

# Baby Steps



Karen E. Schetzina, MD, MPH, FAAP, & Team

# Baby Steps



## GOALS:

- 1) Improve coordination of care throughout the perinatal period and early childhood as well as access to a pediatric medical home for children.
- 2) Ensure comprehensive health, developmental, and behavioral screening and follow-up.
- 3) Prevent and mitigate the effects of ACEs and build resilience.
- 4) Provide education and support to parents and caregivers.

# Trends

- Hospitalizations for deliveries with maternal substance abuse tripled in Tennessee between 1999 and 2011.
- During this period, the inpatient hospitalization rate for neonatal abstinence syndrome (NAS) increased 11-fold.
- In 2018, the state saw the first decline in NAS rates since surveillance began in 2013.
- Also have seen a sustained shift from diverted prescription exposure to MAT and prescribed medications.
- Locally observing increase in stimulant (methamphetamine use) and polysubstance use.

# Complications of Antenatal Drug Exposure

- Medical
- Developmental
- Behavioral
- Legal
- Family

# Long-Term Effects of Antenatal Drug Exposure

- Possible increased risk for SIDS (Sudden Infant Death Syndrome)
- Decreased height, weight, head circumference
- Increased risk for hospitalization (due to infectious, neurologic, respiratory and digestive diseases, as well as unintentional injury/child abuse/neglect)
- Increased risk for adverse neurodevelopment, both cognitive and psychomotor
  - Possible motor problems (studies inconsistent)
  - Decreased learning ability, memory, language skills, IQ scores
  - Increased hyperactivity, impulsivity, attention problems
- Vision problems (strabismus, decreased acuity, nystagmus, refractive errors, impaired eye-hand coordinated and visual-spatial ability of organization)

# Type of Drug Exposure

- Many infants exposed to more than one drug
- Buprenorphine less-studied

# Fetal Alcohol Spectrum Disorders

- Can result in death
- Prenatal and/or postnatal growth deficiency
- Typical facies
- Structural, neurologic, and/or functional central nervous system deficits (hyperactivity, attention deficits, learning disabilities, mental retardation)
- 5% develop the full-blown syndrome



<https://step2.medbullets.com/pediatrics/120599/fetal-alcohol-syndrome>

# Tobacco

- 5-26% continue during pregnancy (up to 40% in some counties in the region)
- Increased risk for SIDS
- Impaired growth at birth
- Increased illness during infancy (respiratory illness, asthma, ear infections, cavities, hearing loss)
- Increased risk for child obesity and metabolic syndrome
- Impairment in learning, memory, hearing, and behavior
- Possible impairment of fertility





# Marijuana

- Impaired fetal growth
- Negative neurobehavioral symptoms in infants
- Increased impulsive/aggressive behavior
- Cognitive deficits with visual-perceptual tasks and language



Many children with antenatal drug exposure are also affected by ACEs (adverse childhood experiences).

**ACEs are linked to maladaptive behaviors and adverse physical and mental health outcomes later in life.**

*The three types of ACEs include*

**ABUSE**



Physical



Emotional



Sexual

**NEGLECT**



Physical



Emotional

**HOUSEHOLD DYSFUNCTION**



Mental Illness



Mother treated violently



Divorce



Incarcerated Relative



Substance Abuse

Felitti & Anda surveys 1995-1997

Source: Center for Disease and Prevention, Robert Wood Johnson Foundation

# 2017 Lancet Meta-analysis of 37 studies

## Increased Risk with 4+ ACEs

- Some: physical inactivity, overweight, diabetes
- Moderate: smoking, alcohol, cancer, heart disease, respiratory dz
- **High: sexual risk taking, mental illness, problematic alcohol use**
- **Highest: problematic drug use, violence**

People with an **ACE** score of 6 or higher are at risk of their **lifespan** being shortened by 20 years.

Hughes K, Bellis MA, et al. Lancet 2017  
<https://acestoohigh.com/aces-101/>

# Childhood Adversity/Trauma: Associations with Pediatric Health Outcomes

- Developmental delay
- Asthma
- Recurrent infections
- Somatic complaints
- Sleep disruptions
- Obesity
- Cortisol levels
- Immunologic and nervous system functions
- Epigenetic changes

BMC Pediatr. 2018 Feb 23;18(1):83.

