TEAM KENTUCKY

CABINET FOR HEALTH AND FAMILY SERVICES

OFFICE OF DATA ANALYTICS
DIVISION OF ANALYTICS

IMPROVING CARE QUALITY FOR CHILDREN RECEIVING KENTUCKY MEDICAID

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What is Known on This Topic?
Prescription medication use is a growing public health concern, especially among children. While some clinical benefits of prescription medication are well-established, the possibility of adverse effects warrant investigation especially when there is widespread evidence that medications have been prescribed inappropriately. Two broad prescription types that are of particular concern are psychotropics and antibiotics.

What Did this Project Do?
This project consists of two unique implementations:

1.) Develop resources and pilot interventions to promote "deprescribing" of psychotropic medication to children.
2.) Pilot interventions to improve antibiotic use and vaccine administration in Kentucky Medicaid children

What Could Medicaid Do with These Conclusions?
Psychotropics project:

- Future work on deprescribing will need to develop and nurture a cohort of dedicated prescribers.
- Deprescribing interventions can lead to medications being increased, decreased, or stopped.

Antibiotics project:

- Volume-based antibiotic use reporting is a practical approach for state outpatient antibiotic stewardship efforts and also captures a substantial proportion of inappropriate prescribing.
- Including general practitioners in pediatric stewardship efforts has potential for high-impact reductions in unnecessary antibiotic prescribing.

Introduction

Psychotropic use is increasing at a concerning rate in children and youth; these medications are frequently prescribed without strong evidence to support their use and long-term impacts in children are unknown. The goal of the current contract is to develop resources and pilot interventions to promote "deprescribing" of psychotropic medication to children. Deprescribing is a structured approach to evaluate medications for indications, risks, and benefits, with a goal of a minimum effective dose and number of medications.

With respect to antibiotics, recent literature has further described risks associated with antibiotics, including costs, morbidity (including adverse events) and mortality. Antibiotic use is an important driver of antimicrobial resistance, which causes nearly 3 million infections and more than 35,000 deaths annually[1]. Antimicrobial stewardship committees in hospitals have made great strides to reduce inappropriate antibiotic use. However, efforts to monitor and improve antibiotic prescribing in the outpatient setting, where the majority of use occurs, are lacking.

Project Methods

This project was conducted through two separate goals with their own distinct implementations:

1. *Develop resources and pilot interventions to promote "deprescribing" of psychotropic medication to children.*
    - Analyze KY Medicaid data related to prescription of and exposure to specific classes of medications and synthesis of findings to inform health policy making.
    - Devise toolkits for deprescribing and other forms of safeguarding use that will include general information about PM prescribing.
    - Conduct multiple seminars/training sessions at KY-based provider symposiums, community health fairs and medical schools.
    - Collaborate with key national stakeholders to develop/enhance statewide stewardship initiatives.
    - Conduct updated analyses of psychotropic medication use trends.

2. *Pilot interventions to improve antibiotic use and vaccine administration in Kentucky Medicaid children.*
    - Partner with at least one MCO to develop targeted feedback to providers.
    - Partner with the Kentucky Department for Public Health (KDPH) to assess statewide data of high-volume prescribers.
    - Educate providers who administer adolescent vaccines to increase human papilloma virus (HPV) vaccination rates.
    - Develop a point-of-care stewardship intervention to reduce cefdinir use.
    - Analyze antibiotic use trends and maintain KAA campaign and educational activities.

Results

Psychotropics project:

Analysis of psychotropic medication use for children on Kentucky Medicaid:

Between 2017 and 2019, the rate of psychotropic medication (PM) prescribing remained stable at 15% of all children covered by Kentucky Medicaid. Children ages 6 years and older had PM use rates of 19-25%. Rural/suburban areas had slightly higher rates of PM use compared to metropolitan areas. There are racial disparities in PM prescribing, where White children consistently have higher rates of PM prescribing (15.4-16.2%) compared to Black children (10.9%-11.1%). Additionally, male children have higher rates of PM use compared to females.

Analysis of PM use by ADD Regions showed geographic variability across Kentucky. PM use was highest in the Green River district (21.8-23.0%) and lowest in Barren River (12.7-12.8%) and Lake Cumberland (12.2-13.4%) areas.

With respect to mental health diagnoses, Schizophrenia and Other Psychotic processes had the highest % of patients receiving PM, while other Neurodevelopmental Disorders had the lowest. Over half of children with Autism and Pervasive Developmental Disorders receive PM.

Primary care providers prescribe PM to more children in KY Medicaid than Psychiatrists or NP/PA and are the providers which prescribe the most stimulants, alpha-2 agonists, and antidepressants. Psychiatrists prescribe antipsychotic medications to the most children.

Although psychotherapy with PM use is increasing (41.7% to 45.7%), these analyses suggest additional room for improvement. Children aged 0 to 5 years and those over 18 years of age are less likely to receive concurrent psychotherapy.

Source: https://louisville.edu/medicine/departments/pediatrics/research/cahrds/safemed/KYsafemed

Lab monitoring, as identified by fasting blood glucose or A1C and lipid panel within a calendar increased over time for children receiving antipsychotic medications, but continues to be low, leaving much room for improvement. Of note, rates are higher for children in foster care, likely due to targeted efforts including education and case management.

