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**For Jude: Improving Influenza Immunization Uptake
in Children 6-59 Months of Age**

**Routine Infant Growth Monitoring: Variations in Practice
Among Primary Care Providers**

**Primary Cervical Cancer Screening
Using HPV Testing**



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Letter from the Editor

In our last issue we told you that we were moving to a new submission system for NP Current. I'm happy to announce that this new system is now in place, along with some other exciting changes for NP Current!

With the new online submission system, it will be easier than ever to submit your content to NP Current, track your submission's progress to publication and get involved as a peer reviewer.

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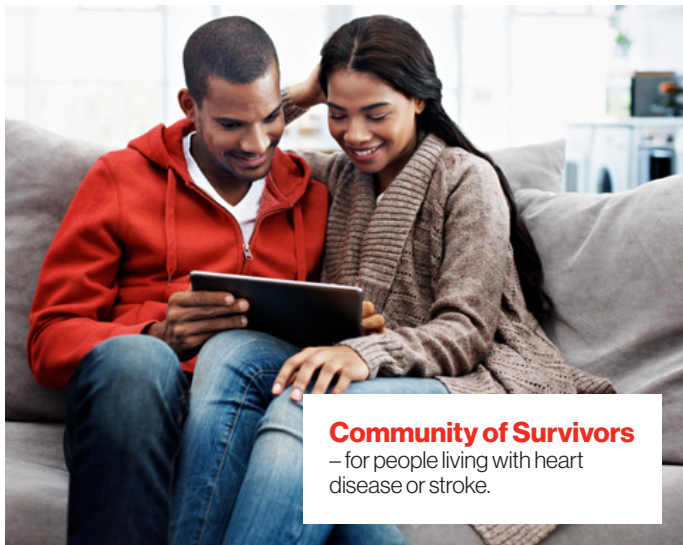
I'm looking forward to hearing from you about these changes and hope you will join us online at www.npcurrent.ca!



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For Jude: Improving Influenza Immunization Uptake in Children 6-59 Months of Age

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ABSTRACT

Children aged 6-59 months are at high risk for complications from influenza.¹ Vaccination coverage rates for this age group fail to meet the 80% target that has been set for high risk groups;² the coverage rate in Nova Scotia was 36.1% for the general population and 45.5% for children aged 6-59 months in the 2018-2019 season.³ Our project involved incorporating mailed invitation letters to parents, immunization pain prevention strategies and increased team communication throughout the influenza vaccine season to increase coverage rates. Our rate at the end of the 2019-2020 immunization period was 76.3%.

Problem

Children 6-59 months of age are considered high risk for influenza-related complications and hospitalization.¹ It is recommended that all children over the age of six months have the influenza immunization, especially those in the 6-59 month age group.¹ The national immunization coverage goal for this and other high risk groups is 80%.² The Nova Scotia statistics for influenza vaccine coverage rates were from the 2018-2019 season, the rate for children 6-59 months of age in Nova Scotia was 45.5%, and within central zone (Halifax Regional Municipality) was 54.4%. The provincial average for all ages was 36.1%.³

The aim of the project was to increase coverage rates in our practice group, with a target of exceeding the 2018-2019 central zone coverage rates, aiming to approach the national recommendation of 80%. Our practice group is comprised of three collaborative clinics in the Halifax Regional Municipality, located in Bedford, Timberlea and Spryfield. A total of three nurse practitioners, 12 general practitioners and three registered nurses participated in the project. These providers have a total of 870 children rostered to them in the 6-59 month age group.

Our project was inspired by an influenza immunization awareness campaign called "For Jude For Everyone", started by a Canadian mother who tragically lost her son, Jude, to influenza at the age of 2. Further impetus for initiation of the project came from previous experiences of team members having cared for critically ill children due to influenza infection, as well as other media and social media stories of pediatric influenza fatalities.

Background

Pediatric influenza hospitalizations are monitored from 12 hospital sites across Canada. In the 2018-2019 influenza season there was a total of 1,352 pediatric cases reported, 66% of hospitalizations were in children under the age of five.⁴ There were 161 ICU admissions in this age group (6-59 months), accounting for 59% of the total pediatric

ICU admissions.⁴ There was a total of 10 pediatric deaths, eight (80%) were in children 2-4 years of age.⁴ In Nova Scotia during the same time period there were 72 confirmed cases in the 6-59 month age group, and six pediatric ICU admissions.⁵

The World Health Organization has identified vaccine hesitancy and an influenza epidemic as one of the top 10 threats to global health.⁶ This statement provided further validation to the importance of working to improve coverage rates.

Needle fear due to past immunization experiences being painful is common and contributes to some parents avoiding influenza immunizations.⁷ Using interventions that address pain such as parent education, access to analgesic, breast or bottle-feeding during vaccinations, oral sucrose, positioning and distraction techniques are recommended to reduce fears and vaccine non-compliance.⁷ Best practice guidelines exist to address immunization pain prevention but they are not consistently used in practice.⁸

Our literature review to determine factors that may increase uptake found that there has been a significant amount of work done in the United Kingdom on this topic. Through their research, independent factors that were associated with higher vaccine uptake included having a lead staff member plan the flu campaign. Writing a report of performance was found to increase rates by 8% and a personal invitation to eligible patients correlated with a 7% higher uptake rate.⁹

Measurement

The initial baseline measurement we used was from the 2018-2019 Nova Scotia report on influenza immunization. It showed an uptake rate of 54.4% for central zone and a provincial average of 36.1%.³ After interested participants were identified, we compiled clinic reports and found a 50.9% rate for the 2017-2018 year and 29% for 2018-2019 (vaccine became unavailable in late January 2019 so we expect this accounted for some of the lower rate).

For this project the measure we used was the number of influenza immunizations administered to our target group, expressed as a percentage of the total group of children. The birth dates we used to capture our target population were Oct 21, 2014 to September 1, 2019. The lists were then checked to remove children that had moved. We utilized our electronic medical record [EMR] to run reports on the numbers of children in the target group that had received their influenza immunization. Reports were compiled biweekly to determine progress.

We also handed out surveys to parents with questions to determine factors in their decision to have the immunization. We had anticipated there would have been more organized pediatric flu shot clinics, and envisioned the surveys being passed out at these. In reality, people tended to book their appointments in regular appointment spots, which made it difficult for providers to always have the surveys on hand and to remember to use them.

Design

The quality improvement project team consisted of nurse practitioner and registered nurse leads at the clinics, a health service lead, and a medical office administration lead. The team collaborated to compose an invitation letter that was mailed out to families with children in the target group. The letter also included information on pain reduction strategies and instructions for Emla® patch placement and clinic supply of the patches if parents wanted to utilize these tools. Drafts of these documents were emailed between team members for feedback and revisions.

Once interested providers were identified their reports were compiled from their rosters to determine who would be sent a letter. Letters were mailed out in the first two weeks of November. As we progressed through the following weeks, periodic reports were run to determine our coverage rate and these were communicated to participants via EMR messaging and at collaborative team meetings.

Strategy

After our invitation letter and immunization pain reduction strategy handout was completed, they were circulated throughout the three clinics to provide opportunities for providers to review them and decide if they wanted to join the project. Once we had confirmation on those that wanted to participate, the patients were identified by using the EMR to generate lists of children that would be 6-59 months of age in the period of time from when we received the first flu shot shipments up to March 31, 2020.

Letters were mailed out in early November and providers communicated to their medical office administrators if they wanted to reserve any specific appointment spaces for pediatric flu shots, or where they could schedule them otherwise. Initially we had planned to send the letters earlier in October but decided to delay mailing them until we found out if we had been successful in securing grant funding for the project. The group decided that if we were to obtain funding for items such as sucrose and Emla® patches, the wording in the letters would be changed to inform parents they would be provided this year and could be picked up from the clinic. There was also a delay in vaccine shipments at the start of the season so we wanted to ensure we would have adequate supply before the letters were sent out. Orders were placed for Emla® patches,

sucrose, bubbles and pinwheels to utilize for pain reduction strategies as discussed in the invitation letter. Flu vaccines were also offered at routine immunization visits such as six, nine or 12 month well baby checks, as well as at visits for other concerns.