# Intergenerational Effects of ACEs

Prior research suggests that maternal ACEs are linked to:

- Increased risk for early life adversity in children
- Greater risk of socioemotional problems at 6 and 18 months

Recent Pediatrics study of 363 patients and their parents:

- With each maternal ACE, risk for suspected developmental delay and eligibility for early intervention services increased by 18%
- Findings for paternal ACEs were similar

# ACEs and Substance Abuse

- Around **75% of women** in substance abuse treatment report a history of trauma/ACEs



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# New Program

- We mobilized an interprofessional team of providers and partners to plan and implement the *Baby Steps* Antenatal Drug Exposure Program, including regional home visiting and *Women, Infant, Children* programs, early intervention programs, mental health and substance abuse treatment providers, occupational, speech, and physical therapists, a registered dietitian, a case manager, and pediatric and obstetric providers.
- The primary setting for the program will be the ETSU Health Clinic.



**Families Free** – Lisa Tipton, L.A.D.A.C., Executive Director

**Northeast Tennessee Regional Health Office** – Rebekah English, R.N., M.P.H., Director (C.H.A.N.T., W.I.C.)

**Tennessee Early Intervention System** –

Regina Bowman, District Administrator

Kim Hale, Ph.D., Director of the Center of Excellence in Early Learning and Development

**ETSU Health Team** –

Morgan Tipton, Care Coordinator

Dianna Puhr, M.D., F.A.A.P., Pediatrician

Martin Olsen, M.D., F.A.C.O.G., Obstetrics and Gynecology

Jessica Murphey, M.D. F.A.C.O.G., Obstetrics and Gynecology

Joyce Troxler, M.D., Family and Addiction Medicine

Michele Moser, Ph.D., Psychiatry and Center of Excellence for Children in State Custody

Director

Michelle Johnson, Ph.D., R.D., L.D.N. Registered Dietician

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Kerry Proctor-Williams, Ph.D., Speech-Language Pathologist

Saravanan Elangovan, P.h.D, Audiologist

Dawn Tipton, R.N., B.S.N., C.C.M., C.L.C., Practice Administrator

Karen E. Schetzina, M.D., M.P.H., F.A.A.P., Academic Pediatrics Chief

Gayatri Jaishankar, M.D., F.A.A.P., ETSU Health Pediatrics Clinic Director

Dawn Tuell, M.D., F.A.A.P. Department of Pediatrics Chair

**Milligan College** –

Christy Isbell, Ph.D., M.S., Occupational Therapist

More History ...

# AAP CATCH Resident Grant, 2015

- Trainee involvement: Dr. Sugantha Krishnan, Pediatric Resident
- Goal: Improve outcomes in drug exposed newborns via re-enforcement of non pharmacological management & breastfeeding.
- Partners: MSHA Lactation Services & Families Free

## BABY STEPS...

Thursday at 12:45 pm

At ETSU Pediatric clinic



*Celebrate every tiny success!*

325 N State of Franklin Rd,  
Johnson City,  
TN - 37604  
phone : 423 439 7320

We would like to invite you and your baby to attend our new group health visit.

Come and chat with other moms in an inviting and relaxed environment.

Meet our healthcare team who will share great tips on caring for your baby & yourself.

Learn about all the resources that are available to you.

Get your baby's check up done at the same time.

Enjoy healthy snacks at the visit.

Take home free diapers, wipes and food items.

Appointment

Date

Time

Funded by a resident CATCH Grant of the American Academy of Pediatrics

# 2016 Tennessee *Building Strong Brains* Contract

- Trainee involvement: Dr. Cristian Quizhpi, pediatric resident
- Partners: Families Free and NETRHO
- Screen for adverse childhood experiences (ACEs) during well child visits in the pediatric medical home
- Link highest risk families to community programs and home visits using the *Nurturing Parenting* program

ETSU Pediatrics: *Baby Steps for Success* Community Program

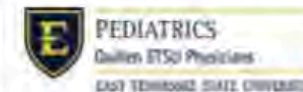
## ***Nurturing Parenting***

- Staff from *Families Free* (Trisha Burke or Vicki Judy) will meet with you in your home or other convenient location to discuss:
  - Helping your children grow and develop
  - Nurturing your children
  - Stress management
  - Discipline
  - Communicating feelings
  - Celebrating traditions, culture, and spirituality
  - Making good choices

## ***Help Us Grow Successfully (HUGS)***

- Care coordinators from your local health department will meet with you in your home and can help with:
  - Screening for potential developmental issues
  - Providing health and parenting education
  - Connecting your family to resources in the community
  - Promoting health and wellness in your family

To participate, complete and return the attached form today. You may also call us at 423-439-7320.