Development of toolkits for safeguarding psychotropic medications:

This project successfully launched a deprescribing program called Kentucky SafeMed:

The following content is available via the KY SafeMed website:

1. Overview of deprescribing
2. Provider deprescribing toolkit
    a. Medication history template
    b. Drug class tools: antipsychotics, antidepressants, stimulants, alpha-agonists
3. Parent/caregiver deprescribing toolkit
4. Teen deprescribing toolkit
5. DCBS worker deprescribing toolkit
6. Additional materials and resources

Since July 2021, providers at 2 clinics have been utilizing a template for deprescribing assessments in children receiving psychotropic medications. At of the time of this report, the assessment has been used in 332 visits for 259 unique patients by 71 pediatric primary care providers.

Antibiotics project:

Provider Feedback Reports:

On March 21st, 2022, the first round of individualized provider feedback letters were sent via email to all Kentucky Medicaid providers who prescribed at least 12 antibiotic prescriptions to children insured by KY Medicaid in 2019. The first report utilized Medicaid pharmacy and medical claims from Quarter 1, 2021. The second round of provider feedback reports were delivered via email on June 15, 2022, using data from Quarter 2, 2022. Both reports included the following prescribing metrics of

interest: (1) Rates of inappropriate prescribing; and (2) Rates of cefdinir prescribing, for all antibiotic prescriptions written by the individual prescriber.

For Q1 4,437 attempted deliveries were made to unique providers, using email addresses provided by DMS. There were 678 failed deliveries, representing an approximately 15% delivery failure rate. Direct replies were received from 19 providers and responded individually with additional details about the project.

For Q2, 4,437 attempted deliveries were made to unique providers. There were 735 failed deliveries, representing an approximately 17% delivery failure rate. Direct replies were received from 14 providers, which again responded individually with additional details.

Partnership with the Kentucky Department for Public Health (KDPH) to assess statewide prescribing data:

Kentucky 2019 IQVIA Xponent data was used to identify high-volume prescribers, defined as the top 10% of prescribers by provider type. Using provider-aggregated 2019 Kentucky Medicaid antibiotic claims data for children < 20 years of age, and associated medical claims to assign appropriateness of prescribing, high-volume prescribers were compared to other Medicaid prescribers.

There were 1,083 providers on the 2019 IQVIA list, of which 878 (81.1%) were included on the Medicaid list. A total of 676,476 Medicaid antibiotic prescriptions were included, 133,662 (19.8%) of which were inappropriate. High-volume prescribers wrote 293,330 (43.4%) of all antibiotic prescriptions included. Among these, 62,557 (21.3%) of antibiotics written by high-volume prescribers were inappropriate, representing 46.8% of all inappropriate prescriptions. Overall, high-volume prescribers had a higher percentage of inappropriate prescriptions than providers not included on the IQVIA list (17.2% versus 15.8%, p=0.005).

Provider Education on Human Papillomavirus (HPV) Vaccination

This report included an updated analysis of “missed HPV opportunities”, defined as outpatient healthcare visits where adolescents received either a Tdap or meningococcal vaccine, but not an HPV vaccine.

Medicaid data from 2017-2019 was used to build a cohort of adolescents with 3 years of continuous enrollment, who were 11 years of age in 2017. Among adolescents who received at least one adolescent vaccine (Tdap or meningococcal), only 63.9% received at least 1 HPV vaccination. This correlates to an overall 36.1% rate of “missed opportunities”.

Point-of-care stewardship intervention to reduce cefdinir use:

On February 1, 2022, at Norton Healthcare Emergency Departments, a “Best Practice Advisory” (BPA) alert went live to encourage first-line antibiotic prescribing and avoidance of cefdinir for pediatric patients.

At the time of this report, from February 1st to June 16th, the BPA has fired 217 times on 196 unique patients. The number of alerts per month ranged from 29 in February to 63 in May. The most common reasons for cefdinir use were patient allergy (38%) and patient already had 1st and 2nd line therapy (30%). In 35 cases (16%), the advisory was reviewed, and therapy was changed.

Analysis of Antibiotic Use Trends

The following is a summary of antibiotic prescribing trends using 2017-2019 Medicaid pharmacy and medical claims data:

In 2019, there were over 700,000 antibiotic prescriptions prescribed to over 300,000 unique children insured by Kentucky Medicaid. The total cost of all antibiotic prescriptions in 2019 was over $14.5 million. Costs of antibiotic prescribing by Managed Care Organizations ranges from $792K to $5.5M.

For all children insured by Kentucky Medicaid, in 2019 there were 1217 antibiotics per 1000 children, representing approximately 1.2 antibiotics per child, per year.

Similar to previously reported findings, the overall rate of inappropriate prescribing for all children insured by Kentucky Medicaid was 19.8% in 2019.

Conclusion

This project worked to study the dynamics of psychotic medication and antibiotics among children, particularly those in the Kentucky Medicaid system. Likewise, a variety of initiatives and analyses were implemented to address over- and/or inappropriate prescription of these medications.

Future work should continue to support programs that work towards deprescription/reduction of prescription of psychotics and antibiotics to children, and likewise maintain provider collaboration and education regarding this subject.

References

1. Wattles BA, Jawad KS, Feygin Y, et al. Inappropriate outpatient antibiotic use in children insured by Kentucky Medicaid. *Infect Control Hosp Epidemiol*. 2022;43(5):582-588. doi:10.1017/ice.2021.177