

Understanding How Clinical Teams and Parents Will Respond to *BabyNoggin*

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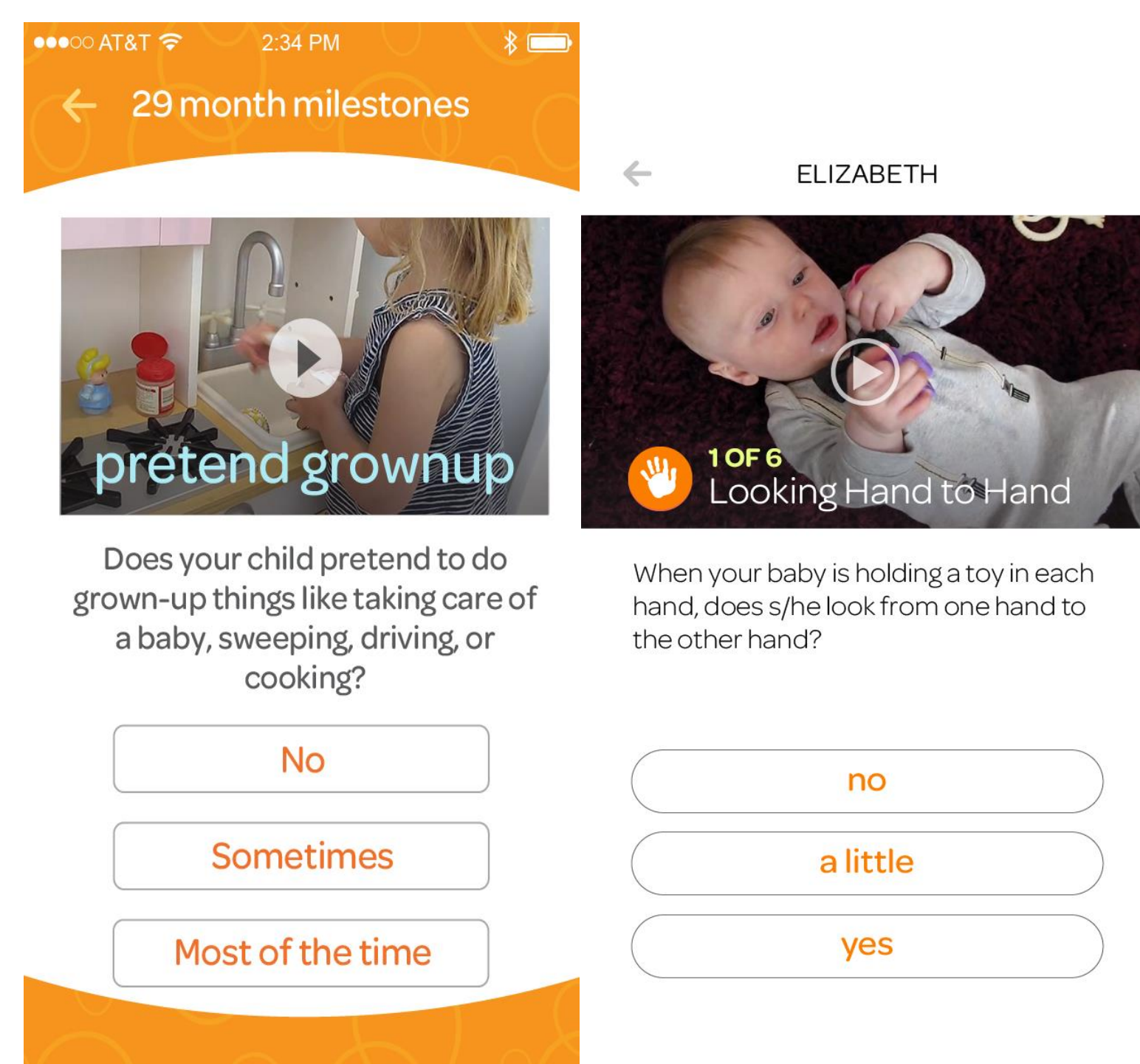
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BACKGROUND