# 2016 Medical Student Summer Research Program & 2017 AAP CATCH Planning Grant

## Trainee Involvement

- Griffin Shoemaker
- Gloria Kwak

## Activities

- Stakeholder meetings
- Clinic chart review
- Literature review
- Surveys

## Outputs

- Resource toolkit
- Website
- Application for Implementation Grant

## Comparison of Opiate- and Non Drug-Exposed Infants

	<u>Opiate-exposed</u>	<u>Non drug-exposed</u>	<u>p-value</u>
<u>Total appointments (mean)</u>	23.3	15.8	<0.001
<u>Insurance (%)</u>			
Uninsured	4.1	0	
TennCare	89.8	71.9	0.001
Private	6.1	27.1	
Tricare	0	1.0	
<u>Hepatitis C exposure (%)</u>	30.5	5.1	<0.001
<u>Pediatric conditions (%)</u>			
Respiratory	24.5	5.1	0.001
Gastrointestinal	40.8	13.3	<0.001
Behavioral	14.3	0	<0.001

Primary Care Clinic Chart Review Results (n=146)

# 2019

June – Initial Meeting with Families Free to brainstorm ideas for new programming

October – New care coordinator (Morgan Tipton) begins working with Drs. Olsen and Murphy (ETSU OBs) in their prenatal clinics; Pop-Up Parties begin

November-January – Meetings to engage new partners

January – Dr. Puhr and Morgan visit Knoxville's Grow with Me program

February 18 – Mock Baby Steps Follow Up Clinic visit with Dr. Kiana Johnson

February 25 – Baby Steps Follow Up Clinic launches

# Baby Steps Program Community Partners and Providers

Partners are dedicating staff to receive warm hand-offs and provide services in the ETSU Health Pediatrics Clinic 1-2 half-days per week.

They will serve Baby Steps Program families as well as other patients/families in the clinic those days who would benefit from services.

# Families Free

## Mission:

*Strengthening our community by building the capacity of vulnerable families through education, intervention and restoring relationships.*

## Programs:

- WOVEN
- Families Thrive
- Family Centered Services
- Restorative Justice
- Restorative Recovery & Storie House
- Woven Coffee



**The Families Free team with Drs. Jaishankar and Olsen in the Pop-Up Party room at ETSU Health Pediatrics. 75% of families visiting the Pop-Up Party room are now actively engaged in Families Free services in the community.**



# Northeast Tennessee Regional Health Office

**TNWIC (Women, Infants, Children program)**

**Community Health Access and Navigation in Tennessee (CHANT):**

- Help Us Grow Successfully (HUGS)
- Children's Special Services (CSS)
- TennCare Kids Community Outreach

CHANT teams provide enhanced patient-centered ***engagement, navigation*** of medical and social services referrals, and ***impact*** pregnancy, child and maternal health outcomes.



**NETRHO team with Dawn Tipton and Dr. Puhr in the ETSU Health Pediatrics Clinic**

# Tennessee Early Intervention System (TEIS)

- Voluntary educational program for families with children birth through age two years with disabilities or developmental delays.
- Principles of early intervention:
  - Support families in promoting their child's optimal development
  - Facilitate the child's participation in family and community activities.
  - Encourage the active participation of families in the intervention by imbedding strategies into family routines.



