 1 = strongly disagree and 7 = strongly agreed) to indicate agreement. A total of 441 pharmacists (71%) agreed that their pharmacy kept adequate pediatric references, and 429 (69%) agreed that necessary pediatric dosage forms were also stocked. Fewer pharmacists believed their pharmacy had the ability to compound necessary pediatric dosage forms (262 respondents [42%]), despite only 265 respondents (43%) who agreed to having very few children at their community pharmacy. Almost all pharmacists agreed that it is important for community pharmacists to be knowledgeable in pediatric top-

ics (598 respondents [97%]), but only 428 (70%) believed they possessed adequate knowledge of pediatric topics; 558 respondents (91%) expressed interest in more pediatric continuing education.

### Comfort with the Prescriptions in the Scenarios

We considered a rating of 5 or greater on a 7-point scale (where 1 = not comfortable and 7 = very comfortable) to indicate that the respondents were comfortable with the prescriptions in the scenarios. The numbers of respondents comfortable with filling the prescriptions as written were 283 (64%) for morphine, 228 (58%) for prednisone, and 227 (61%) for amoxicillin. Analysis with repeated measures logistic regression showed that, compared to the amoxicillin scenario, the percentages did not differ in either the morphine (odds ratio [OR] 1.2; 95% confidence interval [CI] 0.9 to 1.6;  $p = 0.34$ ) or prednisone (OR 0.8; 95% CI 0.6 to 1.2;  $p = 0.28$ ) scenario. Using logistic regression, only having children was associated with reported comfort in the three scenarios (OR 1.6; 95% CI 1.0 to 2.7;  $p = 0.02$ ), whereas pediatric experience (OR 1.1; 95% CI 0.7 to 1.6;  $p = 0.80$ ), male gender (OR 1.4; 95% CI 0.9 to 1.6;  $p = 0.17$ ), and years of practice (OR 1.00; 95% CI 0.98 to 1.02;  $p = 0.85$ ) were not.

### Typical Course of Action

Next we asked respondents about their usual course of action in each clinical scenario: fill the prescription as written or refer family to another pharmacy due to lack of comfort with the prescription or lack of product availability; adapt the prescription; suggest a change to the prescription; call the prescriber with a question; uncertainty; or other. A total of 247 respondents (56%) stated they would fill the morphine prescription as written, 172 (43%) would fill the prednisone prescription as written, and 198 (52%) would fill the amoxicillin prescription as written. Analysis using repeated measures logistic regression showed that the percentage of pharmacists' responses in the amoxicillin scenario did not differ from that in the morphine scenario (OR 1.1; 95% CI 0.9 to 1.6;  $p = 0.25$ ), but respondents would more often choose another course of action in the prednisone scenario (OR 0.7; 95% CI 0.5 to 0.9;  $p = 0.01$ ). Using logistic regression, none of the demographic variables we included (having children of their own, pediatric experience, years of practice, and male gender) were significantly associated with dispensing the prescription as written.

### References Consulted

A majority of pharmacists stated they would consult a reference in each scenario: 412 respondents (93%) for the morphine scenario, 347 (88%) for the prednisone scenario, and 291 (77%) for the amoxicillin scenario. Analysis with repeated measures logistic regression showed that, compared to the amoxicillin scenario, pharmacists more often stated they would consult a reference for both the morphine (OR 23.9; 95% CI 8.8 to 64.8;  $p < 0.001$ ) and the prednisone (OR 5.7; 95% CI 2.8 to 12.5;  $p < 0.001$ ) scenarios. Pharmacists reported consulting references more often for morphine than for prednisone prescriptions ( $p = 0.01$ ). The three most commonly reported resource choices were *Lexicomp Pediatric and Neonatal Dosage Handbook*, *SickKids Drug Handbook and Formulary*, and *Compendium of Pharmaceuticals and Specialties*.