- Potential of mHealth apps in clinical settings to improve clinic workflow
- *BabyNoggin*: app designed to collect standard developmental screening tools typically collected via paper forms
- Pre-implementation observational phase designed to understand:
 - Clinic workflows prior to incorporating *BabyNoggin*
 - Provider perspectives of integrating *BabyNoggin* into clinic workflows
 - Potential facilitators and barriers of implementing *BabyNoggin* into clinics
 - Parental attitudes towards the use of apps for child development and screening
- Importance of engaging the clinical teams and parents in the study process to increase the potential for successful uptake of *BabyNoggin*

BABYNOGGIN SCREENSHOTS

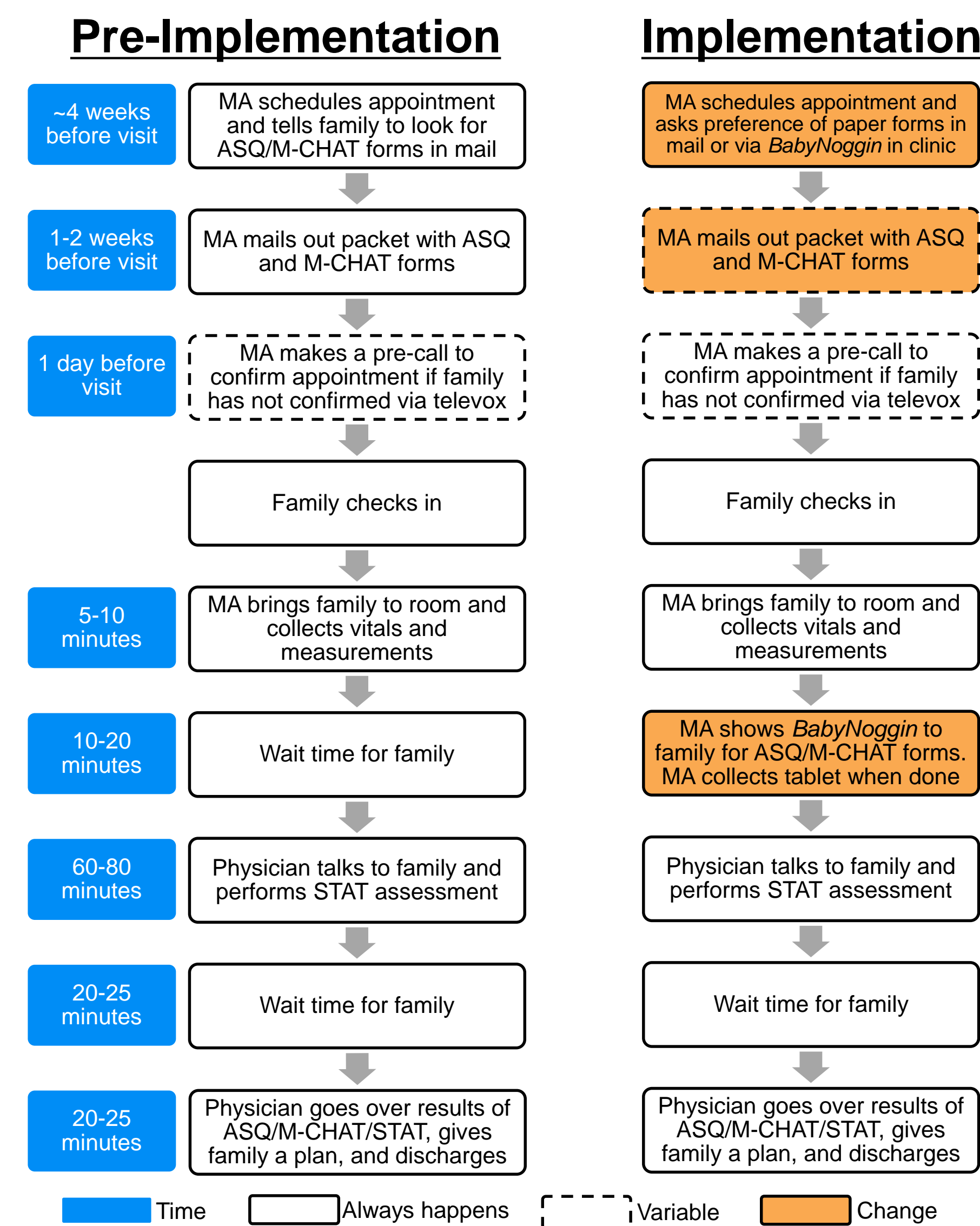


METHODS

- Pre-implementation clinical observations of workflow in three clinics at Riley Hospital for Children
- Semi-structured interview informed by the Consolidated Framework for Implementation Research (CFIR) with each clinical team
- Parental Attitudes Towards Apps for Child Development and Health survey
 - Parents with children aged 0-5
 - 26-item survey
 - Recruited from study clinics and social media

