

A Clinical Process Support System: What is it, does it work?

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Disclosure

- Dr.s Sturner and Howard have a conflict of interest as co-founders of CHADIS.
- This presentation will focus on prior academic presentations and publications

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A Clinical Process Support System



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Benefits of Patient Reported Outcomes (PRO)

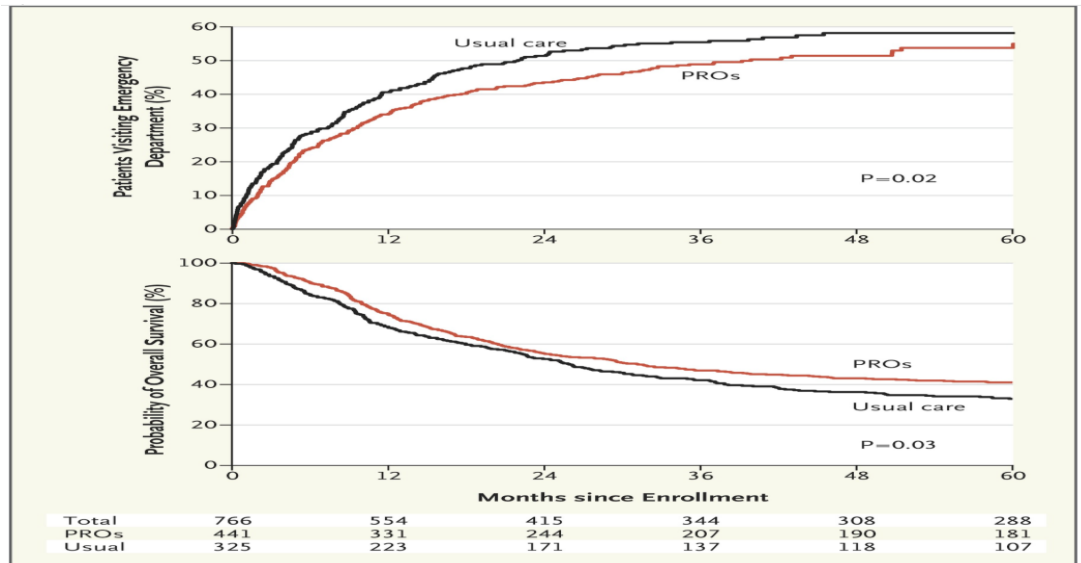
New England Journal of Medicine: Basch, 2017 – Patient Care

For Patients

- Reduced ED use
- Improved quality of life
- Longer survival (e.g., advanced cancers)
- More accurate data
- Better patient–clinician communication
- More shared decision making
- Improved satisfaction

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Outcomes with PRO vs. Treatment as Usual



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Benefits of Patient Reported Outcomes for Doctors

New England Journal of Medicine: Rosenstein, 2017

- Doctors “..let me be a doctor again”
 - Improved satisfaction
 - Reduced burden, time
 - Increased income
- Barrier to Introduction of PRO:
 - “EHR vendors have only rudimentary ability to collect PRO data - ..would be eased by availability of standardized PRO platforms that could accompany or easily be plugged into the EHR.”

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Online Support for Autism Detection & Care

- Pre-visit screening by parent report
- Decision support for clinicians to do the M-CHAT Follow Up
- Machine Learning to adapt screening per patient for higher accuracy
- Assistance with referral and tracking for a System of Care

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Autism Screening - Background

- Autism Spectrum Disorder (ASD) is impairing and prevalent disorder – 1 in 59 (Baio et al., 2018).
- Early evidence-based intervention for children with ASD is associated with improved long-term outcomes (National Research Council 2001; Howlin et al. 2009)
- Screening all children at 18 and 24 mo visits recommended by AAP and CDC.
- USPSTF (2015) – data limitations in currently recommended tools;
 - lack of validation data in community samples including screen failures
 - Lack of data in the youngest

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M-CHAT

The M-CHAT-R is the most commonly used autism specific screen

- 2-stage screen with structured follow-up interview
 - Sensitivity – 0.85; Specificity – 0.99; PPV: 0.48 - 94.5% of false positives turn out to have some developmental problem (Robins, 2014)
- Follow-up “telephone interview” reduces over-referrals by 87% (Chebowski, et. al., 2013)
 - Was “highly recommended” now “required” except if >7 score
 - Lowers EI burden
 - Avoids Family Stress
 - 26 page algorithm
 - Validation was from RA phone interview some months later
- Can the M-CHAT be completed reliably in primary care pediatric practice?
 - Low use of in pediatrics (Swanson, et. al., 2013)
 - Will online clinical process support help a PCP reliably complete the required structured interview within the visit?

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Study 1 - Recruitment

10,922 screened with M-CHAT (18 or 24 mo. primary care pediatric visits)



Completed dx evaluation: 98 (both M-CHAT + M-CHAT/F +)

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Can doctors do F/U as well as Trained Ras with Decision Support?

*Comparing Accuracy Rates using M-CHAT/F:

- Pediatrician (N = 98) 0.67 (0.57–0.76)
- Autism Center (N = 97) 0.63 (0.53–0.73)
- Comparisons (2-tailed z test and TOST) = **equivalence**

*Sturner, R., Howard, B., Bergmann, P., Morrel, T., Andon, A., Marks, D., Rao, P., & Landa, R. (2016). Autism screening with online decision support by primary care pediatricians aided by M-CHAT/F. *Pediatrics*, 138(3)

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M-CHAT F/U in CHADIS

CHADIS Detail Report

Visit on 10/19/15

Priorities

- Behavior or emotions: *not talking*
- Challenging Parts/Difficulties: Crying or fussing or tantrums
Best Parts/Strengths: How healthy he/she is

Questionnaires

Alert	Questionnaire	Completed	Respondent	Pass	Fail	Provisional Result	Responses	Follow-Ups
**	Ages & Stages Questionnaires@: 18 months ^[2]	10/19/11	Mother		1	Disorder	Preview Include	
***	Modified Checklist for Autism in Toddlers (M-CHAT) ^[2]	6/8/10	Mother		1	Disorder	Preview Include M-CHAT Follow-Up	
	Visit Priorities, and Best and Hardest Parts of Parenting ^[2]	1/20/12	Mother				Preview Include	

Please verify that respondents are the appropriate individuals and the questions were understood

 [Show copy-and-paste-friendly version of these results](#)

Questionnaire Results

Ages & Stages Questionnaires@: 18 months [\[Remove these results\]](#)

Submitted 10/19/11 by Mother Autism (Mother)

- **Failure:Positive screen for fine motor delay (cut score <= 39.5); Score: 35
- Child age outside limit for 18 month ASQ

Modified Checklist for Autism in Toddlers (M-CHAT) (M-CHAT) [\[Remove these results\]](#)

Submitted 6/8/10 by Mother Autism (Mother)

- ***Failure:Positive Screen for Autism

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M-CHAT F/U Specific Questions: Did you mean it?