Results

At the end of the influenza immunization period (March 31st, 2020) our coverage was 76.3%, 644 out of 870 children received their immunization. Due to the frequency at which the immunizations were administered at booked office visits versus dedicated flu shot clinics, the number of surveys handed out was lower than we had anticipated. From the 22 surveys returned 14% indicated the invitation letter was a factor in coming for a vaccine, 50% indicated their provider recommending it was a factor, 23% indicated social media had a role in their decision, 45% indicated friend or family was an impact, 32% indicated ease of booking, and 20% indicated the pain reduction strategies were a factor. Feedback from some of the nursing team members indicated they felt that awareness of the project and the competitive spirit of team members may have been a positive factor in immunizers recommending the immunization and offering it at visits for other concerns.

Lessons and Limitations

Our team learned that planning for a seasonal project like this needs to be ideally started in the preceding spring to allow opportunities for the project team to meet before summer. For the next season we would like to work towards providers using a more standardized template to document the immunization visit to capture things such as pain prevention interventions used and patient response. We also discovered that in order to have accurate numbers, accurate patient lists are required. Having medical office administration staff that is able to review the lists to check for accuracy is key.

For this project ordering of pain prevention supplies was dependent on if we obtained grant funding. Due to the timing of this we were unable to order supplies until after the season had begun; as a result there was some delay and difficulty in obtaining things such as sucrose. If we were to use these things again we would ideally order them earlier in the season.

Conclusion

The problem identified in this project was that influenza immunization coverage rates for children age 6-59 months in Nova Scotia and within our clinic group was below the recommended rate of 80%. By utilizing a multipronged approach including mailed invitation letters, offering pain reduction strategies, and increased awareness and communication within the team, we have experienced a significant improvement in coverage rates.

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At NP Current we want to reflect the needs and interests of nurse practitioners across Canada. We are seeking your ideas and contributions on any topics that would be of interest to the NP community. In each issue we will strive for a mix of content that addresses diagnosis, treatment, prevention and management of patients from the NP perspective.

We invite you to submit your ideas for new articles such as case studies, research, reports or newsworthy information from your practice or area of expertise or interest. Contact NP Current at info@npcurrent.ca and your contributions can help to inform and educate your peers.

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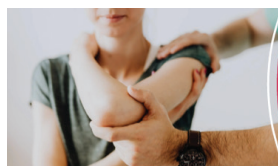
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Upcoming Events



Palliative care considerations for
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November 17 @ 12:00pm



Nothing Lasts Forever,
Management of Patients with
Artificial Joints & Topical Options
for Musculoskeletal Pain Control
December 2 @ 12:00 pm



Overview Of Prenatal
Screening In Ontario
reviewing maternal serum screening
and non-invasive prenatal testing
November 24 @ 12:00 pm



Fostering Well-being
Through Leadership
December 7 @ 1:00 pm



Post Covid COPD Update
December 8 @ 12:00 pm



Covid-19 Vaccination in Pregnancy
& Fertility
What does the data tell us & how
do we effectively communicate
with our patients and families?
November 28 @ 12:00 pm



How to navigate primary care
screening and preventative screening
for transgender individuals
January 17 @ 12:00pm



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Routine Infant Growth Monitoring: Variations in Practice Among Primary Care Providers

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ABSTRACT

Background: Paediatric routine growth monitoring (RGM) is widely practiced despite little evidence in the literature to support it. The objective of this study was to better understand RGM practices during infancy among primary care providers in British Columbia to inform policy, practice and future research.

Methods: A cross-sectional mixed methods design using an electronic survey with Likert-type and open text responses was used to study routine growth monitoring practices by family physicians, nurses and midwives.

Results: 212 respondents. Key findings: duplication of RGM during infancy among disciplines; only 39% used the recommended metric (weight-for-length); 28% did not use EMRs to plot RGM data. Many believe RGM to be important but others question its necessity and report challenges and potential harms.

Conclusion: This study highlights several ways that RGM during infancy could be improved through transdisciplinary policy, education and research to mitigate potential harms and improve efficiency.

KEYWORDS: Infant, Growth, Monitoring

BACKGROUND

Routine growth monitoring (RGM) is the practice of regularly weighing and measuring apparently healthy, asymptomatic children and has traditionally been used to identify children exhibiting otherwise unsuspected poor growth or “failure to thrive” resulting from malnutrition or underlying medical problems.¹ More recently, RGM has also been recommended as a screening tool for early identification of childhood obesity.^{2,3} Although RGM during infancy is almost universally conducted at periodic “well baby visits” by registered midwives (RMs), public health nurses (PHNs), nurse practitioners (NPs) and family physicians (FPs),¹ “evidence demonstrating the benefits of growth monitoring on clinical outcomes is quite limited”.⁴⁻⁶ Current guidelines suggest regular assessment of growth at well-health visits “within one to two weeks of birth, at one, two, four, six, nine, 12, 18 and 24 months”.⁷ Unlike most other routine screening maneuvers, RGM fails to meet the standard criteria for an effective screening test⁸⁻¹⁰ in part because it attempts to screen for multiple different conditions at different ages using one tool. According to the

British Columbia Lifetime Prevention Schedule, screening for childhood obesity using RGM carries a relatively high cost with minimal impact on long-term health outcomes.¹¹ The specific benefits and costs of RGM as a screening test for other indications remain unclear. A number of authors have raised concerns about potential harms of RGM including parental confusion and anxiety, inappropriate changes to feeding, weight stigma and the time and cost of growth monitoring visits for parents and the health care system.^{5, 6, 9, 12, 13}

The goal of this study is to better understand current patterns of RGM during infancy (0-2 years) in British Columbia to help inform policy and identify areas for quality improvement and future research. The study was designed to answer the question: “Among a provincial sample of healthcare providers (RMs, PHNs, NPs, and FPs) in British Columbia, Canada, what are the current routine growth monitoring practices from birth to age two?” The specific objectives were to identify frequency, timing, tools and methods used for RGM and how these compare within and between professional groups.

METHODS

Study Design

We used a cross-sectional, concurrent, mixed-methods design, combining both qualitative and quantitative data collected in an on-line survey.^{14,15} Quantitative data were used to identify disciplinary or regional patterns, while the qualitative data allowed for a deeper understanding of these findings, and individual variation.

Participants

Family physicians, midwives and nurse practitioners were recruited through advertisements posted in regular electronic newsletters sent by their respective professional organizations and public health nurses were recruited by direct email through the regulatory college. The invitation to participate in the advertisement included a link to the online survey. Surveys were completed between October 2019 and April 2020. The survey was advertised to approximately 6000 healthcare providers. Based on similar research¹⁶ the target size was calculated by estimating a response rate of at least 5% for each group (n = 300 total).

Data Collection and Analysis

The survey was adapted from a previously-developed 10-item instrument that was pilot-tested and used in a similar study.¹⁶ It was modified for a multi-disciplinary population with a focus on infancy and open text boxes were added to allow for participants to provide qualitative responses (see Appendix 1). Confidence in the instrument was also gained by having FP and PHN providers in the field assess the first version of the instrument for clarity and appropriateness to the setting.

Quantitative survey data were exported from the Qualtrics platform into Excel for analysis. Survey submissions that did not include a response to at least one non-demographic question were excluded from analysis. Descriptive statistics were calculated to show the frequency distribution of participant responses for each of the primary and secondary outcomes.

The qualitative data from all of the open text responses were analyzed using qualitative description, a pragmatic approach described by Sandelowski.¹⁷ A widely accepted method for thematic analysis was used to better understand the shared experiences and thoughts across the data set.¹⁸ This included a six-step process of two researchers familiarizing themselves with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, then producing the report.

The initial analysis of qualitative (open text responses) and quantitative (closed-ended questions) data was performed separately. Data from one strand that could complement, corroborate or deepen our understanding of data from the other strand were integrated in the discussion and identified as the key findings of the study. An interdisciplinary approach was used, with each investigator applying the lens of their respective disciplines, medicine and nursing, to form a more holistic interpretation.¹⁹

Ethical Consideration and Approval

Ethical approval for the study was obtained through two academic research ethics boards in the province,

including the University of British Columbia Research Ethics Board harmonized with provincial health authorities. Full information was provided as part of the survey instrument, with completion being accepted as implied consent.