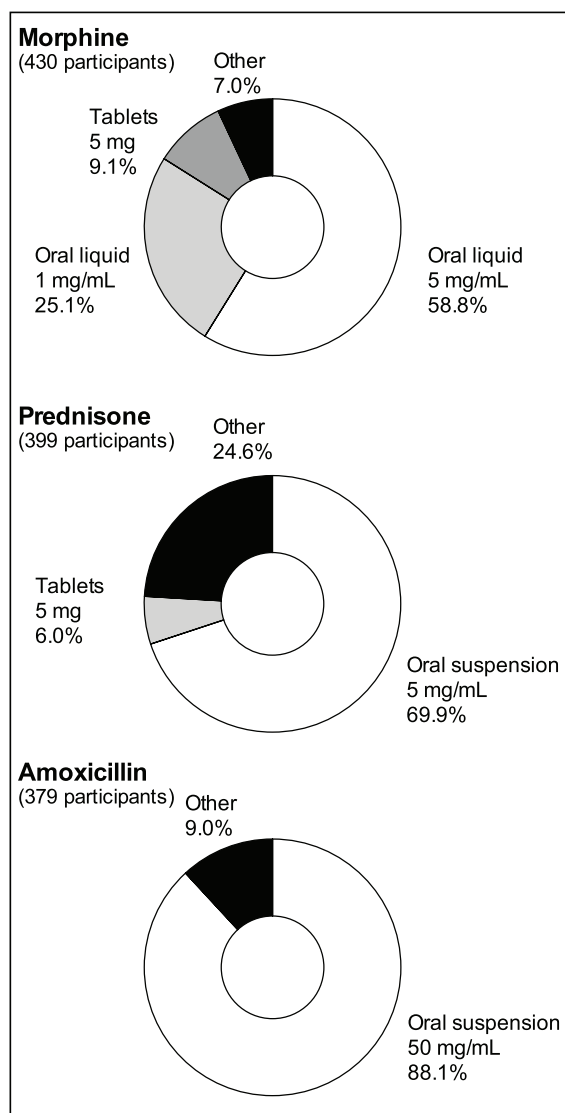
### Typical Dosage Form Selected

For each clinical scenario, pharmacists could select one particular product they would typically dispense (Figure). Overall, most pharmacists reported they would select the liquid dosage form, and a few indicated they would choose the dosage form based on patient or parent preference.

## DISCUSSION

In this self-administered scenario-based survey of community pharmacists in a Canadian province, we found that, although respondents almost uniformly considered pediatric knowledge to be important, only 70% believed that they possessed adequate knowledge. Many pharmacists (36%-42%) reported they were uncomfortable filling the prescriptions in the three scenarios. Having children of their own was associated with increased comfort whereas gender and years of practice were not. Most pharmacists reported they would select oral liquids for all three scenarios.

We had anticipated that there would be differences in pharmacists' comfort level among the three scenarios. Particularly because of our experience with changing to morphine as our preferred oral opioid at our hospital, we had anticipated that pharmacists might not be as comfortable with morphine dosages. It may be that the reasons pharmacists were uncomfortable



**Figure.** Dosage form typically dispensed for each scenario. Percentages are calculated based on actual number of respondents per question. "Other" includes 10-mg oral tablets and 10 mg/mL commercially available oral syrup for the morphine scenario; 1-mg oral tablets and 50-mg oral tablets for the prednisone scenario; and 125-mg or 250-mg chewable tablets and 250-mg or 500-mg oral capsules for the amoxicillin scenario. Respondents also free text an answer of their choice by selecting "other."

varied among the scenarios. Although we did not ask about these reasons, many respondents included additional comments which often focused on the appropriateness of drug and dose in the morphine scenario, the choice of formulation in the prednisone scenario, and indication in the amoxicillin scenario.

When selecting the most appropriate dosage form, respondents consistently reported they would typically provided liquid dosage forms, even though we did not specify the dosage form in the scenarios. Many older children are able to take, and often prefer, tablets.<sup>9</sup> For example, few respondents (6%) would adapt the prescription or contact the prescriber to change the amoxicillin dose from 450 mg to 500 mg so the 11-year-old patient could take capsules instead of suspension. Overall, only 2.5% of respondents indicated they would consult the parent or child when choosing a dosage form. Choosing the most appropriate dosage form is particularly important because, even with liquid medications, parents and caregivers often struggle with providing the appropriate dosage.<sup>10,11</sup>

A majority of pharmacists reported they would consult a reference when approaching our scenarios, but only 71% of respondents felt their community pharmacy had adequate pediatric references. The minimum library requirements for community pharmacies set by the Ontario College of Pharmacists does not include pediatric texts or dosage references.<sup>12</sup> General references such as the *Compendium of Pharmaceuticals and Specialties*, *Therapeutic Choices*, and others lack pediatric dosages for many drugs.<sup>13</sup> Access to and comfort with using appropriate dosage references is critically important to providing safe, efficient, and effective care for children. Many respondents also stated they would contact the prescriber to check the dosage despite all of the doses in the scenarios being within the usual dosage range. This may reflect discomfort or unfamiliarity with the usual doses of morphine recommended for children. It would be more efficient and safer to check the dose by using a references rather than the prescriber.