# Baby Steps Follow Up Clinic Providers

Morgan Tipton, **Care Coordinator**

Dianna Puhr, M.D., F.A.A.P., **Pediatrician**

Michelle Johnson, Ph.D., R.D., L.D.N. **Registered Dietician**

Kara Boynewicz, P.T., D.P.T., P.C.S., A.T.C., **Physical Therapist**

Kerry Proctor-Williams, Ph.D., **Speech-Language Pathologist**

Saravanan Elangovan, P.h.D, **Audiologist**

Christy Isbell, Ph.D., M.S., **Occupational Therapist**

Dawn Tipton, R.N., B.S.N., C.C.M., C.L.C., **Practice Administrator**

# Baby Steps Team Huddle and Tracking Board



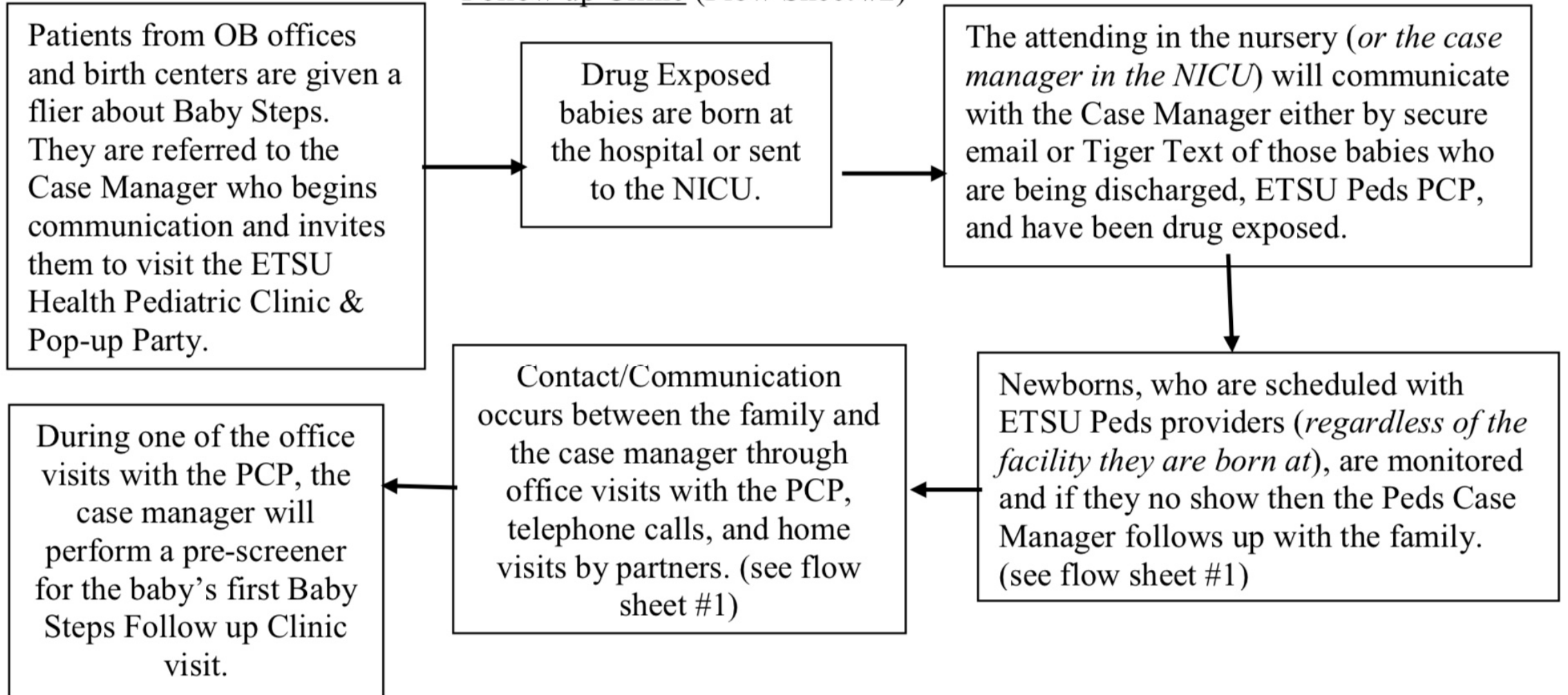
# Clinic Workflow

# Baby Steps

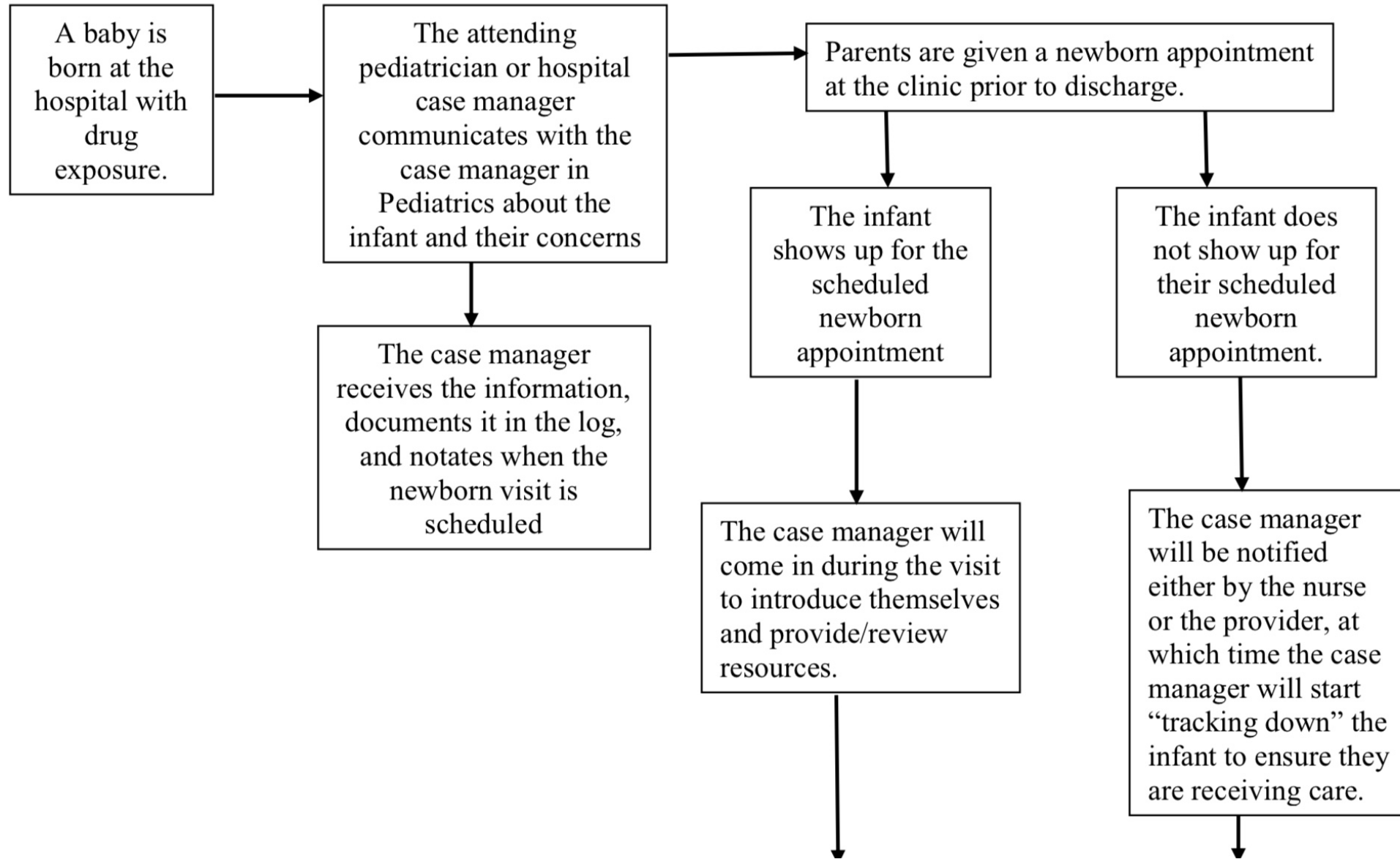
## Antenatal Drug Exposure Program

- Contact Case Manager **Morgan Tipton** via Tiger Text or phone (423-433-7572) to refer a patient (must be an ETSU Health OB prenatal or Pediatrics primary care patient).
- Morgan provides support to patients seen in the ETSU Health OB Clinic (primarily Drs. Murphy's and Olsen's prenatal Subutex clinics – especially Monday mornings).
- She is helping to coordinate the transition through delivery and to our ETSU Health Pediatric Clinic for families.
- ***Pop Up Party with Families Free, NETRHO***, and other community agencies hosted every Monday and Tuesday mornings in our clinic (***TEIS present on Tuesdays***).
- Providers should notify **Morgan** when ETSU Health Pediatrics primary care patients are being discharged from the birth center or NICU.
- Referrals now being accepted for the weekly **Baby Steps Follow Up Clinic** (children 3 months-5 years of age with antenatal drug exposure(must have ETSU Health Pediatrics PCP)).