9. In a questionnaire you reported that your child does not show you things by bringing them to you or holding them up for you to see. Not just to get help, but to share. Is that correct about your child?

- Yes
- No

© 2009: Robins, Fein, & Barton

Next » Save and Exit

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M-CHAT F/U: Specific Example

C H A D I S

Home » Patients

Does your child sometimes bring you...

- A picture or toy just to show you? (pass response)
- A drawing he/she has done? (pass response)
- A flower he/she has picked? (pass response)
- A bug he/she has found in the grass? (pass response)
- A few blocks he/she has put together? (pass response)
- Other appropriate response (describe) (pass response)
- No appropriate response (fail response)

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Next » Save and Exit

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M-CHAT F/U: Confirming Language

CHADIS

Home » Patients

Is this sometimes just to show you, not to get help?

- Yes
- No

© 2009: Robins, Fein, & Barton

Next »

Save and Exit

Ca

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Results: Comparisons*

*Sturner, R., Howard, B. J., Bergmann, P., Morrel, T., Landa, R., Walton, K., Marks, D., Accurate Autism Screening at the 18-Month Well-Child Visit Requires Different Strategies Than at 24 Months J. Autism and Related Disorders, Jul, 2017, p 1- 15,

AGE (mos)	MCHAT		MCHAT/F		CART (M-CHAT+MCDI+ASQ)	
	> 20	<20	>20	<20	>20	<20
PPV	0.48	0.31	0.69	0.36	0.72	0.88

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M-CHAT: Age Issues

(Pandey, J, et al, 2008)

	High Risk Older (N = 96)	High Risk Younger (N107)	Low Risk Older (N = 31)	Low Risk Younger (N = 36)
PPV ASD	0.74	0.78	0.61	0.28

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Challenges for Autism Screening at 18 month.

- Many parents report their concerns by 12- to 19-mos
- 18 mo M-CHAT pos.screen -> only 1/3 of ASD dx identified at 9 yrs in Norwegian cohort study (Stenberg, et al., 2014)
- But -- 32% of ASD at 24 mo. represent regression – not apparent at 18 mo. (Barger, 2013)
- ASD symptoms emerge gradually in toddlers (Ozonoff, et al., 2008) but M-CHAT items are yes/no
- Addition of standard language measure (MCDI) may improve accuracy (Veness, 2012)
- More M-CHAT item failures at 18 than 24 mo. esp. newly emerging items (Sturner, et al., 2017)
- Meta analysis (Yuan, et al., 2018) – accuracy at 18 mo “cannot be precisely predicted ..few studies with community samples at 18 mo”.

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Study -18 months

Screened with M-CHAT/Q-CHAT (18 mo. only visit):11,878



Administer Items from prospective studies + POSI + language items (MCDI): 410 (96 + screen)(314 - screen)



Completed Diagnostic Evaluation: 410

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Predicting Autism Diagnoses at 18 mo. (N = 410)				
	Sensitivity	Specificity	PV	NPV
M-CHAT-R	0.73	0.66	0.28	0.93
M-CHAT-R/F	0.32	0.90	0.36	0.88
D/QCHAT+D/POSI \geq 28	0.65	0.81	0.38	0.93

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Predicting Autism Diagnoses at 18 mo. (N = 410)				
	Sensitivity	Specificity	PV	NPV
M-CHAT-R	0.73	0.66	0.28	0.93
M-CHAT-R/F	0.32	0.90	0.36	0.88
D/QCHAT+D/POSI >= 28	0.65	0.81	0.38	0.93
CHADIS Machine Learning	0.94	0.89	0.58	0.99

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Autism Screening Predicting Combined Autism and Developmental Disorder Testing (N = 410)				
Screen	Sensitivity	Specificity	PPV	NPV
M-CHAT-R	0.62	0.71	0.56	0.76
M-CHAT-R/F	0.27	0.93	0.70	0.68
ASQ	0.40	0.85	0.57	0.73
MCHAT-R+ASQ	0.75	0.63	0.55	0.80
CHADIS M.L.	0.94	0.81	0.67	0.98

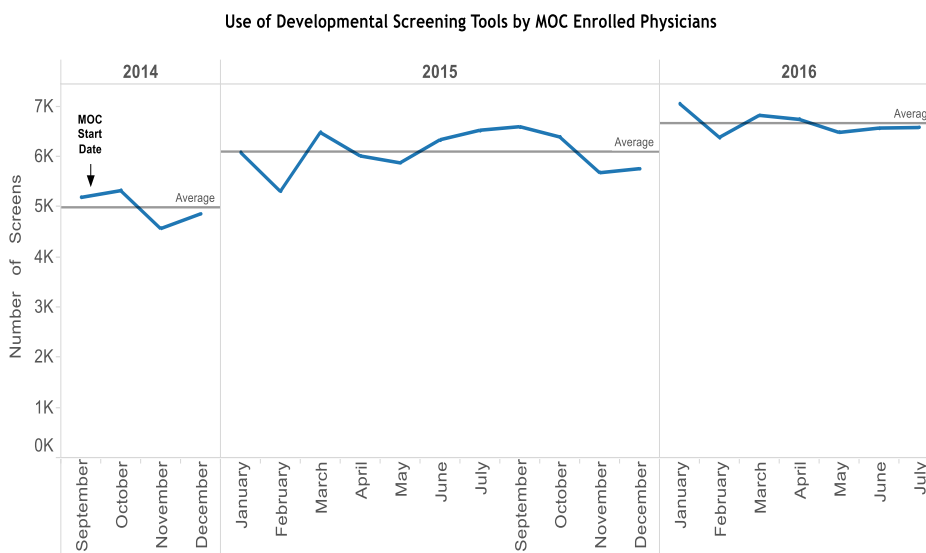
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?New Paradigm for Screening

- KISS (“keep it simple stupid”) principle: scoring needs to be simple, add up, same for all ages
- DIS (Digital Is Simple) principle: scoring done by computer is simple for the clinician even if really complex

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Practices are Maintaining and Increasing Performance using MOC QI



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Care Coordination Tools

- Refer the pediatric patient and family members to medical providers or community agencies – receiving providers have approval to **reach out to the patients**
- Send and receive referrals by email or fax
- Document parent/guardian consent for referral (verbal or written online)
- Share CHADIS reports, comments, status-of-service updates
- Automatic notifications regarding ongoing referrals for tracking

Patient Referral

Status: Accepted [Track Appointment](#) [Mark Consultation as Done](#)

Referral Code: 28ab5b6f57cd28073e3bf3219367c7b7

Patient: [Steve Jones](#)
 Contact: Sally Jones
 Contact Phone: (555) 138-1889
 Contact Email: sallyjones@email-email.com
 Insurance: Aetna

Referred By: Genna Doctor1
 Boothbay, a, MD, US

Referred To: Test Office, Baltimore, MD, US

Consent: Verbal Consent obtained by Genna Doctor1 on 10/31/17

Relevant Report: [View](#)

Comments

Genna Doctor1 10/31/17 10:52 AM EDT
 Comment when Creating Referral: This patient needs help with behavior issues.