RESULTS

Participant Characteristics

The survey was completed by 212 primary healthcare providers. Target recruitment rates of >5% per profession were met for all groups except FPs. Participant characteristics are summarized in Table 1.

Demographic Characteristics	n	%
Profession		
Public Health Nurse	121	57
Registered Midwife	32	15
Family Physician	31	15
Nurse Practitioner	26	12
Not specified	2	1
Gender*		
Female	200	94
Male	8	4
Other	1	0
Not specified	3	1
Age		
20-29	23	11
30-39	62	29
40-49	63	30
50-59	48	23
60-69	15	7
Not specified	1	0
Years of Practice		
1-5 years	48	23
6-10 years	54	25
11-15 years	35	17
16-20 years	21	10
21+ years	54	25

* Total does not add up to 100% because of rounding

Quantitative Survey Results

A majority of survey participants indicated that they aimed to perform growth monitoring at 1 week, 2, 4, 6, 12 and 18 months (Figure 1). Registered midwives typically discharge patients at 6 weeks.

While weight-for-age, height/length-for-age, and head circumference were all commonly used to assess infant growth, weight-for-length (WFL) was used much less frequently (Figure 2). Across all health professions, only 39% (n=82) of participants indicated using WFL.

A total of 88% of survey respondents (n=187) reported using an EMR in their practice. Of those who used EMRs, 81% (n=152) indicated using their EMR for plotting paediatric growth monitoring data (Figure 3). The use of EMRs to plot RGM data among midwives was noticeably less than the other groups (22%).

Figure 1. Timing of Routine Growth Monitoring during infancy by profession

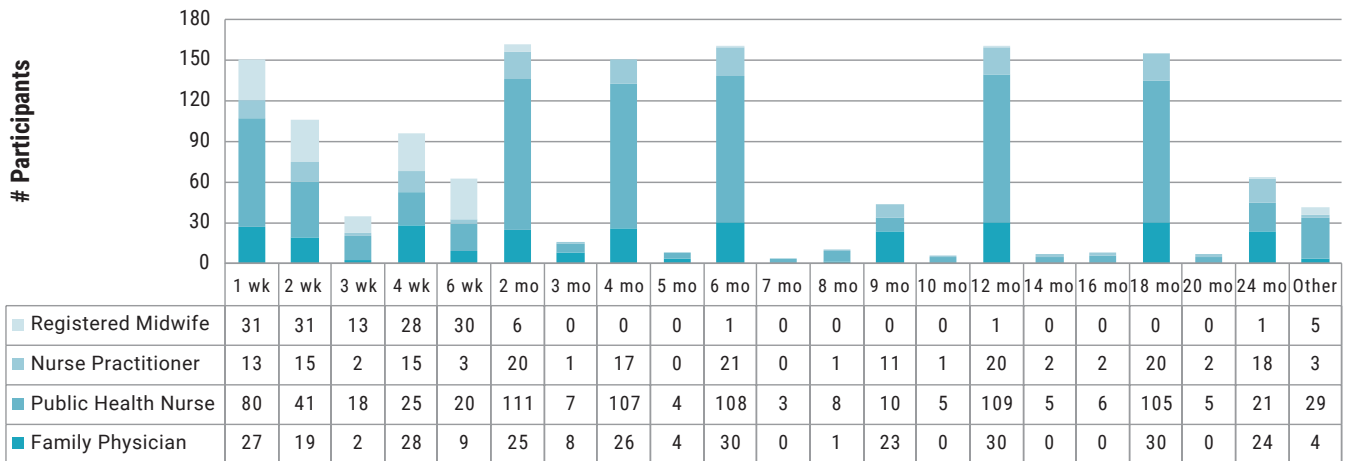


Figure 2. Methods of measurement by profession

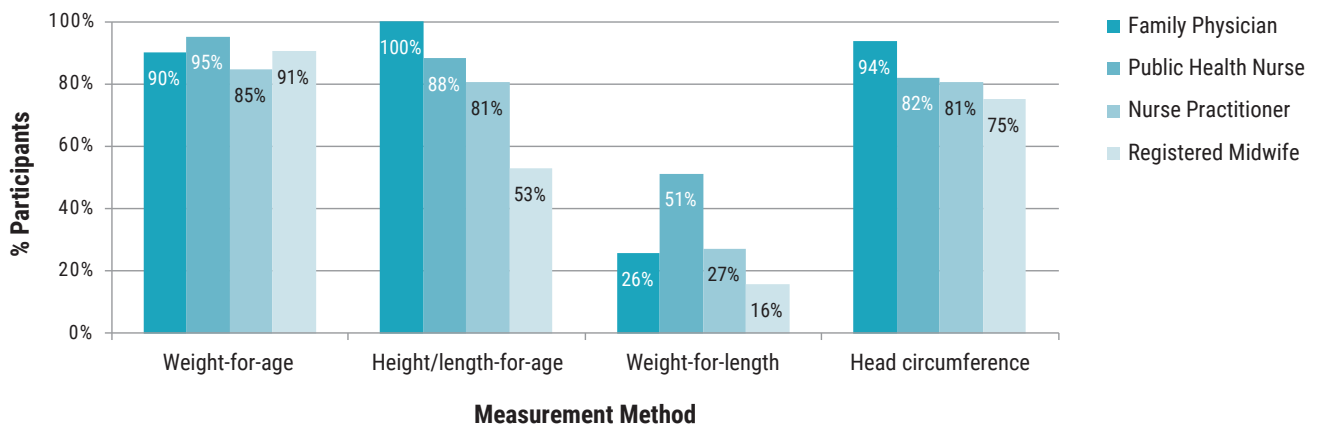
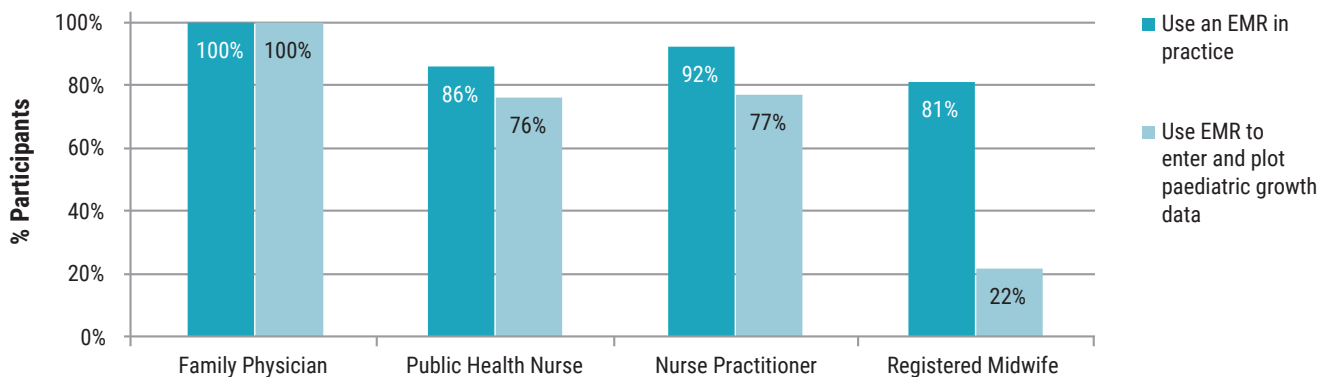


Figure 3. Use of EMR in practice compared with use of EMR for plotting paediatric growth monitoring data by health profession



Qualitative Findings

Open text responses to all of the questions largely fell into five overarching themes. A selection of representative participant quotes is found in Table 2.

Theme 1 – Perceived Benefits of RGM

Many participants said that they believed RGM to be important for identifying growth issues. Two participants reported specific examples of RGM helping to identify underlying medical issues (iron-deficiency and a cardiac condition). A common comment was that having parents attend for RGM gives healthcare providers an opportunity to discuss topics related to growth, such as breastfeeding, nutrition, food security and other topics, such as immunizations, parenting and social supports.

Theme 2 – Importance of Other Assessment Methods

Many participants emphasized the importance of evaluating growth measurements within the larger clinical, social, developmental and family context and not putting too much emphasis on the numbers alone. Several participants questioned the value of RGM and felt they could use their professional judgment to determine which infants require growth assessment.