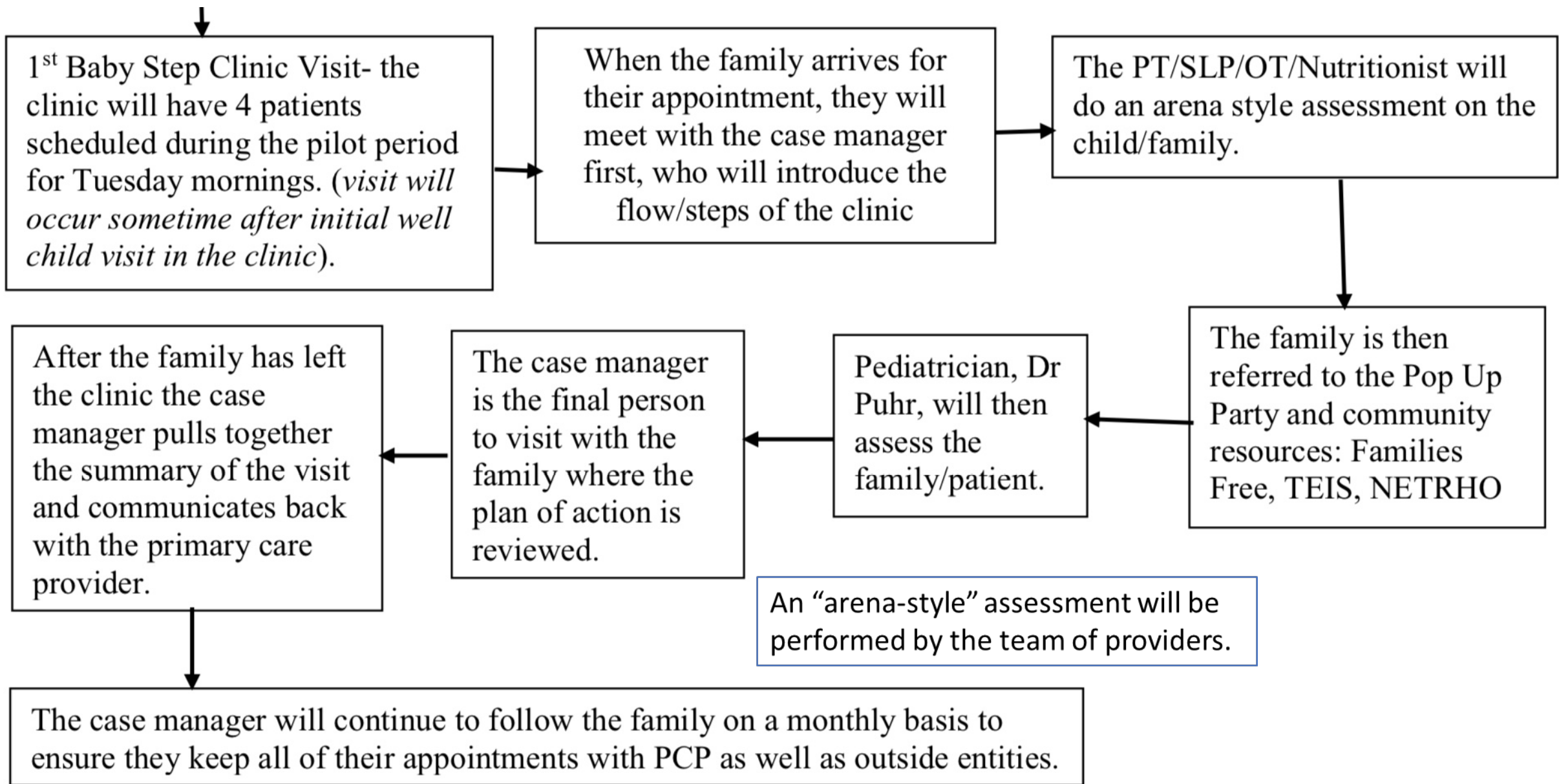
Baby Steps Antenatal Drug Exposure Program-  
Follow up Clinic (Flow Sheet #2)



Baby Steps Antenatal Drug Exposure Program- Case Manager Process after Delivery (Flow sheet #1)







Appointments start at 3 months of age, then occur ~ every 6 months through 5 years of age.  
Pop-Up Party resources through Families Free, NETRHO, and TEIS will be available to all patients in clinic.