Silvia Specialist 10/31/17 10:54 AM EDT
 Comment when Accepting Referral: Thank you for your referral. I look forward to meeting the patient and discussing behavioral therapies

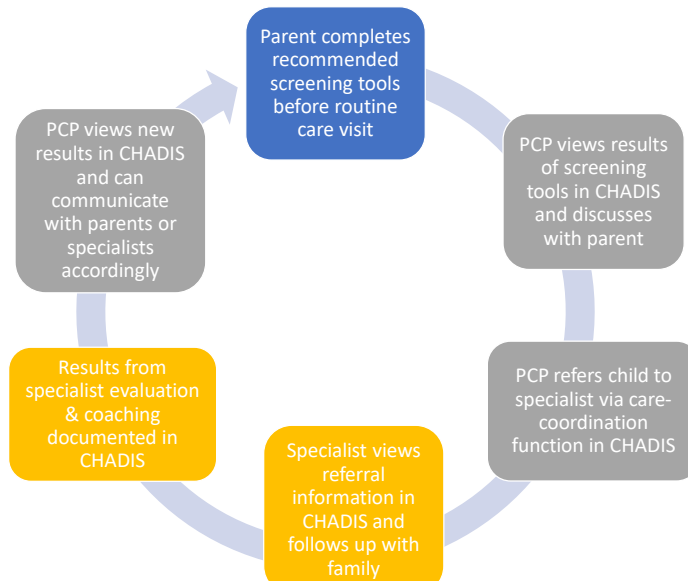
Comments (optional)

Both the referring and the receiving physicians will be able to see these comments.

[Post Comment](#) [Track Appointment](#) [Mark Consultation as Done](#)

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Early Childhood System of Care Model



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How Does a Computer Help Patient Centered Care?

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Patient Centered Care

- Patient Centered Care: IOM (National Academy of Medicine) definition*
“care that is respectful of and responsive to individual patient preferences, needs, and values” and that ensures “that patient values guide all clinical decisions.”
- Data on patient satisfaction and improved outcomes:
 - Less diagnostic testing e.g., Cochrane Review
 - Pre-visit patient data collection is a key facilitator

**National Research Council. Crossing the quality chasm: a new health system for the 21st century. Washington, DC: National Academies Press, 2001*

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Shared Decision Making

- e.g. Sharing Visual Results
- e.g. Problem Solving Counseling
- e.g. Motivational Interviewing

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Using Shared Decision Making for ADHD Care

- Families often distrustful of pharma bias
- Families have heard or read ill on internet
- Deciding together increases:
 - Adherence
 - Long term use of medication
 - Transition to self care in adolescence
 - Avoiding divergence of medication
- Components: Careful history, placebo trial, goal setting, 504 request, repeated measures, educational materials.
- More time for discussion using pre-visit info

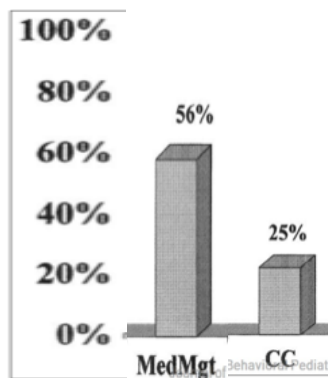
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Multisite Multimodal Treatment Study for ADHD Care

- 600 children (age 7 – 9 yrs)
- ADHD combined type
- 24 month outcomes
- Groups
 - Medical management: monthly tailored; Ritalin
 - Behavioral Therapy: 8 week summer; training; in-class aid, teacher consultation
 - Combined Medical Mgt and Behavioral Therapy
 - Community Care: 67% meds mostly prescribed twice a day

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MTA Study: % “Normalized” at 14 months



MedMgt = Tertiary care medication mgt with **dose adjustments based on school feedback**

CC = Medication mgt by Community Physicians

% = % of children below ADHD symptom cut score

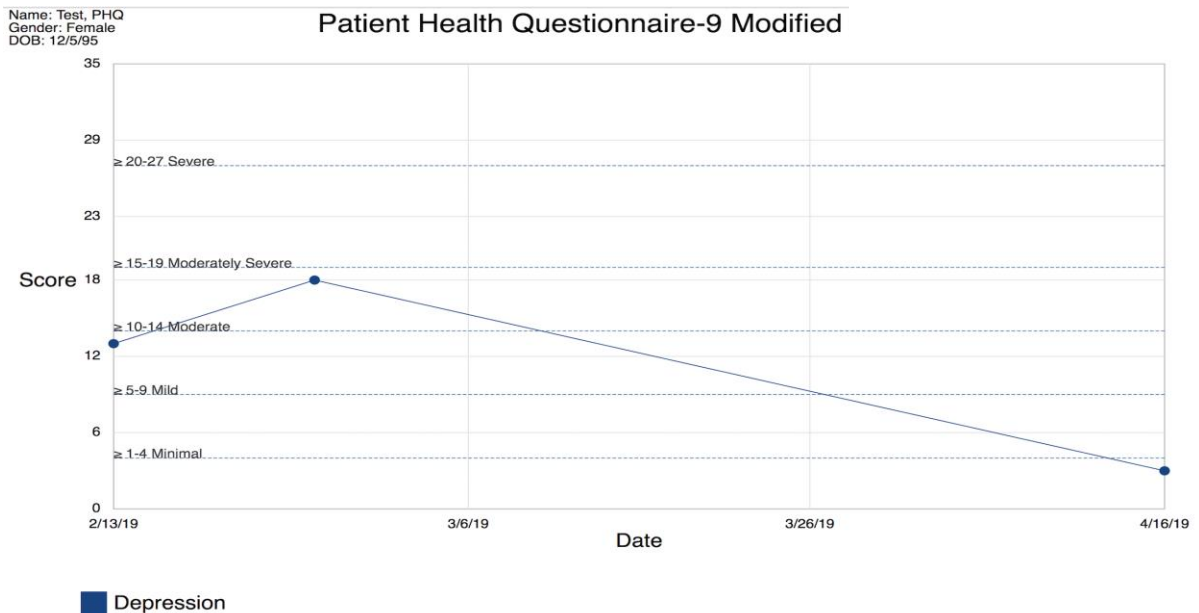
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CHADIS sends email, online consent to get Teacher Vanderbilts online



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Example of Monitoring Scaled Scores for Depression



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Problem Solving Counseling

- Increases asthma control without changing medication via improved adherence in adult patients (BOAT study)
- Still directive but taking into account patient barriers

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Patient Specific Template (PST) – e.g. Asthma

Incorporates scored results of asthma pre-visit tools to provide:

- Tailored Guidance:
 - NHLBI guideline-based decision support resources, especially for medications and doses
 - Pre-populated questionnaire results in an outline format
 - Clear 'Next Steps' tailored to each patient's situation
 - **Problem solving counseling** for patient-specific adherence counseling
 - An eChapter for decision support
 - Graphical depiction of asthma tool results over time for shared decision making
- Automatic Documentation:
 - Automatic chart documentation with parallel resources for family
- Tailored Family Support:
 - A prefilled Asthma Treatment Plan, tailored to the patient
 - Automatically assigned patient- specific asthma education resources