Theme 3 – Challenges Associated with RGM

Several participants mentioned the difficulty of providing explanations to avoid inducing anxiety in parents when interpreting RGM. One participant identified the challenges of explaining growth charts to those with low health-literacy and also applying trauma-informed or culturally sensitive practices.

Table 2: Representative Participant Comments	
Theme	Quote
Benefits of RGM	"[RGM is] useful to reassure parents that growth is appropriate and following the curve, decreases anxiety in parents who are questioning themselves."
	"Growth monitoring is important, both to ensure adequate nutrition in the early days (milk transfer) and as an opportunity to discuss routine immunization and parenting."
	"It's an excellent, consistent tool that captures parents' interest and allows for further open dialogue."
	"Infant growth monitoring at my office has helped identify a 4-month-old who had an undiagnosed cardiac condition"
Importance of other assessment methods	"I think growth charts are a great tool but only when used in collaboration with an overall assessment. I've seen kids with very interesting growth chart patterns who are healthy and well despite the unusual pattern."
	"Parent concern, breastfeeding issues or challenges, height and weight of parents are all factors I consider."
	"I try not to put too much emphasis on the numbers, go with developmental milestones and healthy feeding relationship, good nutrition information and balance of activity and fuel."
	"My preference would be to stop the routine measurements, and focus more on development, nutrition and family activity levels".
	"Unsure as to the benefit of routine growth monitoring. I feel that using professional nursing judgment would be adequate in determining who and who not to measure and assess."
	"I wish we would stop the routine weight and measure and do so only if parents are concerned or if there is an indication of poor health/well-being."
	"Although I do keep an eye on growth, I do keep in mind that this is analogous to a screening test with high sensitivity but low specificity"
"I try to emphasize to parents that growth charts/percentiles are not a 'report card', and that unless their child's measurements are extremely high/low, knowing the trends over time is more important so that we know what's normal for their individual child."	
Challenges of EMR	"It would be so helpful to have good recommendations and guidelines on which tool to use. We literally use the CDC tool because that was what was previously existing on our EMR system (OSCAR)."
	"Measuring length and HC manually provides an array of different measurements which is unreliable. Babies measurements are all over the place. 9/10 times there is nothing wrong with the babe's growth & we have to explain that it's probably just a mis-measurement."
	"The population I work with frequently has low health literacy. Difficult to explain growth chart in trauma informed and culturally sensitive lens."
	"Our charting system allows us to chart the growth data, but it doesn't plot it on a graph, rather it gives us the growth percentile. We manually plot growth on growth charts."
	"We also use the PARIS Online Charting System ... which I believe is based on the WHO Growth Charts ... though seems to have some discrepancies when I do both the paper growth chart for families and chart in PARIS"
	"If it's not actually helpful we could be causing a lot of stress for no reason!"
	"I would love to have an easier way to chart growth in our EMR."

Table 2: cont'd.

Uniqueness of Postpartum Period	"For midwives, we only monitor growth for such a short period (6 weeks), that weight gain/d is more useful than curves".
	"I think focusing on weight and birth weight is undermining to infant health. Birth weight should be delayed until 24 hours to allow for IV diuresis and this would prevent unnecessary early intervention with formula when there really isn't true 7 to 10% weight loss but in fact just diuresis."
	"I feel newborns are weighed more often than necessary when feeding, output, and behaviour are normal"
	"Routine growth monitoring and feeding support is an essential part of public health nursing. During this time of limited client contact [during the pandemic], I am concerned that many babies/children may not have optimal support around growth and nutrition."
	"I co facilitate an infant group for 0-6 week babies. Weights are done each week."
Interdisciplinary Collaboration	"there is duplication with the PHNs doing the same thing at the same time – we probably shouldn't both be doing it."
	"This should be a physician role and the PHN should move away from monitoring to release PHN time for other prevention initiatives."
	[RGM by PHNs] "gave families false sense that a thorough exam of their child had taken place... A medical exam should take place at certain developmental intervals, by physician, not a nurse."
	"I have had a few cases where PHNs have been concerned but the FP is not concerned as long as babe consistently tracks and does not appear to be further declining. It would be nice to have more info about this, especially knowing what info the FPs use when identifying those babes that have poor weight gain."
	"As a public health nurse, I do not routinely assess infants' growth development anymore due to the recent changes in public health. We now encourage families to visit their physicians for well-baby visits. Often, if we see a client and have concerns, we may offer to assess growth, but then will refer to the physician if there are any concerns.
	"Difficult to communicate growth concerns between public health" [and physicians]
	"Routine growth monitoring has been dropped by the employer"

The measurement and plotting of data was viewed by some as cumbersome. Several participants indicated that their EMR does not automatically chart height, weight, and head circumference, or that the growth charts were outdated so growth data is plotted manually on paper and is not necessarily incorporated into the EMR, making it difficult to compare to previous measurements. Some participants commented that there is not enough training and they would like additional resources to help them with RGM. Others noted that measurements in infants can be inaccurate (especially length) and therefore misleading.

Theme 4 – Uniqueness of the Early Postpartum Period

Comments regarding the first six weeks, mostly from midwives, emphasized that growth charts were often less helpful than daily weight gain (grams per day) or return to birth-weight. Some also suggested that there was too much emphasis on weight in the early postpartum period. There were many comments that said growth monitoring was important in order to support breastfeeding.

Theme 5 – Interdisciplinary Collaboration

Many participants noted that in health authorities where PHNs perform immunizations there is a significant duplication of RGM during infancy among providers. Several participants in one health authority reported that PHNs are no longer conducting RGM, which they suggested was appropriate given the duplication. Some reported difficulties communicating growth data between disciplines. One participant identified a need for shared education to ensure consistency of messaging among providers.

Discussion

This study of infant RGM practice patterns among primary healthcare providers in British Columbia produced a number of interesting findings. In most cases, the quantitative and qualitative data generated complementary results.

The most striking finding in terms of healthcare system efficiency was the frequency and duplication of RGM by different professions, especially within the early postpartum period and at times coinciding with immunization. In most health regions in the province, PHNs provide most immunizations and conduct RGM at the same visit. Most FPs appear to be following the standard growth monitoring schedule that was designed to coincide with immunization visits even if another professional is also doing RGM at similar intervals. This results in considerable duplication of service, with time and human resource implications for both parents and healthcare providers. Repeating measurements and their interpretation can also be confusing for parents who may receive different messages from different healthcare providers.¹² Particularly in light of the uncertain value of RGM suggested by the sparse literature on the topic,^{4-6,20} the high frequency and duplication of RGM is significant.

Although many participants reported that they believed RGM was important, only a small number of participants gave specific examples of cases where they felt it led them to identify otherwise undetected medical conditions. It may be that the belief in the importance of RGM simply reflects what we have been taught. Although many participants reported that doing RGM was useful to support

breastfeeding and nutrition education it seems possible that this information could still be shared if RGM were not performed. As many participants suggested, RGM may not always be necessary and using clinical judgement to determine if growth assessment is necessary may be appropriate in some cases. Coincidentally, towards the end of the study, during the beginning of the COVID-19 pandemic, many practitioners reduced or completely stopped doing RGM. It will be interesting to see if this natural experiment has any long-term effect on the infants or on RGM practice in the future.

The reported frequency of growth monitoring during the first six weeks varied considerably among disciplines and individuals, reflecting the lack of standard recommendations for the neonatal period.⁷ When establishing feeding, many practitioners weigh frequently to reassure parents about adequate growth; however, one study found that babies who were weighed on day 3-4 instead of waiting for day 7 had a significantly increased rate of formula supplementation.²¹

Another key finding is the use of predominantly age-based measurements (weight-for-age [WFA] and length-for age [LFA]) without the recommended weight-for-length (WFL) among all professions, especially physicians. Previous studies have similarly found that most FPs in the study evaluate infants using WFA rather than WFL (92 vs 36%).¹⁶ Although age-based weight or length reporting is more intuitive and easier to explain to parents, proportional measures such as WFL (similar to body mass index [BMI] for older children) are recommended to avoid mislabeling short or long infants as under- or overweight. WFL is also more strongly correlated to later obesity²² than WFA. Misinterpretation based on inappropriate choice of measurement tool can result in unnecessary anxiety and potential for inappropriately altered feeding practices, investigations or referrals.