The results of this survey are comparable to those of previous surveys of community pharmacists' comfort levels when dealing with pediatric patients. Pharmacists reported lower comfort levels when dealing with less common pediatric conditions. The current survey provides insight into comfort level when dealing with pediatric prescriptions likely seen following hospital discharge. Although more than 90% of pharmacists agreed that they would be interested in more pediatric education, education alone may not be sufficient to address the gaps we have identified. Even with additional education,

maintaining knowledge and comfort may be difficult as many report they do not have many children in their practice or their pharmacy is unable to compound dosage forms or does not have appropriate references for checking doses. This survey and others evaluated pharmacists' reported comfort and confidence levels. Likely a better approach would be to evaluate pharmacists' actual knowledge and performance by using stimulated patients or secret shoppers in their actual practice setting.

Strengths of this survey include the high number of responses, the scenario design, and the inclusion of a variety of prescriptions that community pharmacists are likely to encounter. This survey also has some limitations. First, reported practice may vary substantially from actual practice. For example, although we stressed that there were no right answers, participants might have overstated their use of references due to social desirability bias, which occurs when individuals select certain responses to a questionnaire in order to portray themselves in a socially desirable manner.<sup>14</sup> Second, although ages and genders were similar to those of Ontario pharmacists overall (mean 44.9 years of age and 57.6% female), we do not know how representative the participants were or how these results apply to other jurisdictions.<sup>15</sup> Third, although we did pretest the questionnaire, we did not formally test its psychometric properties.

## CONCLUSIONS

The results of this survey highlight the variability that exists in pharmacists' perceived comfort, confidence, and knowledge when providing care for children. A substantial percentage are not comfortable with the prescriptions in this survey and have identified a need for more education. Ensuring that community pharmacists have the skills and confidence to provide safe and effective care to a wide range of patient populations remains a challenge for the profession.

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to all data in the study and take responsibility for the integrity of data and the accuracy of data analysis.

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#### APPENDIX. Medications for Children: A Survey of Community Pharmacists

Providing pharmaceutical care to children can be challenging, particularly when a child has been recently discharged from hospital. We invite pharmacists practicing in the community to participate in this **confidential** survey. The purpose of this survey is to understand your comfort level with pediatric prescriptions as we work toward providing seamless care for children. The survey will take less than 10 minutes to complete. It includes some general questions and questions about 3 sample prescriptions. There are no right answers. Participants are eligible to win 1 of 3 copies of Lexicomp's Pediatric and Neonatal Dosage Handbook. Thank you for your time. We value your input and expertise

#### Alina R. Rashid & Mark Duffett

McMaster Children's Hospital/McMaster University

Are you a pharmacist practicing in a community pharmacy in Ontario?  YES  NO

If you answered **NO** please do not continue to answer this survey.

Thank you for your time.

If any of your colleagues have not received a copy of this survey and are interested in participating, they can use these links to access the survey:

**Electronic:** <http://edu.surveygizmo.com/s3/1591927/Medications-for-Children>

**Print:** <https://dl.dropboxusercontent.com/u/41565825/Meds.pdf>

If you have any questions, please contact:

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If you have any questions regarding your rights as a participant, please contact:

Hamilton Integrated Research Ethics Board

T: 905-525-9140 x 22465

F: 905-523-6061

1. How confident are you in your ability to:

	Not Confident				Very Confident		
	1	2	3	4	5	6	7
Assess the appropriateness of a dose for pediatric prescriptions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Select the most appropriate dosage form for a given pediatric prescription	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adapt a pediatric prescription	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Counsel parents on the administration technique for their child's medication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Counsel parents on side effects of their child's medication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discuss medications with pediatric patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Please rate how strongly you agree or disagree with the following statements.

	Strongly Disagree				Strongly Agree		
	1	2	3	4	5	6	7
My pharmacy has adequate pediatric references	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My pharmacy stocks necessary dosage forms appropriate for children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My pharmacy can compound necessary pediatric dosage forms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My pharmacy has very few pediatric patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important for community pharmacists to be knowledgeable in pediatric topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am interested in more pediatric continuing education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Prescription 1 of 3:** Please answer the following questions based on this prescription. Assume that the prescriber is authorized to prescribe in Ontario and that no prescriber related information is missing. There are **no right answers**, please use references (if any) you usually would in this situation.