# Mock Baby Steps Follow Up Clinic visit with Dr. Kiana Johnson and her baby



# Baby Steps Follow Up Clinic Assessments

## **Available from Primary Care visits**

- Edinburgh Postpartum Depression Screener
- TEAM CARE Screener (for unmet social needs)
- AGES and STAGES Developmental Screener
- PSC-17 Developmental and Behavioral Screener
- M-CHAT-R Autism Screener
- Notes from pediatric, dietician, behavioral health, resource team providers from primary care visits

## **To be performed during Baby Steps visits**

- Pearson Sensory Profile for Infants and Toddlers
- Pearson Complete Language Assessment
- Battelle Developmental Screening Inventory Assessment
- MacArthur-Bates Communicative Development Inventories
- Adapted ACE-Q Screener

# Baby Steps Follow Up Clinic Services

- Providers will interview the family and observe/examine the patients in teams using an arena assessment model.
- Families will have the opportunity to visit the Pop-Up party room to receive refreshments, personal care items for mom and child, and a family portrait while they engage with community partners and learn more about their services.
- The clinical team will huddle in the conference room where they will each document their notes in the EHR (Allscripts).
- Dr. Puhr will compose the final summary note with input from all providers and send it to the child's primary care provider.
- Education, brief intervention, and coordination of community referrals will happen.
- A Family Note will be printed and shared with the family, summarizing the child and family's strengths, tips to try at home from the team, and next steps.

## Baby Steps Family Note

Name: BLANK

DOB: BLANK

Date: BLANK

Age: BLANK

Weight: BLANK

Height: BLANK

### Things That Are Going Well:

BLANK

### Tips to Try at Home:

BLANK

### Next Steps:

BLANK



### My Baby Steps Team:

Morgan Tipton, Care Coordinator – (423) 433-7572  
Dianna Puhr, Pediatrician  
Michelle Johnson, Registered Dietitian  
Kara Boynewicz, Physical Therapist  
Kerry Proctor-Williams, Speech-Language Pathologist  
Christy Isbell, Occupational Therapist  
Saravanan Elangovan, Audiologist  
Trisha Burke, Families Free – (423) 963-0275  
Northeast Tennessee Regional Health Office – (423) 979-3200  
Tennessee Early Intervention System (TEIS) – (423) 434-4401

### Other Resources:

BLANK

Baby Steps 

For questions or an appointment,  
please call us at (423) 439-7320

ETSU Health Pediatrics Clinic  
325 North State of Franklin Road  
Johnson City, TN 37604

(Draft) Family Note to be completed by team and provided to family at the end of each follow-up clinic visit.

# Billing & Reimbursement

## Physician

99214 or 99215 - \$66.91 or \$95.99 (Level 4/5 E/M visit)

96112- (Developmental test administration - have not billed this code before)

## Multiple Team Members

96110- \$18.09 (Screeners - can bill this code up to 3x per date of service)

99366- \$37.85 (Medical Conference Code)

## Registered Dietician

97802, 97803, or 97804 - \$17.09, \$15.99, or \$7.16 (Medical Nutrition Procedures)

## Audiology

92587- \$31.55 (Hearing testing)

92567- \$14.60 (Tympanometry)

Total = up to ~\$200 (sometimes, maybe)

# Opportunities and Next Steps

- Serve as safety net.
- Alleviate burden on families and primary care providers.
- Build relationships among professionals and agencies.
- Coordinate care.
- Prevent ACEs.
- Mitigate the effects of antenatal drug exposure and ACEs (break the cycle).
- Improve care quality and outcomes.
- Improve process for connecting families to ETSU Health Family Medicine for addiction medicine(Dr. Joyce Troxler) and primary care services.
- Continue to build community partnerships.
- Engage payers around return on investment and explore alternate reimbursement models.
- Answer research questions.
- AAP CATCH Implementation Grant funding decision pending.
- Team members applying for RWJF Clinical Scholars funding.

# References

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# Acknowledgements

- Team members, their departments, and their colleges for their collaboration
- Community partners for their support
- Ballad Health Community Health Improvement Contract (providing training and supplies)
- Upper Payment Limit (UPL) program at ETSU
- Dr Dawn Tuell, ETSU Department of Pediatrics Chairperson
- Dr. Gayatri Jaishankar, ETSU Health Pediatrics Clinic Director
- Dr. Kiana Johnson for her help with the mock visit
- Administrative support from the ETSU Department of Pediatrics and MEAC

# Baby Steps



## TO BE CONTINUED!

Feel free to contact Karen Schetzina, [schetzin@etsu.edu](mailto:schetzin@etsu.edu) for more information