Few existing RGM guidelines acknowledge the complexity of interpreting RGM data. Growth interpretation, particularly during infancy, is a subjective intellectual task that fails to be easily reduced to a standard set of rules. Considerable clinical judgment is involved in the interpretation of a growth chart, such as when a child appears to be crossing growth lines or plotting above or below the normal range. This is complicated by the fact that growth rates vary significantly over time and among individuals especially during infancy. Appropriate interpretation needs to incorporate the broader genetic, social, health and developmental context of the infant and can be affected by an individual clinician's personal or professional experience and practice style. As several participants in this study noted, perfectly normal healthy babies often fall outside the "normal" growth parameters. One study of infants found that 38% of all infants will cross two growth percentile lines at some point during the first year (thereby meeting the official definition of "failure to thrive") reflecting the typical "surfing" over the chart seen with many healthy babies.²³ Unfortunately, growth curves represent only population averages – they do not actually reflect how real babies grow which is often more in spurts and pauses rather than by following a smooth line. Careful, evidence-informed communication about RGM with parents is particularly important during infancy when RGM is performed frequently, parents are most at risk for anxiety around feeding and infants are in a critical period of development where inappropriate feeding practices resulting from misinterpretation of RGM could have significant long-term consequences.¹²

Use of EMRs to record growth was relatively widespread but many EMRs are not optimized to plot the data leaving practitioners to plot data manually. Those without fully functional EMRs recognized the importance of this feature for ease and accuracy of reporting and sharing patient information. Other studies have found that even among highly skilled health professionals, the accuracy of plotting and interpreting growth data was surprisingly poor.^{24,25} Multiple points of entry for patients and lack of shared EMRs with the recommended WHO growth charts in our healthcare system has the potential to lead to inconsistencies between healthcare providers, confusion for parents and inefficient data management.

As evidenced by duplicated efforts and differences amongst health disciplines performing RGM noted in this study, there appears to be a lack of interdisciplinary collaboration related to RGM. Clear and consistent, evidence-based provincial RGM policies and guidelines are needed to address inconsistencies and improve health care efficiency. Ideally, such interdisciplinary education around these guidelines would begin during post-secondary education, fostering a culture of teamwork and broader understanding of public health issues such as RGM.

Limitations

Family Physicians were under-represented in the study, however, there was little inter-provider variation within the sample of physicians and findings from other studies of FPs performing RGM were consistent with the responses obtained from the small FP sample in this study.¹⁶ Males represented only 4% of the participants, likely reflecting the composition of the population doing RGM, many of whom are members of female-dominated disciplines (nurses and midwives). The health regions were not equally represented which may have affected the data, and the study is geographically limited to the province of British Columbia. The comments and responses from midwives were limited to the first six weeks, the time when infants are usually discharged from midwifery care. The research team did not include a member from midwifery.

CONCLUSION

This study demonstrated widespread utilization of RGM but also revealed intra- and inter-disciplinary knowledge gaps, duplication, challenges and inconsistencies in practice among primary care providers. These findings reflect the lack of evidence to support the practice and more research is required to inform consistent trans-disciplinary guidelines, policies and education. There is also a need for more research regarding potential harms, costs and benefits from the parents' perspective and a cost-benefit evaluation of paediatric RGM and its impact on long-term health outcomes.

Several changes should be considered based on the findings of this study. Practitioners should recognize the inherent challenges associated with RGM, particularly with interpretation and communication of results to parents and the potential associated risks. To start to mitigate these risks, practitioners should ensure that they are using primarily proportional measures (weight-for-length) and should have EMRs that automatically plot growth on appropriate charts. Policy-makers and individual practitioners should re-evaluate the frequent duplication of RGM among different providers at similar intervals as some health authorities have already done. The issue of RGM presents an example of how improved interdisciplinary collaboration could improve the efficiency of our primary healthcare system.

The data underlying this article will be shared on reasonable request to the corresponding author.

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Appendix A: Questions Included in the Survey

1. Profession

- Family physician
- Public health nurse/Registered nurse
- Nurse practitioner
- Registered midwife
- Other (please specify...) _____

2. Gender

- Male
- Female
- Other (please specify...) _____

3. Please indicate the age group to which you belong

- 20-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70 or above

4. How many years have you been practicing?

- 1-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21+ years

5. In what Health Authority region do you primarily practice?

- Northern Health
- Interior Health
- Vancouver Island Health
- Vancouver Coastal Health
- Fraser Health
- Provincial Health Services Authority
- Other (please specify...) _____

- Prefer not to answer

6. At what ages between 0-24 months do you routinely aim to perform growth monitoring?

(Check all that apply)

- | | |
|--|---------------------------------|
| <input type="radio"/> 1 week | <input type="radio"/> 7 months |
| <input type="radio"/> 2 weeks | <input type="radio"/> 8 months |
| <input type="radio"/> 3 weeks | <input type="radio"/> 9 months |
| <input type="radio"/> 4 weeks | <input type="radio"/> 10 months |
| <input type="radio"/> 6 weeks | <input type="radio"/> 12 months |
| <input type="radio"/> 2 months | <input type="radio"/> 14 months |
| <input type="radio"/> 3 months | <input type="radio"/> 16 months |
| <input type="radio"/> 4 months | <input type="radio"/> 18 months |
| <input type="radio"/> 5 months | <input type="radio"/> 20 months |
| <input type="radio"/> 6 months | <input type="radio"/> 24 months |
| <input type="radio"/> Other (please specify...) _____
_____ | |
| <input type="radio"/> Not applicable | |

7. What method do you primarily use to assess/monitor infant growth between birth and 2 years of age?

(Check all that apply)

- Weight-for-age
- Height/length-for-age
- Weight-for-length
- Head circumference
- BMI-for-age
- Other (please specify...) _____

- Not applicable

Additional Comments: _____

8. Do you use an Electronic Medical Record (EMR) system in your practice?

- Yes
- No

a) If YES, do you use it to enter and plot paediatric growth data?

- Yes
- No

9. Please identify which methods you use in your practice to assess/monitor infant growth between birth and 2 years of age. (Check all that apply)

- 2000 Centers for Disease Control and Prevention (CDC) Growth Charts
- 2006/2007 World Health Organization (WHO) Growth Charts
- I use standard growth charts but I'm not sure which ones.
- I use my own professional judgment to assess/monitor paediatric growth patterns.
- Other (please specify...) _____

Additional Comments: _____

10. Is there any further feedback or information you wish to add about the usefulness of infant growth monitoring?

Additional Comments: _____

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- Conditions of clinical use, adverse reactions, interactions and dosing

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Reference: 1. XTANDI Product Monograph. Astellas Pharma Canada, Inc. January 24, 2022.

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Primary Cervical Cancer Screening Using HPV Testing

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Introduction and Natural History

Cervical cancer affected roughly 1450 women in 2021 and approximately 380 women died from this disease (CCS, 2021). The overall incidence of cervical cancer has been decreasing since screening began in the 1950's; immediate and uniform uptake in screening at that time. The steady decrease in incidence has been more notable since the 1970's with widespread uptake of cervical cancer screening in Canada (Canadian Task Force, 2012). The last environmental scan of cervical screening in Canada indicates that there are still provinces in our country that do not have an organized screening program, including the Yukon, Northwest Territories, Nunavut and Quebec (Canadian Partnership Against Cancer, 2018). Since screening began, the standard of care has been using cervical cytology to detect precancerous changes to the cervix. In 1983 HPV (human papillomavirus) 16 was detected in a biopsy of invasive cervical cancer and since that time HPV has been investigated as the causative agent behind cervical cancer and precancerous lesions (Viruses 2018). These precancerous changes are largely due to infection from an HPV strain; there are more than 100 different types of HPV and some have been identified to be specifically oncogenic. These high risk HPV strains consist of 16/18/31/35/39/45/51/52/56/58/66/68 and are connected to about 97% of cervical cancers (Viruses, 2018). The low risk types consist of 6/11/40/42/43/44/54/61/72 and are linked to anogenital warts and laryngeal papillomas (Viruses 2018). Cervical cancer results from a proliferation of malignant cells that arise in the cervical tissues and represent a variety of changes from noninvasive to an invasive carcinoma (Canadian Task Force, 2012). Research shows that roughly 30-35% of HSIL (high grade squamous intraepithelial lesion) or CIN3 (cervical intraepithelial neoplasia) actually progress to an invasive cancer (Cox & Sneyd, 2018) (Canadian Task Force, 2012). However, finding these changes early and treating them appropriately leads to less morbidity and mortality of a preventable disease. The precancerous lesions are proliferations of atypical cells that form due to an infection of the human papillomavirus (Canadian Task Force, 2012); these changes typically start in the transformation zone of the cervix, which is an area of high cellular turnover due to hormonal changes throughout the lifetime (Canadian Task Force, 2012). With the transformation zone being comprised of mainly squamous cells, it supports the statistics of squamous cell carcinoma being the most prevalent form of cervical cancer at 80% (Canadian Task Force, 2012), followed by adenocarcinoma (15%) and other more rare cell types such as small cell neuroendocrine, melanoma, sarcoma, lymphoma and clear cell adenocarcinoma (Tjalma, 2018). With the discovery and strong supporting evidence of the HPV being the causative agent behind the vast majority of invasive cervical cancers, our screening methodologies need to change. There has been a paradigm shift in the method for which screening is done for people with cervixes, which has been adopted by many other countries internationally. Primary HPV testing has been proven to be more sensitive and accurate than cytology