1. How comfortable are you with filling this prescription as written?

Not Comfortable					Very Comfortable	
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How would you typically proceed in a situation such as this? (Please select ONE option)

- Fill the prescription as written
- Refer family to another pharmacy as this is not something you are comfortable with
- Refer family to another pharmacy as you do not carry this product
- Adapt the prescription. Please specify how: \_\_\_\_\_
- Suggest a change to the prescription. Please specify: \_\_\_\_\_
- Call the prescriber with a question. Please specify: \_\_\_\_\_
- Other: \_\_\_\_\_
- Unsure



3. Would you consult any of the following? (Select **ALL** that apply)

- None
- Parent/patient
- Prescriber
- Pharmacist colleague
- Call a drug information centre
- CPS (online or paper based versions)
- Therapeutic Choices (online or paper based versions)
- SickKids Drug Handbook and Formulary
- Lexicomp Pediatric and Neonatal Dosage Handbook
- Other: \_\_\_\_\_

4. Based on the information provided on this prescription, which dosage form would you typically supply? (Please select **ONE**)

- 5 mg oral tablets
- 10 mg oral tablets
- 1 mg/mL commercially available oral syrup
- 5 mg/mL commercially available oral syrup
- 10 mg/mL commercially available oral syrup
- Other: \_\_\_\_\_

**Prescription 2 of 3:** Please answer the following questions based on this prescription. Assume that the prescriber is authorized to prescribe in Ontario and that no prescriber related information is missing. There are **no right answers**, please use references (if any) you usually would in this situation.

## 1. How comfortable are you with filling this prescription as written?

Not Comfortable

Very Comfortable

- | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## 2. How would you typically proceed in a situation such as this? (Please select ONE option)

- Fill the prescription as written
- Refer family to another pharmacy as this is not something you are comfortable with
- Refer family to another pharmacy as you do not carry this product
- Adapt the prescription. Please specify how: \_\_\_\_\_
- Suggest a change to the prescription. Please specify: \_\_\_\_\_
- Call the prescriber with a question. Please specify: \_\_\_\_\_
- Other: \_\_\_\_\_
- Unsure

3. Would you consult any of the following? (Select **ALL** that apply)

- None
- Parent/patient
- Prescriber
- Pharmacist colleague
- Call a drug information centre

- CPS (online or paper based versions)
- Therapeutic Choices (online or paper based versions)
- SickKids Drug Handbook and Formulary
- Lexicomp Pediatric and Neonatal Dosage Handbook
- Other: \_\_\_\_\_

4. Based on the information provided on this prescription, which dosage form would you typically supply? (Please select **ONE**)

- 1 mg oral tablets
- 5 mg oral tablets
- 50 mg oral tablets
- 5 mg/mL compounded oral suspension
- Other: \_\_\_\_\_

**Prescription 3 of 3:** Please answer the following questions based on this prescription. Assume that the prescriber is authorized to prescribe in Ontario and that no prescriber related information is missing. There are **no right answers**, please use references (if any) you usually would in this situation.

1. How comfortable are you with filling this prescription as written?

**Not Comfortable**

**Very Comfortable**

- | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2. How would you typically proceed in a situation such as this? (Please select ONE option)

- Fill the prescription as written
- Refer family to another pharmacy as this is not something you are comfortable with
- Refer family to another pharmacy as you do not carry this product
- Adapt the prescription. Please specify how: \_\_\_\_\_
- Suggest a change to the prescription. Please specify: \_\_\_\_\_
- Call the prescriber with a question. Please specify: \_\_\_\_\_
- Other: \_\_\_\_\_
- Unsure

3. Would you consult any of the following? (Select **ALL** that apply)

- None
- Parent/patient
- Prescriber
- Pharmacist colleague
- Call a drug information centre
- CPS (online or paper based versions)
- Therapeutic Choices (online or paper based versions)
- SickKids Drug Handbook and Formulary
- Lexicomp Pediatric and Neonatal Dosage Handbook
- Other: \_\_\_\_\_

4. Based on the information provided on this prescription, which dosage form would you typically supply? (Please select **ONE**)

- 125 mg chewable tablets
- 250 mg chewable tablets
- 250 mg oral capsules
- 500 mg oral capsules
- 125 mg/5 mL commercially available suspension
- 250 mg/5 mL commercially available suspension
- Other: \_\_\_\_\_

**Finally, please tell us a bit about yourself**

1. For how many years have you been practicing pharmacy?

\_\_\_\_\_ years

2. Do you have any previous pediatrics related education or work experience? (Select **ALL** that apply)

- Formal university education: mandatory or elective courses
- Continuing education module or course in the past 5 years
- Residency training with a pediatrics rotation
- Previous work experience in a predominantly pediatrics setting
- Other (please specify): \_\_\_\_\_
- No

3. Do you have any children of your own?

- Yes
- No

4. What is your gender?

- Male
- Female

**Please enter your e-mail if you would like to be eligible in a draw for 1 of 3 copies of Lexicomp Pediatric and Neonatal Dosage handbook**

E-mail address:

E-mail addresses for the draw cannot be linked to your completed survey and will be deleted by October 1, 2014.

Please send me a summary of the results of this survey once the project is completed.

**Thank you for your participation. We welcome any other comments or suggestions.**