RESULTS

STAT CLINIC IMPLEMENTATION PLAN



POTENTIAL FACILITATORS AND BARRIERS

	Facilitators	Barriers
Provider	<ol style="list-style-type: none"> 1. Automatic Scoring 2. No risk of family forgetting paper forms 3. More accurate responses due to video demonstrations 4. Less time clarifying questions for families 5. Can print results directly from app 6. Parents more likely to answer all questions on a tablet 	<ol style="list-style-type: none"> 1. Technical difficulties 2. Surveys not being completed before the patient-provider encounter 3. ASQs taking longer due to built-in videos 4. Manually putting <i>BabyNoggin</i> data into charts/EMRs 5. Logistical issues with follow-up responses after discharge from clinics 6. Having to wait for an available tablet 7. Financial support to pay for ongoing use of <i>BabyNoggin</i>
Parent	<ol style="list-style-type: none"> 1. Helpful 10 second videos built into the ASQs 2. Multiple languages available 3. Each question read out loud 4. Not having to fill out ASQs before visit 5. Bigger font on the iPad to read 6. Children may be entertained by the videos 7. More convenient to fill out (tap instead of paper, pen, and a hard surface) 	<ol style="list-style-type: none"> 1. Technical difficulties 2. Having to fill out forms both on <i>BabyNoggin</i> and some still via paper intake packet (mostly for STAT clinic) 3. ASQs taking longer due to built-in videos 4. Unfamiliarity with iPads and app technology 5. Child being distracted by iPad and interfering with completion of the forms