alone with a high negative predictive value (Viruses, 2018) and for this reason, Canada is preparing to update its recommendations for screening going forward.

Risk Factors for Developing Cervical Cancer

The most important risk factor for developing cervical cancer is an infection with a high risk strain of HPV. The second known risk factor for developing cervical cancer is being an active cigarette smoker. This risk is mitigated with the cessation of smoking and can also facilitate regression of precancerous lesions (Kjellberg et al., 2000). The American Cancer Society reveals that women who smoke are twice as likely to develop cervical cancer than those who are non-smokers (2020). Substances in the cigarette damage the DNA of cervical cells and that may be the contributing factor that allows cancer to develop in these tissues. Smoking cigarettes also decreases the effectiveness of one's immune system thereby decreasing a person's ability to clear an HPV infection.

There is an association between an early initiation of sexual activity as well as multiple sexual partners with developing cervical changes (American Cancer Society, 2020). There is also an association between a woman being younger than 20 years old at the time of their first term pregnancy and the likelihood of that woman developing cervical cancer in their lifetime (American Cancer Society, 2020). Being immunocompromised is another risk factor that increases the chance of precancerous changes progressing to cervical cancer such as having an infection with the human immunodeficiency virus (CCS 2020). A history of sexually transmitted infections; especially chlamydia trachomatis, increases risk as well. The correlation is believed to be linked to prolonged cervical inflammation by the chlamydia infection making it more difficult for the body to clear an HPV infection. This risk increases as well with repeated chlamydia infections (CCS 2020). There is an unclear association between taking the oral contraceptive pill over long periods of time, such as longer than 5 years, and developing precancerous changes of the cervix. This risk goes down over time after stopping the oral contraceptive pill and after 10 years off of the pill, the risk has returned to normal (CCS, 2020). Another known risk factor is in utero exposure to diethylstilbestrol (DES), a drug used between 1940 and 1971 to treat problems of pregnancy. Daughters of the mothers who were treated with this medication have been suggested to have higher risk of developing cervical changes and carcinoma of the cervix (CCS, 2020).

HPV Testing Stats and Proposed Algorithm

The current Canadian guidelines for screening of cervical cancer are to begin at age 21 if sexually active and be screened every 3 years thereafter if they have a normal cytology report. Screening ends at age 70 as long as the person has had 3 normal cytology reports in the last 10 years. The new proposed screening guidelines recommend participants begin screening at 21 with cytology as is current practice; then begin screening with HPV testing alone at age 30. With a negative HPV result, screening

intervals vary amongst countries between 3 and 5 years. The age to complete surveillance would remain the same at 70 years old as long as the last 3 tests were negative. The evidence to support this change has been accumulating over the past 15 to 20 years and many countries have already adopted the above algorithm with slight variations. Australia, Europe and certain states in the United States have all adopted primary HPV testing for population screening. Evidence has been supportive that if a woman has a negative HPV test on primary screening then their risk for CIN3+ or HSIL is very low for the following 5 years or more (Whitlock et al., 2011). The sensitivity of HPV testing for CIN 2+ and CIN 3+ (HSIL) was between 95.4-96.1% (Cuzick et al., 2006; Naucler et al., 2009). This is in contrast to cytology where sensitivity was considerably less at 53-71% for CIN 2+ and 74% for CIN 3+. The specificity for HPV testing did not, however, outperform cytology with only 94.2% for CIN 2+ and 93.6% for CIN 3+ versus 98.6 % for CIN 2+ and 98.2% for CIN 3+ (Naucler 2009). The principle approach when there are 2 tests available to screen for the same outcome suggests using the more sensitive test first and then follow up positive results with the more specific test (Cuzick et al., 2006). The way that countries are managing the new colposcopy screening protocol is to follow up positive HPV results with reflex cytology testing. The results of the cytology determine those who go to colposcopy and those that get rescreened with cytology. People who are identified with high grade dysplasia (HSIL) are sent straight to colposcopy, while those with low grade changes (ASCUS/LSIL) will undergo repeat HPV testing in 12 months (Naucler et al., 2009) (Whitlock et al., 2011). The European Union has endorsed primary cervical cancer screening with HPV testing on a population level since December 2015 (Anttila, 2015).


Post Implementation Data

There is limited large scale post-implementation data on a population basis at this time regarding cancer incidence and detection rates. However, Australia has published an article with data modeling incorporating HPV vaccination and (high risk) hrHPV screening on a population level. The modeling shows reassuring data about the significant reduction in both the incidence of cervical cancer and the overall mortality of the disease. Australia is predicting a decrease in CIN2/3 histology by about 40% by 2035 (Hall et al., 2018), a decrease in the overall cervical cancer incidence by 50% and a reduction of the mortality of this disease by 44% by 2035 (Hall et al., 2018). Their model does predict an initial increase in cervical cancer detection and CIN2/3 lesions due to the increased sensitivity of HPV testing and with a plateau in the second and third round of screening (Hall et al., 2018). A Dutch study found similar results and it was reflected in their colposcopy referral rates (Aitken et al., 2019). Their data showed lower HPV positivity in self collected samples than those collected by a clinician (Aitken et al., 2019) which was a surprise and the group is advocating for more investigation for non-inferiority studies.

Harms of Screening

With increased detection of HPV, more women will be referred to have colposcopy for potentially regressive infections. Along with these unnecessary colposcopy exams, there are related diagnostics and treatments in the form of biopsies and repeated pelvic examinations (Whitlock et al., 2011). There is also the work-up associated with false positive tests that would result in overtreatment and futile diagnostic procedures for unaffected women (Whitlock et al., 2011). This predicament can be avoided by ensuring

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- 1 in 168 women is expected to develop cervical cancer during her lifetime, and 1 in 478 will die of it.
- An estimated 1,450 women will develop cervical cancer in 2022 and 380 will die from it.

Source: cancer.ca/statistics

that positive HPV testing is automatically triaged with reflex cytology to avoid colposcopy on a normal cervix. An Australian study looked at obstetrical outcomes of women who undergo excisional treatments for precancerous lesions and those who are vaccinated and therefore would be at less of a risk for such procedures. They found that women are more likely to have a preterm baby and/or low birth weight baby when they have undergone an excisional procedure such as a LEEP (Loop Electrosurgical Excision Procedure) (Velentzis et al., 2017). The women who are vaccinated have a significantly decreased risk of an excisional-based obstetrical outcome and this would support the population-based vaccine program for protecting babies as well as mothers.