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Monitoring

- Schedule or ad hoc SMS or email reminders to do interval questionnaires
- Clinicians get weekly Asthma Status report on all their patients with: low adherence; worsening severity; moderate or severe severity/control rating
- Clinician can update Asthma Treatment Plan remotely

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Overview of Results – Launch PST

CHADIS
Patients > patient asthma : Visit on 8/20/15 (Prepared 8/20/15 8:18 AM EDT) [Detail] [Interactive]

CHADIS Detail Report

Visit on 8/20/15


Priorities

- Adherence Barrier #1: Child needs less meds/lower dose for Advair 230, (Control concern)
- Adherence Barrier #2: Child refuses medicines

Questionnaires

Alert	Questionnaire	Completed	Respondent	Provisional Result	Responses	Follow-Up	
		Pass	Fail	Disorder	Problem	Variation	Challenge
	Asthma Control Parent Perception Rating [?] [?] [?]	8/18/15	Clinician				
	Asthma History [?] [?]	4/22/15	Clinician				
	Asthma Medications [?] [?]	8/18/15	Clinician				
	Environmental Triggers and Smoke Exposure Questionnaire [?] [?]	8/17/15	Clinician	32			

Please verify that respondents are the appropriate individuals and the questions were understood

 Show copy-and-paste-friendly version of these results

Questionnaire Results

Asthma Control Parent Perception Rating [Remove these results]
Submitted 8/18/15 by Ray Sturmer (Clinician)

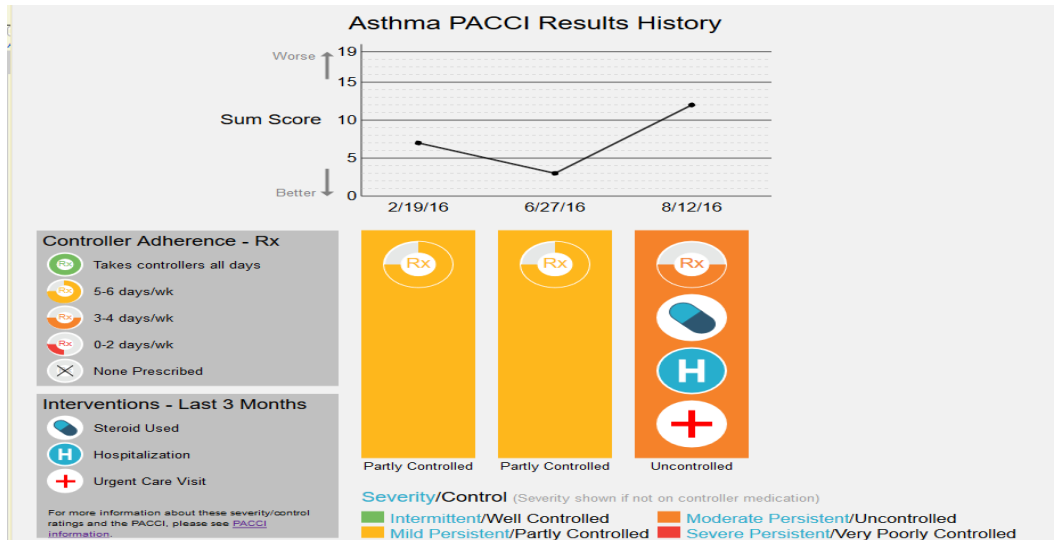
- Asthma Control per Parent Perception: *Moderate Persistent/ UnControlled*

Asthma History [Remove these results]
Submitted 4/22/15 by Stephanie Porcaro (Clinician)

- Family History positive: Asthma mother/ father/ sibling/ other/
- Past History: Asthma diagnosis (age 3)
- Past History: Hospitalized for breathing (two times)
- Past History: ICU or intubation for asthma (five times)
- Past History: Oral steroids for asthma (more than five times)
- Past History: Missed school for asthma (less than five days)
- Newborn History: uncomplicated
- Related Past History: *Poor weight gain*

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Asthma Severity/Control & Adherence



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Tailored Links to Next Clinical Steps

Asthma E-Chapter Guidelines for Asthma Diagnosis/Management Med Photos Step Up Plan Med Pricing

Graphic & Next Steps Status Trigger Past Hx Educ Adhere PE/Obs Plan

Graphic & Next Steps Answered already

Asthma PACCI Results History

Click to enlarge

Next Steps Based on Current Severity/Control

- Address Adherence
- Review Inhaler Technique
- Consider Triggers
- Update Medications for Treatment (Asthma Action Plan)
- Edit Treatment (Asthma Action Plan) - (Save then click the "Preview Asthma Treatment Plan" link at the very top of this module to view Plan)
- Discuss Parent Understanding of Severity

Clinician Report for Asthma (NEW)

Graphic & Next Steps

Parent Perception

Parent assessment of child's asthma: Parent thinks asthma is less severe than PACCI results

Status

Send Resources in English or Spanish?: English

Presenting Complaint

Parent goals for this visit include: Cost of medicines, visits or missing work
Parent goals for this visit include: What activities my child can do

Current Treatment

Controller Medication - Advair 100/50: 1 puff 1 time per day .
0 missed days on average week .
Controller Medication - Advair 250/50: 1 puff Don't know frequency .
0 missed days on average week .
Controller Medication - Advair 115: 1 puff Don't know frequency .
Spacer use: Every time .
0 missed days on average week .
Controller Medication - Pulmicort 90: 1 puff 1 time per day .
Spacer use: More than half the time .
0 missed days on average week .
Controller Medication - Pulmicort Respules 0.50: 1 neb or vial 1 time per day .
Facemask use: Yes, a mouthpiece .
0 missed days on average week .

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Teleprompter for Evidence-based Adherence Discussion = Problem Solving Counseling

Define problem: "So you understand the need for using medication to control your child's asthma, but your insurance doesn't pay (or doesn't pay enough) for the medicines. Many people find themselves in situations like this."

Set goal: "Let's figure out together how you can get your child's asthma medicine."

Possible solutions: "What ideas do you have about fixing this problem? Here are some other ideas: Refer to social worker/ Research healthcare.gov/ Explore other insurance at job/ Apply for Medicaid/ Apply for S-CHIP/ Contact manufacturer for free meds/ Give child cheaper meds/ Write off cost of visit/ Provide samples/ Other (free text)"

Selected solution: "Which one of these would you like to try first? (Select solution)"

Action steps: "What do you need to do to take this next step?"

Evaluate success: "How will you know that your plan is working?"

Adherence

Problem Solving

Adherence Issues

- Parent report of missed doses

Barrier to Adherence

- General Barrier to Adherence
- Parent Difficulty Paying For Meds/Visit
- General Barrier to Adherence #2

Current Treatment

Controller Medication - Advair 100/60: 1 puff 1 time per day .
0 missed days on average week .