PARENTAL ATTITUDES TOWARDS APPS

Demographics: N=250

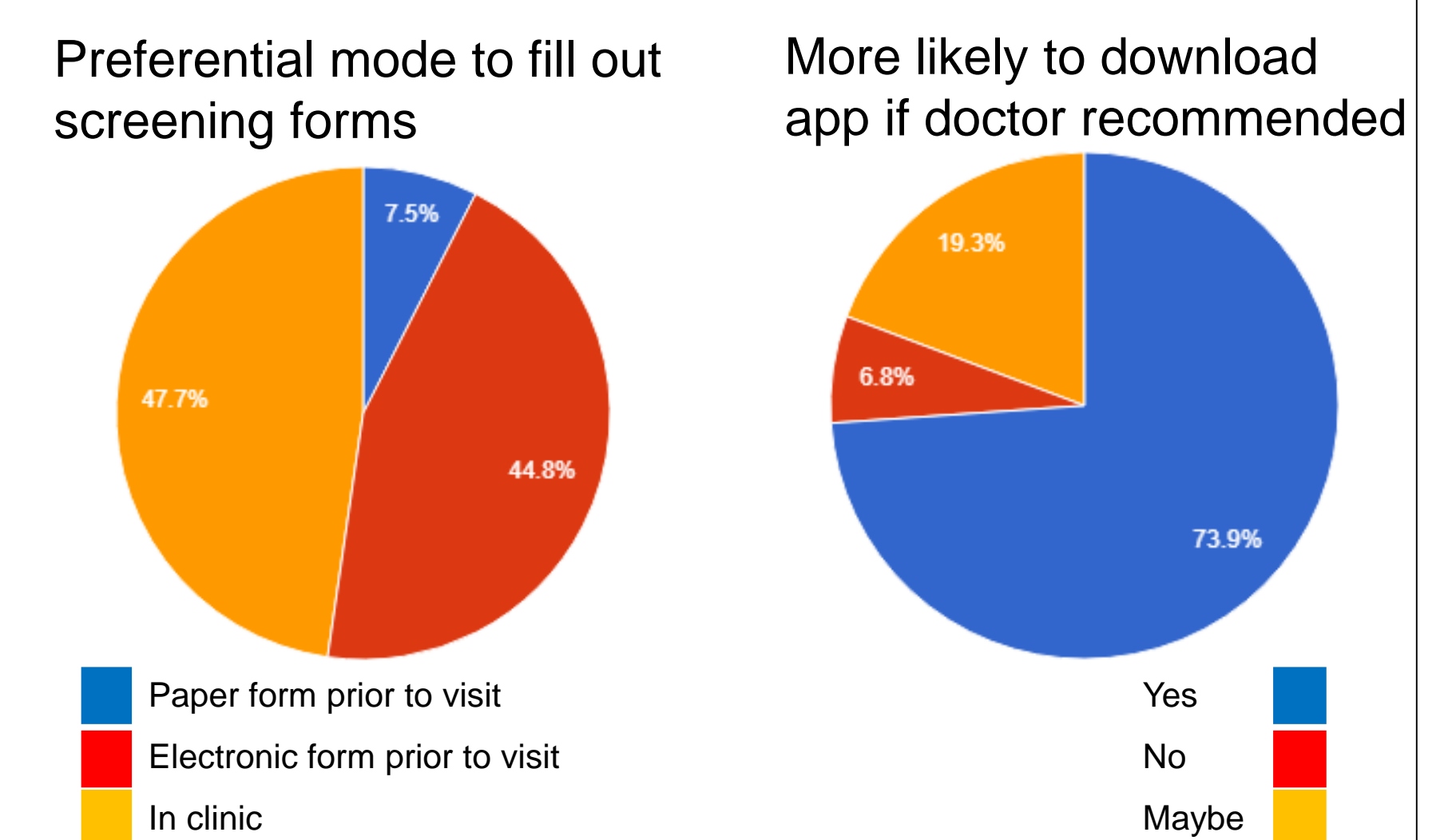
	n (%)
Gender	
Female	239 (96.4%)
Age	
18-21	12 (4.8%)
22-29	96 (38.6%)
30-39	120 (48.2%)
40-49	19 (7.6%)
Race	
White	220 (89.1%)
Black or African American	15 (6.1%)
Native American	5 (2.0%)
Asian	7 (2.8%)
Ethnicity	
Hispanic or Latino	25 (10.0%)

	n (%)
Education	
Did not complete HS	2 (0.8%)
High school	24 (9.6%)
GED	6 (2.4%)
Some college	48 (19.3%)
2-year college	28 (11.2%)
4-year college	76 (30.5%)
Trade school	5 (2.0%)
Graduate school	60 (24.1%)
Marriage	
Married	199 (79.9%)
Divorced	4 (1.6%)
Separated	1 (0.4%)
Never been married	45 (18.1%)

Current Child Health App Usage

- 66.8% (n=167) of respondents have at least one app related to child health and/or development
- The top reason for downloading child health apps was for a convenient way to track development (62.6%, n=139)
- Top reasons for not downloading apps included uncertainty of which app to download (32.0%, n=47), didn't think about apps for this purpose (29.9%, n=44), and was not willing to pay (25.9%, n=38)

Opinion on Clinical Use



CONCLUSIONS

- Provider teams have enthusiasm for implementation of *BabyNoggin* but share concerns about technology and logistics. Proposed workflows for implementation should not increase visit length but will need to be monitored.
- Healthcare providers considering implementation of 3rd party apps are encouraged to plan ahead given the need to work closely with data security and HIPAA concerns.

LIMITATIONS

- Majority of the survey sample was white, female, married, and college educated due to the sampling method

FUTURE RESEARCH

- Collect responses to Provider Attitudes Towards Apps for Child Health and Development surveys
- Implement *BabyNoggin* into all three clinics
- Conduct clinical observations with *BabyNoggin*
- Do CFIR interviews with clinical teams post-implementation
- Determine facilitators and barriers post-implementation
- Begin *BabyNoggin* phone-app Pilot Study
 - REDCap survey 2 weeks after clinic visit
 - Phone-call interview 4-weeks after clinic visit
- Determine impact of *BabyNoggin* on both parents and providers

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