“It’s no time to finally meet my colleagues who I have worked with for so many years. Coming together face-to-face to discuss complex cases is so valuable for patient care. We are collectively diagnosing cases that would likely not otherwise have been able to do working alone.” —Pediatrician

FIGURE 1: The CDC Process

1. Pre-CDC Meeting
2. Family interview
3. Clinical Consultation
4. Genetics
5. Multidisciplinary Consultation
6. Diagnostic Odds
7. Sequencing
8. Clinical Follow-Up
9. Post-CDC Meeting

FIGURE 2: Evaluation Findings

- All reported expectations were met:
  9. Very good
  8. Good

FIGURE 3: Patient and Provider Satisfaction

- Average age at first referral to BC Children’s:
  2.75 years
- Average patient age:
  8 years

FIGURE 5: CDC illustrating benefits to the health system and to patients/families

- Average cost per patient:
  - Pre-CDC: $13,494.88
  - CDC: $70.11
- Total average cost/patient:
  - Pre-CDC: $9,110.00
  - CDC: $5,383.00

FUTURE DIRECTIONS

- To continue to be even more cost effective in the coordination of care
- To demonstrate the value of complex clinics as a feasible solution to support evidence-based patient care

“While a direct comparison cannot be made between the traditional model of multiple sequential parallel appointment to different specialists in a one multidisciplinary clinic visit, it is clear that there are financial gains to be made from both the health system and family costs using a coordinated approach to multidisciplinary care.

CONCLUSIONS

- Providing a centralized platform for families who were previously unidentified
- Ending the diagnostic journey for families with clear diagnosis
- Providing effective care
- Preventing unnecessary testing and burden to families
- Demonstrating how multidisciplinary collaboration impacts patient care
- Improving quality of care
- Promoting effective care for families and to the system

GOALS

• To determine how collaborative multidisciplinary clinical assessment impacts physicians' ability to diagnose complex ID patients
• To save families multiple trips to BC Children's
• To increase families' appreciation of this innovative approach
• To end the diagnostic odyssey

THE SOLUTION: the Complex Diagnostic Clinic

- Developed to enable multidisciplinary assessment and collaboration as an efficient patient-centric process for diagnosing complex children with ID
- Innovative model – first of its kind at BC Children’s Hospital

THE PROBLEM FOR PATIENT & PHYSICIANS: the Diagnostic Odyssey

- Thousands of different causes (etiologies of ID are heterogeneous)
- Diagnostic challenges, million dollar work-up, physicians not collaborating
- Hundreds of families, non-coordinated appointments, non-communicating specialists, disparate patients without a diagnosis for their child and a burden to family and society

TIDE-BC COMPLEX DIAGNOSTIC CLINIC: a multidisciplinary approach to causal diagnosis of complex intellectual disability

- The disease is frequently
- Many causes exist
- A cure is elusive
- Pervasive developmental disorder
- Autism spectrum disorder
- Intellectual disability
- Autism
- Fragile X

REFERENCE

Osman Ipsiroglu, Hilary Vallance, and University of British Columbia.

AUTHORS

Clara van Karnebeek, Wyeth Wasserman, Sunny Hillock Health Centre for Children, and University of British Columbia.

Sunny Hillock Health Centre for Children

Osman Ipsiroglu

Gabriella Horvath

Linlea Armstrong

Department of Medical Genetics

Department of Pediatrics, Division of Pediatric Neurology

Department of Pathology and Laboratory Medicine

Department of Pediatrics

Department of Pediatrics, Division of Developmental Pediatrics/Department of Pediatrics, Division of Biochemical Diseases

Department of Pediatrics, Division of Developmental Diseases

Cardiology

Genetics

Diseases

Myers and Associates

Department of Pediatrics, Division of Biochemical Diseases

Department of Pediatrics

FIGURE 4: CDC illustrating benefits to the Patient's Diagnostic Journey

- A patient's diagnostic journey at BECH

- Prediagnostic stage
- Diagnostic stage
- Postdiagnostic stage

FIGURE 6: Total Average Cost/Patient

- Average cost per patient:
  - Pre-CDC: $13,494.88
  - CDC: $70.11
- Total average cost/patient:
  - Pre-CDC: $9,110.00
  - CDC: $5,383.00

PMI: Program Management Infrastructure

CDC: Complex Diagnostic Clinic

BC Children's Hospital

Illumina

Paragon

Sequencing

TIDEX

Whole Exome Sequencing

Whole Genome Sequencing

TIDE Complex Diagnostic Clinic

Whole Exome Sequencing (TIDEX)