Controller Medication - Advair 250/60: 1 puff Don't know frequency .
0 missed days on average week .

Controller Medication - Advair 115: 1 puff Don't know frequency .
Spacer use: Every time .
0 missed days on average week .

Controller Medication - Pulmicort 90: 1 puff 1 time per day .
Spacer use: More than half the time .
0 missed days on average week .

Controller Medication - Pulmicort Respules 0.50: 1 neb or vial 1 time per day .
Facemask use: Yes, a mouthpiece .
0 missed days on average week .

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Links to Decision Support

Selected solution: "Which one of these would you like to try first? (Select solution)"

Action steps: "What do you need to do to take this next step?"

Evaluate success: "How will you know that your plan is working?"

Asthma E-Chapter Guidelines for Asthma Diagnosis/Management Med Photos Step Up Plan Med Pricing

Graphic & Next Steps Status Trigger Past Hx. Educ. **Adhere.** PE/Obs Plan

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“Click to view” Video of Inhaler Technique

There are 2 major techniques when using a tube spacer. The choice depends on whether the spacer is being used with a mask (for infants and toddlers) or without mask. This video demonstrates the proper use of the spacer without a mask.





Last Updated 1/23/2016

Source PediaLink Essentials: Asthma Gadgets 2010 (Copyright © 2010 American Academy of Pediatrics)

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Automated Asthma Action Plan

Keep this plan with you at all times and be sure that someone has a copy wherever the child spends time (ex: the nurse at school or daycare, coach at extracurricular activities, other family members, etc.).

<p>Green Zone - Daily Plan when feeling well </p> <p>When a child is FEELING GOOD it is called Green Zone. Symptoms: Not coughing, wheezing, short of breath, or chest tightness; Can play, exercise, sleep all night; Can do all usual activities; Needing rescue medicine less than twice a week!</p> <p>Peak flow 80 - 100% of personal best</p> <p>Daily Controller Medicine: Keep using daily controller medicine:</p> <ul style="list-style-type: none"> • Fluticasone/Flovent MDI 220 mcg [Dosage: <u> 2 puffs </u> Frequency: <u> 1 time/day </u>] <p>Triggers: Avoid any smoke and avoid Plant pollen, Molds, Animals, Dust or dust mites to help prevent asthma attacks.</p> <p>Exercise: Use rescue medicine 15 minutes before exercise (see list from rescue medicines).</p> <p>When to call the doctor:</p> <ul style="list-style-type: none"> • Call the doctor for more medicine before you run out. <p>On Red Alert Days (poor air quality) limit outdoor exercise.</p> <p>Always use a spacer or holding chamber like Aerochamber with pump inhalers. Rinse mouth after using a controller medicine.</p>
<p>Yellow Zone - Sick Plan to add to the Daily Plan if there is wheezing, cough, tight chest or short of breath </p> <p>Starting to get sick is called YELLOW CAUTION ZONE. Symptoms: Coughing, wheezing, chest tight, or short of breath; Waking up at night; Trouble doing usual activities like eating; Signs of a cold; Needing rescue medicine more than 2 times a week</p>

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CHADIS Asthma Module Evidence & Benefits

National cluster randomized trial with 24 practices and 4860 children with asthma using MOC QI methodology.

Intervention group vs controls had:

- Fewer asthma attacks: less rescue medicine and steroid burst use
 - Fewer asthma visits to doctor
 - More children appropriately treated with controller medication (increased revenue from improved CQM)
 - More children with stable asthma control
 - Trend towards fewer ED visits and hospitalizations
- Linked PACCI to visit priorities increased evidence-based care during routine visits plus documentation for paid -25 extender
 - PACCI tool is paid under 961690 (health screen) and 99091 (monitoring)

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Motivational Interview for Health Behavior Change

- Motivational interviewing is the best evidence-based method to produce health behavior change e.g. substance use; smoking; obesity
 - Especially for cases of patient ambivalence about change
 - Most clinicians have not been trained on MI
 - Takes extra time
- Example: Adult risk behaviors- social determinants of health

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Importance of Social Determinants of Health

- Screening is Recommended:
 - AAP Recommended Pediatric Screening and Assessment for Social Determinants of Health in 2013;
 - ACA (Partner Violence);
 - State Medicaid Recommendations (Depression Screen);
 - USPSTF
- Chronic Stress/Trauma associated with long term health problems (ACE study) - Early death (6 ACE = 20 years)
- ACE = Toxic Stress
 - “the excessive or prolonged activation of the physiologic stress response systems in the absence of the buffering protection afforded by stable, responsive relationships.”

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Helping Chart a Positive Parenting Course

- Parent’s Adverse Childhood Experiences (ACE)
 - AAP recommended Pre-visit screen
- Parent’s Positive Childhood Experiences (PCE)
- Connecting past to present as needed
- Teleprompter of suggested language for helping them decide what they wish to create for their child
 - Option for sharing a pictorial illustration of concepts
- ?Best at 2 – 4 weeks of age

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Adverse Childhood Experiences

Adverse Childhood Experiences (ACE) [\[Remove these responses\]](#)

Submitted 3/7/17 by Alice Andrews (Mother)

Question	Response
Did a parent or any adult in the household often or very often... Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you think that you might be physically hurt?	Yes
Did a parent or other adult in the household often or very often... Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured?	No
Did an adult or person at least 5 years older than you ever... Touch or fondle you or have you touch their body in a sexual way? or Attempt or actually have oral, anal, or vaginal intercourse with you?	No
Did you often or very often feel that... No one in your family loved you or thought you were important or special? or Your family didn't look out for each other, feel close to each other, or support each other?	No
Did you often or very often feel that... You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?	No
Was a biological parent ever lost to you through divorce, abandonment, or other reason?	Yes
Was your mother or stepmother: Often or very often pushed, grabbed, slapped, or had something thrown at her? or Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? or Ever repeatedly hit at least a few minutes or threatened with a gun or knife?	Yes
Did you ever live with anyone who was a problem drinker or alcoholic or used street drugs?	No
Was a household member depressed or mentally ill or did a household member attempt suicide?	No
Did a household member go to prison?	Yes