Limitations

Rare, or less common types of cervical cancer are not shown to be positive for HPV DNA and therefore would not be found with the new proposed screening method. However, it is not known if traditional cytology would actually be accurate at detecting these lesions either (Tjalma, 2018). There are known histologies of cervical cancer that have very low/rare HPV positivity that would not be captured; these include serous, clear cell, gastric types and mesonephric (Tjalma, 2018). Another limitation of HPV testing would be failure of the test itself, giving a false negative. A false negative can be obtained by inadequate sampling of the cervix or inadequate cellularity, such as when there is necrosis of the cervix or inflammation and if the cervix is coated with excess blood or lubricants it can also obscure HPV sampling (Tjalma, 2018). There was also data presented from multiple studies that cited the importance of HPV testing being done under standardized operating procedures and through an accredited laboratory (Tjalma, 2018). (Chrysostomou et al., 2018) (Ogilvie et al., 2018) (von Karsa et al., 2015). With the widespread implementation of HPV vaccination of the population at large, this will likely impact the numbers of HPV positive cancers in the future. The long-term effect of vaccination will in theory reduce demand for invasive colposcopy services and hopefully less demand for treatments related to cervical cancers from a gynecologic oncology service.

Closing

There is a sizable body of evidence that supports a national primary HPV screening program in Canada. However, in Canada each province and territory is responsible for deciding on its own health policies, therefore a uniform uptake across the country is unlikely at this time. Providers should be comfortable educating our patients about the efficacy and protective properties of HPV primary screening going forward. Many long-term studies performed to date have shown protection to people tested for HPV for 5 years and beyond. Future areas of research include ongoing evaluation of people who have received the HPV immunization to assess the lasting effect of the vaccine. Another area of potential research should be the most effective screening test for women vaccinated against the oncogenic forms of HPV, as it is unknown at this juncture if cytology or HPV testing is optimal for these people.

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NPAO 2022 CONFERENCE

The NP Experience: Pushing Boundaries Towards Common Goals

CONFERENCE SUCCESS



85% of Attendees indicated they learned new information

WHAT ATTENDEES LIKED BEST



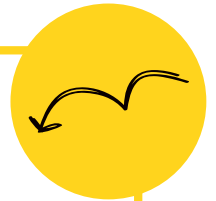
- NP specific content; hearing from NP experts; opportunity to network with NP colleagues
- A sense of community and shared experiences.
- Understanding of the collective challenges and progress of Nurse Practitioners in Ontario

CONFERENCE OVERVIEW



This is the largest professional conference that brings NPs together to have meaningful dialogue about issues of critical importance to NP practice across a wide range of specialties and practice settings.

WHAT EFFECT DID THE CONFERENCE HAVE ON YOU



- An opportunity to see and hear what other NPs are doing
- Ability to connect with other NPs from across the province
- Increased knowledge about updates and resources
- Ability for hands on practice and simulation of procedures

2023 CONFERENCE SAVE THE DATE

September 20 - 22, 2023
Sheraton Toronto Airport Hotel &
Conference Centre



**NURSE
PRACTITIONERS'
ASSOCIATION OF
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NPs in the News

Nurse Practitioner Week in Canada: NPs By the Numbers

Nurse Practitioner Week, November 13-19, is held annually to raise awareness of the role NPs play in Canadian healthcare. On November 17, the Canadian Institute for Health Information (CIHI) released their latest report on the Canadian healthcare provider workforce.

The number of NPs in Canada reached 7,400 in 2021, an increase of 10.7% over 2020. 37% of NPs worked in the community setting, with 35% working in hospital. Nurse practitioners were by far the fastest growing segment of healthcare providers. By comparison, physicians grew by 2%, and all regulated nurses grew by 2.4% over the same period.

Ontario, with over half of all NPs, saw growth of 4.9% between 2020 and 2021. The province of Quebec saw the greatest rate of growth, adding just under 38% more NPs in 2021, to reach 946 licensed NPs in the province.



Province	NPs in 2020	NPs in 2021	Growth (%)
British Columbia	540	648	20.0
Alberta	602	633	5.1
Saskatchewan	240	260	8.3
Manitoba	233	275	18.0
Ontario	3681	3861	4.9
Quebec	686	946	37.9
New Brunswick	148	159	7.4
Nova Scotia	220	240	9.1
Newfoundland and Labrador	191	207	8.4
Prince Edward Island	49	53	8.2

Newfoundland and Labrador Seeks to Increase NP Numbers in the Province

The province of Newfoundland and Labrador is taking steps to address primary healthcare needs with a commitment to launching 35 collaborative community team clinics across the province. The community team clinics would be staffed by family physicians, nurse practitioners, nurses, social workers, pharmacists and other allied health professionals. Seven such clinics are already in place, with a five-year plan for an additional 28 clinics.

Nurse practitioner-led clinics are part of the plan, with the goal of every resident being attached to a community team clinic to meet their healthcare needs. Right now, most NPs in the province practice in emergency department or specialty programs such as urology, cardiology, nephrology, long-term care and mental health and addictions, or with the 811 Healthline.

Yvette Coffey, president of the Registered Nurses' Union of Newfoundland and Labrador commented on the potential for nurse practitioners: "The improvements nurse practitioners could make in the delivery of primary care and across the health care system are significant. This is a step to better utilize this critical health care provider."

Ontario to Hire Additional 225 Nurse Practitioners for Long-term Care Sector

The Ontario Ministry of Long-term Care is committing almost \$58 million over the next three years to fund additional nurse practitioner positions in long-term care homes. First announced in the fall of 2021, the program was highlighted this August in the government's *Plan to Stay Open: Health System Stability & Recovery*.

Under the *Hiring More Nurse Practitioners (HMNP) for Long-Term Care Program*, long-term care homes can request funding for eligible employment expenses for newly hired NPs, including salary, benefits, and overhead costs. Up to \$5,000 in relocation costs can also be requested for NPs who commit to supporting a rural community and work full-time for at least 12 months.



NP-led Clinics Part of the Solution to ER Crisis in Montreal

Quebec this November introduced three temporary measures to help address the overcrowding in Montreal emergency rooms, and nurse practitioners play a significant part in one of them. Two clinics in the Montreal area will be staffed by nurse practitioners to take pressure off local ERs and physicians. The other measures are a new "one call, one service" option to call 811 and get an appointment for care and facilitating transfer of non-acute care patients to other care settings to free up hospital beds.

The health minister, Christian Dubé, described the creation of NP-led clinics as "a step we should have taken a long time ago." He hopes that the clinics can also accommodate patients who do not have a regular family doctor.



Peer Reviewers

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Your professional experience and knowledge can help NP Current to ensure the quality, validity and relevance of submitted content. We are seeking nurse practitioners to act as reviewers for submitted content to:

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- support the nurse practitioner community by sharing your knowledge

If you would like to be considered for a peer review role, contact our managing editor, Melissa Lamont at melissa@npcurrent.ca.

On formulary in ON and SK
Now covered by RAMQ*

Omnaris®: Powerful allergic rhinitis relief with an excellent tolerability profile.¹



Common adverse reactions (1%–10%) in 2 to 6 week clinical trials with SAR or PAR patients (≥12 years) for Omnaris® and placebo include epistaxis (2.7% vs. 2.1%), nasal passage irritation (2.4% vs. 2.2%) and headache (1.3% vs. 0.7%). Most common adverse reactions reported in a 52-week clinical trial of PAR in patients ≥12 years, Omnaris® vs. placebo, were epistaxis (8.4% vs. 6.3%), nasal passage irritation (4.3% vs. 3.6%) and headache (1.6% vs. 0.5%).

Indication:

Omnaris® (ciclesonide) nasal spray is indicated for the treatment of seasonal allergic rhinitis, including hayfever, and perennial allergic rhinitis in adults and adolescents 12 years of age and older.

Contraindications:

- Patients with tuberculosis

Relevant warnings and precautions:

- Patients who are on drugs that suppress the immune system are more susceptible to infections than healthy individuals
- Patients should be examined periodically for changes or signs of adverse effects on the nasal mucosa (e.g. *Candida albicans*)
- Do not use in patients with recent nasal ulcers, nasal surgery, or nasal trauma until healing has occurred

- Monitor for growth in children and adolescents
- Use in pregnant or nursing women only if justified
- Monitor for hypoadrenalism in infants born to mothers taking corticosteroids
- Signs of adrenal insufficiency and withdrawal can accompany the replacement of a systemic corticosteroid with a topical corticosteroid; patients should be carefully monitored. Rapid decreases in systemic corticosteroid dosages following long-term treatment may cause a severe exacerbation of symptoms in patients with asthma or other clinical conditions
- Use with caution, if at all, in patients with untreated local or systemic fungal or bacterial infections, viral or parasitic infections, or ocular herpes simplex
- Use caution in patients with known hypersensitivity to other corticosteroids

- Rare instances of wheezing, nasal septum perforation, cataracts, glaucoma, increased intraocular pressure have been reported with intranasal corticosteroid use
- Not approved for use in patients younger than 12 years of age
- Greater sensitivity in some older individuals cannot be ruled out

For more information:

For important information on conditions of clinical use, contraindications, warnings, precautions, adverse reactions, drug interactions and dosing, please consult the product monograph at <https://health-products.canada.ca/dpd-bdpp/index-eng.jsp>. The product monograph is available by calling Covis Pharma Canada Ltd. at 1-833-523-3009.