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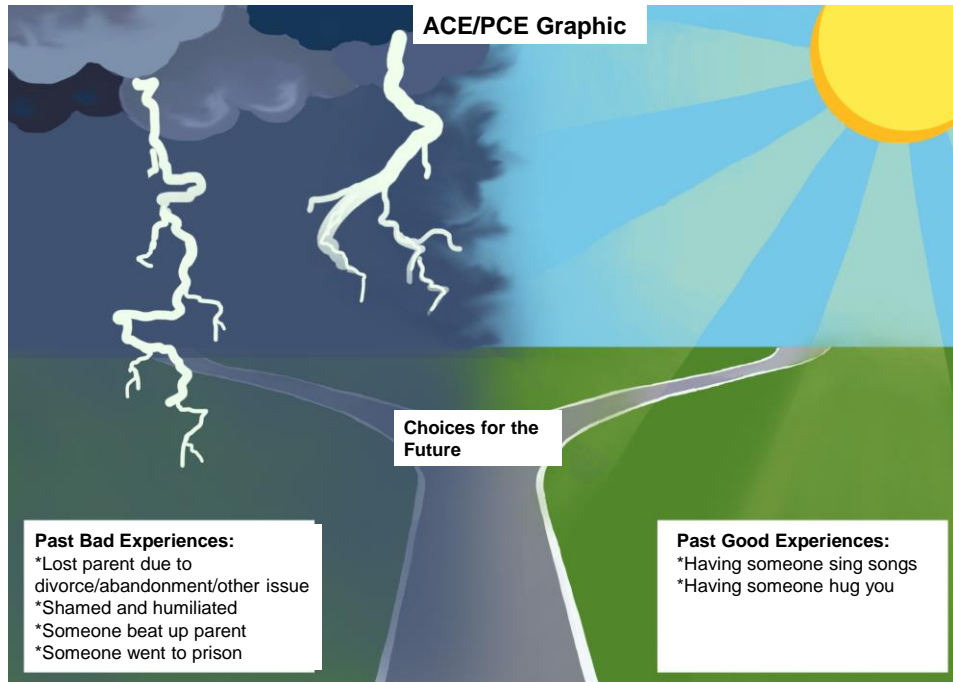
Positive Childhood Experiences

Positive Childhood Experiences [\[Remove these responses\]](#)

Submitted 3/7/17 by Alice Andrews (Mother)

Question	Response
Growing up, would you say your relationship with your biological mother was:	Good
Growing up, would you say your relationship with your biological father was:	Nonexistent
How often did someone give you a hug when you did something well or when you were very good?	Often
How often were you told how great you were?	Sometimes
When I was little, a grown-up would sing songs to me.	Definitely True
When I was little, other people helped my mother and father take care of me and they seemed to love me.	Not Sure
I've heard that when I was an infant someone in my family enjoyed playing with me, and I enjoyed it, too.	Probably True
When I was a child, there were relatives in my family who made me feel better if I was sad or worried.	Not Sure
When I was a child, there were grown-ups who would read stories to me.	Probably Not True

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Help Addressing Parental Risk and other Social Determinants of Health

- **FASS PLUS** (adapted from **SEEK** (Safe Environment for Every Kid))
- CHADIS provides the FASS Plus questionnaire and Patient Specific Template (PST) that has 14 items covering:
 - Food insecurity
 - Parental depression
 - Parental substance use
 - Life Stress
 - Harsh Punishment
 - Intimate Partner Violence (IPV)
- Two positive randomized trials in primary care pediatrics showed the effectiveness of the SEEK (Dubowitz, et. al.)
- SEEK has a top rating for strength of evidence in preventing child abuse from the California Evidence-Based Clearinghouse (CEBC)
- FASS Plus adds Motivational Interviewing style questions if help is declined

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Family Stress Patient Specific Template

- Template of guidelines prepopulated by FASS results
- Links to graphics for shared decisions
- Provides teleprompter suggested Motivational Interviewing to motivate action
- Automatically creates summary report
- Sends educational materials to family's Portal automatically or by clinician selection
- SMS messages about parenting goals

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Sample of the FASS Parent Screening for IPV

CHADIS

In the last year, have you been afraid of your partner?

Yes

No

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Sample of the FASS Intervention— Parent Screening for IPV

CHADIS sjones@aol.com | Camt

Lots of people have rough times in relationships. We'd like to help. Please tell us more. Please answer a few extra questions.

In the **last 2 months**, which of the following have you experienced from a partner? Please check ALL that apply.

- Physical fighting
- Yells at me, puts me down
- Threatens to hurt me
- Threatens to hurt the children
- Controls what I do
- Forced sex
- Injury that did not require medical attention
- Injury that required medical attention
- Something else
- None of the above
- Prefer not to answer

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Sample of the FASS Intervention— Parent Screening for IPV

CHADIS sjones@aol.com |

How much contact do you have with this person?

- Every day or most days
- Every few weeks
- Less than once a month
- No contact
- Prefer not to answer

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Sample of the FASS Intervention— Getting Help

CHADIS sjones@aol.com | Cambiar al es

Are you getting help dealing with this problem with your partner?

Yes
 No

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Sample of FASS Intervention: Identifying Parental Barriers to Change

CHADIS sjones@aol.com | Cambiar al español 简体中文 | My Profile | Help | Leave Feedback | Logout

What is the MAIN THING that makes it hard to get help or want help with this problem with your partner? (Please click on the most important reason. You'll have a chance to pick another reason.)

I don't know where to get help
 It will get better with time
 I don't have time
 Costs too much
 No transportation
 Don't have child care
 It's not that bad
 My partner might get mad and make things worse
 I'm afraid of losing financial security
 I don't think it is affecting my child/children
 I tried getting help before and it did not work
 It was too hard to find help
 I'd feel embarrassed
 Other reason:
 Any comments?

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Sample of the FASS Intervention: PST Used by Clinician During Visit

Reflect on cons for change: "I (also) see that you're worried about your partner getting mad."

Empathize: "(And) You're right that doing something about the problem has risks."

Reflect on pros for change: "It sounds like while you are in a difficult situation, doing nothing has significant risks. Yet this is important because issues like these are known to be unpredictable and potentially dangerous. And it looks like it is already affecting your sleep, your friends."

Assess for readiness: "Would you be open to talking to someone who is very experienced at dealing confidentially with difficult partner situations. It is also important to have an Escape Plan for your safety just

Main Harsh Punishment Stress-Depression Food Insecurity **Partner Violence** Substance Use Plan

Partner Violence Answered already

Screening Items

In the past year, have you been afraid of your partner? Yes No

Severity/Impact

What has the parent experienced from partner in the past two months? Physical fighting, Yells at me, puts m

How much contact does parent have with this person? Every day or most days

Difficulties caused by problems with partner? My sleep, My friends

Getting help?

Is parent currently getting help? Yes No

Does parent want help? Yes No Not Sure

Barriers and Readiness

Barriers to getting help: My partner might get mad and r

Secondary Barrier to getting help? Select:

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Reasons NOT to act...

- *Partner might get mad
- *Affection for partner



Reasons TO act...

- *My sleep
- *My friends
- *My child/children
- *Taking care of my child/children

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Sample of the FASS Intervention: PST Used by Clinician During Visit

The screenshot displays a web-based interface for a patient safety tool. At the top, there are navigation tabs for 'Reports', 'Care Portal', and 'Resources'. Below this, a 'Jump to Videos' section contains reflective, empathic, and assessment questions. A 'Please Note' section explains the tool's basis. A central navigation bar includes 'Main', 'Harsh Punishment', 'Stress-Depression', 'Food Insecurity', 'Partner Violence', 'Substance Use', and 'Plan'. The 'Partner Violence' tab is active, showing a questionnaire titled 'Safety/Smoking/Other' with a dropdown menu set to 'Answered already'. The questionnaire lists 11 questions with 'Yes' and 'No' radio buttons and edit/delete icons. To the right, a 'Select one or more Clinician Notes below:' section contains two notes, the second of which is circled in red. The notes provide instructions on how to use the tool and offer support resources.

Jump to Videos

Reflect: "I see from the questionnaire you completed before the visit that you are facing some challenges."
Empathize: "All parents have tough times. It can be hard on you and hard on your kid(s)."
Assess: "May I ask you some questions about these issues? I would like to help. I will keep this confidential."

Please Note: This guided interview and intervention is based on responses by the child's Mother (Sarah Jones) to several personal issues. The 'teleprompters' on the tabs are therefore not appropriate if that

Main Harsh Punishment Stress-Depression Food Insecurity **Partner Violence** Substance Use Plan

Safety/Smoking/Other

• Respondents who responded to Questionnaires:

Names and relationships of Respondents who responded to Questionnaires used on this visit:
 Mother (Sarah Jones)

• Do you need the number for Poison Control? Yes • No

• Do you need a smoke detector in your home? Yes • No

• Does anyone smoke tobacco at home? Yes • No

• In the last year, did you worry that your food would run out before you got money or food stamps to get more? Yes • No

• In the last year, did the food you bought just not last and you didn't have money to get more? Yes • No

• Do you often feel your child is difficult to take care of? Yes • No

• Do you sometimes find you need to hit or spank your child? Yes • No

• Do you wish you had more help with your child? Yes • No

• Do you often feel under extreme stress? Yes • No

• In the past month, have you often felt down, depressed, or

Select one or more Clinician Notes below:

A note about a number to call if ever unsafe in your home, something all families should know

All families need to know that there are places that can help if they ever feel unsafe in their homes. If you ever feel unsafe and need help, call 1-800-799-SAFE (7233) or 1-800-787-3224 (TTY) or (206) 787-3224 (Video Phone Only for Deaf Callers). If you or your family are ever in immediate danger, call 9-1-1 right away. You can also click [Partner Issues Local Resources](#) to check and see if your doctor has recommended local professionals or programs that should be helpful. If not, call the office.

Dr. Ray Sturmer wants you to be sure you know how you can talk to someone by phone who can help you get help for partner difficulties and stay safe. You can also find an [escape plan](#) if needed. Get confidential and free help at 1-800-799-SAFE (7233). Click [Partner Issues Local Resources](#) to check and see if your doctor has recommended local professionals or programs that should be helpful. If not, call the office.

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Printable Handout for Parents

Chadis - PST Care Portal Handout

Patient: Sam A. Jones aged 2 years
 Last Updated: Fri Feb 27 07:40:10 EST 2015
 Doctor: Ray Sturmer (30)
 Office: Boothbay (109)

Dear Caregiver/Guardian of Sam A. Jones: All of the resources and notes listed below, including links to further information, can be accessed through the CHADIS website. It is in the same place where you take questionnaires. Log on to www.CHADIS.com, click 'Go' next to your child's name, and click on 'Go' below 'Memory Book/Care Portal'. Explore the 'Visit Notes' and 'Resources' tabs on your Memory Book/Care Portal page.

Care Portal Visit Notes:

- Dr. Ray Sturmer wants you to be sure you know how you can talk to someone by phone who can help you get help for partner difficulties and stay safe. You can also find an [escape plan](#) if needed. Get confidential and free help at 1-800-799-SAFE (7233). Click [Partner Issues Local Resources](#) to check and see if your doctor has recommended local professionals or programs that should be helpful. If not, call the office.
- *A note about a number to call if ever unsafe in your home, something all families should know.*

All families need to know that there are places that can help if they ever feel unsafe in their homes. If you ever feel unsafe and need help, call 1-800-799-SAFE (7233) or 1-800-787-3224 (TTY) or (206) 787-3224 (Video Phone Only for Deaf Callers). If you or your family are ever in immediate danger, call 9-1-1 right away. You can also click [Partner Issues Local Resources](#) to check and see if your doctor has recommended local professionals or programs that should be helpful. If not, call the office.

Resources:

- [Safety Plan For Victims Parent](#)
- [SEEK Partner Issues Handout](#)
http://resources.childhealthcare.org/resources/seek_partner.pdf

Domestic Violence

Do you feel safe in your current relationship? If not, you may be a victim of domestic violence.

Domestic violence is when one person hurts another person in a relationship. It can cause health problems - now and in the future. It can also harm your child's emotional and physical health.

Examples of domestic violence are:

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Patient Engagement & Resources

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MemoryBook Care Portal for Parents

Welcome Susan | CHADIS | [logout](#) | Mike | [Go](#)

[Memory Book](#) | [Notices](#) | [My Resources](#) | [Find Resources](#) | [About](#)

Needs age appropriate car seat. Read... | Poisonous Items Storage Read... | Gun Safety Read... | Bicycle Safety Read... | Protection from High Falls Read...

Search Memory Book... | [Search](#) | Show on Timeline: [Milestones & My Entries](#) | [Go](#)

Mike's Memory Book

3 years, 4 months
November 2011

3 Years, 5 Months
Wednesday, November 16, [Add Entry](#)

Developmental Milestone | [Edit This Entry](#) | [Add a Comment](#) | [Suggestions](#)

Baby's First Time Grabbing At Clothes

The first time your baby grabbed or scratched at their clothes.

Comments:
- Susan Burgee: "She was wearing a yellow flowered jumper."

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Child's Milestones Documented

Monday, February 27, 2017 Add Entry

M Developmental Milestone | [Add a Comment](#)
 Gus is working hard at eating.
 [Created by: Mom Green]
 He eats/drinks formula 'enfamil'.

M Developmental Milestone | [Add a Comment](#) Suggested Activities
 Baby First Reaction To Their Reflection In A Mirror
 [Created by: Mom Green]
 The first time your baby smiled or cooed at themselves in front of a large mirror.

M Developmental Milestone | [Add a Comment](#) Suggested Activities
 Baby's First Time Helping Hold The Breast Or Bottle

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Developmentally Stimulating Activity Suggestions

Suggested Activities Close

Baby First Reaction To Their Reflection In A Mirror

Suggested Activities:

Let your baby see themselves in a mirror. Place an unbreakable mirror on the side of your baby's crib or changing table so that they can watch. Look in the mirror with your baby, too. Smile and wave at your baby.

OK

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Safety Guidance Appears in Portal

Cambiar al español

Welcome Sample Doctor | CHADIS [Logout](#) Patient:Child TestSafety

Viewing Information available to:
Susan TestSafety1

Office Tasks

Memory Book Notices Visit Notes Resources Find Resources About

Suggest a Resource Give Us Feedback!