REFERENCE: 1. OMNARIS® (ciclesonide) Product Monograph. Covis Pharma GmbH, February 2021.

* Official Mark of the Régie de l'assurance maladie du Québec



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MO-06-2022-002-E



Powerful AR relief.
Excellent tolerability profile.

World Antimicrobial Awareness Week

November 18 – 24



November 18 – 24 is World Antimicrobial Awareness Week, an annual spotlight on a global initiative of the World Health Organization that started in 2015.

Antimicrobial resistance (AMR) has a significant effect on human health. It occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines. Infections become harder to treat and increasing the risk of disease spread, severe illness and death.

Research published earlier this year estimated that AMR in bacteria was the direct cause of an estimated 1.27 million deaths in 2019, with almost 5 million deaths associated with AMR.¹ In North America, bacterial AMR was associated with approximately 50 deaths per 100,000 population. Overall, in the study, the six leading pathogens associated with deaths due to AMR were: *Escherichia coli*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Streptococcus pneumoniae*, *Acinetobacter baumannii*, and *Pseudomonas aeruginosa*.



The theme of World Antimicrobial Awareness week in 2022 is “Preventing Antimicrobial Resistance Together.” A key objective of the plan is to improve awareness and understanding of AMR through effective communication, education and training. The focus this year is to encourage the prudent use of antimicrobials and to strengthen preventive measures addressing antimicrobial resistance.

Resources available from Choosing Wisely Canada to reduce unnecessary antibiotic use

Choosing Wisely Canada has resources available for clinician support and patient awareness to help reduce unnecessary antibiotic use. More than 90% of antibiotics are prescribed in the community setting, so these resources will be useful for many NP practice settings.

Are you using antibiotics wisely?

30-50% OF ANTIBIOTICS PRESCRIBED FOR ACUTE RESPIRATORY INFECTIONS IN PRIMARY CARE ARE UNNECESSARY. FAMILY PHYSICIANS LIKE YOU ARE KEY PARTNERS IN THE BATTLE AGAINST ANTIMICROBIAL RESISTANCE - AN EMERGING PUBLIC HEALTH THREAT.

KEY PRACTICE STATEMENTS

Review key practice changes to help you optimize your antibiotic prescribing. Only use antibiotics when a targeted prescription can truly make a difference in the health care of patients. To learn more about the evidence or access evidence-informed resources, please visit: <https://www.choosingwisely.ca/antibiotics>

UNCOMPLICATED OTITIS MEDIA
 What would you prescribe to a patient with acute otitis media (AOM) in the following circumstances?
 - The symptoms mentioned in the patient's chart above in a patient's chart
 - The symptoms mentioned in the patient's chart above in a patient's chart

UNCOMPLICATED PHARYNGITIS
 What would you prescribe ONLY if a patient has a streptococcal infection?
 - The symptoms mentioned in the patient's chart above in a patient's chart

UNCOMPLICATED SINUSITIS
 What would you prescribe ONLY if the following circumstances:
 - The symptoms mentioned in the patient's chart above in a patient's chart

Practice Change Recommendations

Key practice changes for prescribing in: Uncomplicated otitis media, uncomplicated pharyngitis, uncomplicated sinusitis, pneumonia, and COPD exacerbations.



Waiting Room Posters

Two different posters are available to help patients understand when antibiotics are appropriate and when they won't help them get better faster.

Rx ADULT Patient name: _____ Date: _____

The symptoms you presented with today suggest a viral infection:

- Upper respiratory tract infection (common cold). Cough can last 3-4 weeks
- Acute bronchitis. Cough can last 3-4 weeks
- Viral pharyngitis (sore throat)
- Acute sinusitis (sinus infection)
- Suspended/confirmed COVID-19
- Other viral respiratory infection

Antibiotics have not been prescribed because antibiotics do not treat viral infections.

Unnecessary antibiotics can contribute to antibiotic resistance in the future, which means that when you need antibiotics, they may not work as well.

When you have a viral infection, it is very important to get plenty of rest and give your body time to fight off the virus.

If you follow these instructions, you should feel better soon:

- Rest as much as possible
- Drink plenty of fluids
- Wash your hands frequently and try to stay home to avoid spreading the infection
- Take over-the-counter medication, as advised
- Acetaminophen (e.g., Tylenol) for fever and aches
- Ibuprofen (e.g., Advil, Motrin) for fever and aches
- Nasal saline (e.g., Netasol) for fever and aches
- Sterile saline (e.g., Saline) for nasal congestion
- Other: _____

(E.g., Nasal decongestant if Saline does not work, for <https://www.choosingwisely.ca/antibiotics> use only!)

Please return to your provider if:

- Symptoms do not improve in _____ day(s), or worsen at any time
- You develop persistent fever (above 38°C, or _____ as directed)
- Other: _____

Prescriber: _____

Prescribing Tools for Clinicians

Adult and pediatric versions of a “viral prescription”, with a checklist for the clinician to remind the patient or caregiver that a viral illness doesn’t require antibiotics but that there are things that will help manage symptoms.

A “delayed prescription” pad to reduce antibiotic overuse; instructions ask the patient to wait before filling the antibiotic prescription, and how to manage symptoms.

These resources are available at [ChoosingWiselyCanada.org](https://www.ChoosingWiselyCanada.org), or by following the link at:



Pr **BLEXTEN**[®]



**PRESCRIPTION ANTIHISTAMINE
COVERED BY MOST PRIVATE
INSURANCE PLANS**

Indications:

Seasonal Allergic Rhinitis

BLEXTEN[®] (bilastine) is indicated for the symptomatic relief of nasal and non-nasal symptoms of seasonal allergic rhinitis (SAR) in patients 4 years of age and older with a body weight of at least 16 kg.

Chronic Spontaneous Urticaria

BLEXTEN[®] (bilastine) is indicated for the relief of the symptoms associated with chronic spontaneous urticaria (CSU) (e.g. pruritus and hives), in patients 4 years of age and older with a body weight of at least 16 kg.

Contraindication:

- History of QT prolongation and/or torsade de pointes, including congenital long QT syndromes

Relevant warnings and precautions:

- QTc interval prolongation, which may increase the risk of torsade de pointes
- Use with caution in patients with a history of cardiac arrhythmias; hypokalemia, hypomagnesaemia; significant bradycardia; family history of sudden cardiac death; concomitant use of other QT/QTc-prolonging drugs

- P-glycoprotein inhibitors may increase plasma levels of BLEXTEN[®] in patients with moderate or severe renal impairment; co-administration should be avoided
- BLEXTEN[®] should be avoided during pregnancy unless advised otherwise by a physician
- A study was performed to assess the effects of BLEXTEN[®] and bilastine 40 mg on real time driving performance compared to placebo. Bilastine did not affect driving performance differently than placebo following day one or after one week of treatment. However, patients should be informed that very rarely some people experience drowsiness, which may affect their ability to drive or use machines.

For more information:

Please consult the product monograph at <https://www.miravohealthcare.com/wp-content/uploads/2021/08/Blexten-PM-ENG-Aug2021.pdf> for important information relating to adverse reactions, drug interactions, and dosing information which have not been discussed in this piece. The product monograph is also available by calling 1-866-391-4503.

[‡] As of August 31, 2021, the estimate from internal data of patient exposure is based on units sold of the defined daily dose of 20 mg bilastine and the mean treatment duration of 3 weeks.

Reference:

1. Blexten[®] Product Monograph. Aralez Pharmaceuticals Canada Inc. 2021.



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Pr **BLEXTEN**[®]
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