Notes for Child and Family

Search Memory Book... [Search](#)

Date	Professional	Notes
3/28/2019		Safety Checklist: 9 Months

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Individualized Parent Safety Text Based On Questionnaire Results

KEEPING YOUR BABY SAFE WHILE BATHING

1. FACTS ABOUT WATER SAFETY

- Babies do not have the head or body control in water to pick their heads or bodies up by themselves.
- Babies can drown if left alone for just a moment even in just an inch or two of water.
- Change the setting on your hot water heater to 120 degrees to prevent hot water burns.

2. HOW TO KEEP YOUR BABY SAFE

- Never** leave your baby alone in the bathtub or in any other body of water.
- Hold onto your baby the whole time or be within an arm's length of your baby ("touch supervision") that baby is being bathed or in any other body of water.
- Bath seats do **not** hold babies securely, so do not depend on them to keep your baby safe.
- Your baby should be bathed only by parents or caregivers who understand the importance of safety in bathing and the risk of drowning (**not** young siblings, young babysitters, elderly relatives).
- Prevent distractions (such as making phone calls).
- Do **not** leave your baby for **any** distractions (such as incoming phone calls).

3. BATHING YOUR BABY

- Before bathing your baby, always run your hand through the bath water to test the water temperature to make sure the water is warm, not hot.
- If bathing your baby in the kitchen sink, do not run dishwasher and shower because hot water can come up in the sink drain. Also, do not flush toilets or use the shower at the same time, because this can suddenly change the water temperature in the sink.
- Drain bathtub immediately after bathing to prevent accidental drowning.

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Resource Links

My Resources

Type	Name	Description
Info for Parent (From Dr. Barbara Howard)	What to do When Food is Running Low	Parent handout
Private, Non-Profit (From Dr. Barbara Howard)	Parents Anonymous, Inc	National organization dedicated to preventing child abuse and providing parent education and support. Local organizations operate separately.
Book (From Dr. Barbara Howard)	1-2-3 Magic: Effective Discipline for Children 2-12 Author:	"This revised edition of the award-winning 1-2-3 Magic program addresses the difficult task of child discipline with humor, keen insight, and proven ...
Info for Parent (From Dr. Barbara Howard)	Seek Discipline Handout	Seek Discipline Handout
Info for Parent (From Dr. Barbara Howard)	Seek Food Handout	Seek Food Handout
Info for Parent (From Dr. Barbara Howard)	Seek Depression Issues Handout	Seek Depression Issues Handout

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Parent Information Via Portal or Handout

What is asthma?

What is asthma?

Asthma is a condition where there is inflammation in the lungs. Just like you get inflammation when you have a mild skin infection, so that your skin may be red, tender, and/or puffy, people with asthma have inflammation in their lungs. The inflammation causes the airways, which are like tubes in the lungs, to be narrower, so that it is hard to breathe. The inflammation is irritating to the muscles that surround the airways (air tubes), so that the muscles around the air tubes flex (or contract), and squeeze the airways closed, which also makes it hard to breathe. As long as the inflammation is not controlled, the muscles around the airways will continue to be irritated and squeeze the airways closed.

How is asthma diagnosed?

There is not a medical test for asthma. A person is diagnosed with asthma when he or she has repeated episodes of asthma-like symptoms that improve with asthma medications.

How is asthma treated?

Asthma is treated with medication and by reducing exposure to the things that trigger asthma symptoms.

There are two kinds of medicines. One type of medicine treats the inflammation in the lungs, and the other type of

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Assisting with Quality Improvement

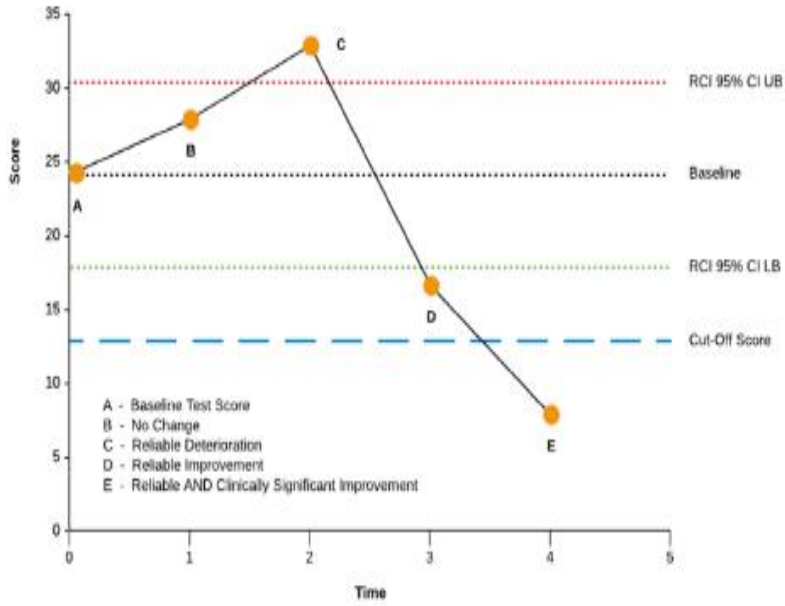
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Quality Improvement Maintenance of Certification (MOC-4)

- Quality Improvement (QI) is proven methodology for changing processes, including in health care
- American Board of Medical Specialties provides Maintenance of Certification- Part 4 QI in Practice credits
 - Pediatrics, Family Medicine, Internal Medicine, Psychiatry
- Patient generated data + doctor's decisions w/o additional data collection create run charts
- Physicians attend 3 CME sessions about QI by webinar
- Most include quiz for extra CME
- 25 MOC-4 credits and 60 CME credits available per course

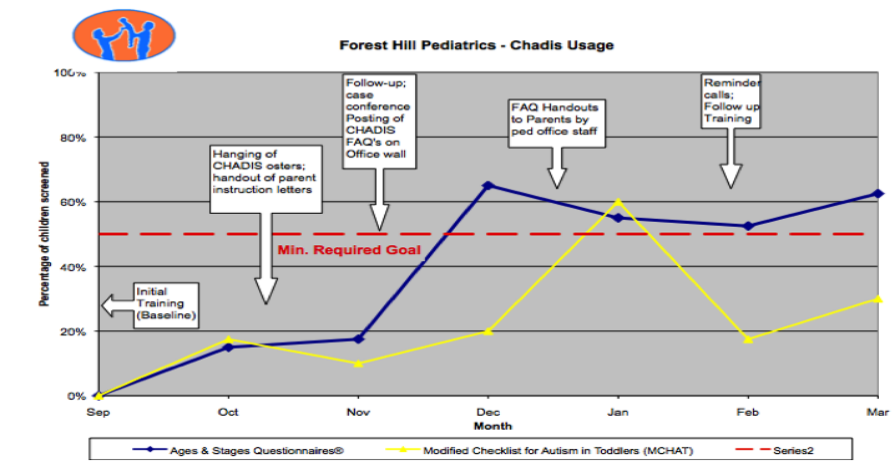
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Reliable Change Control Charts for QI



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Run Charts Automated



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Questions?

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rturner@chadis.com