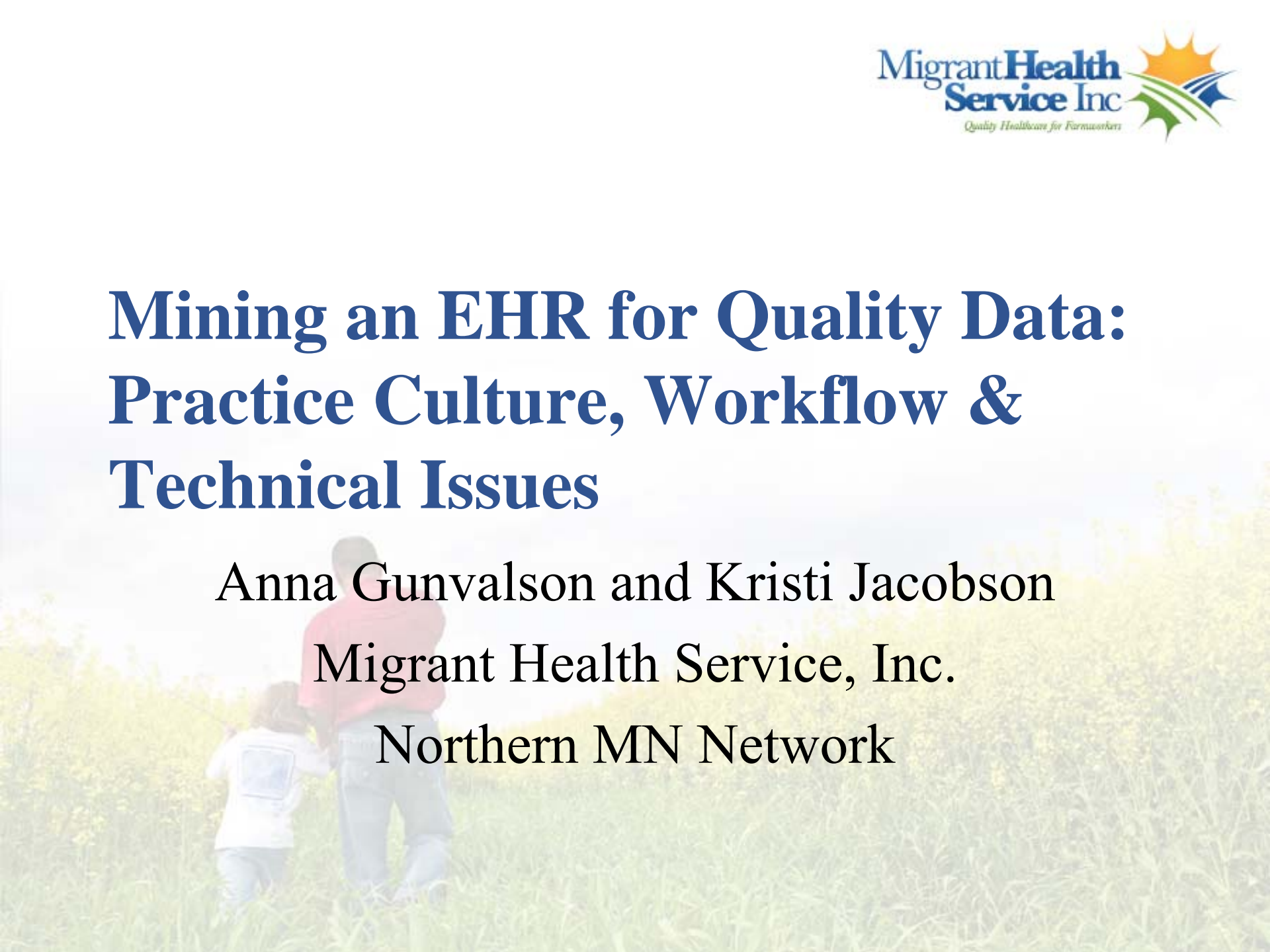


Mining an EHR for Quality Data: Practice Culture, Workflow & Technical Issues

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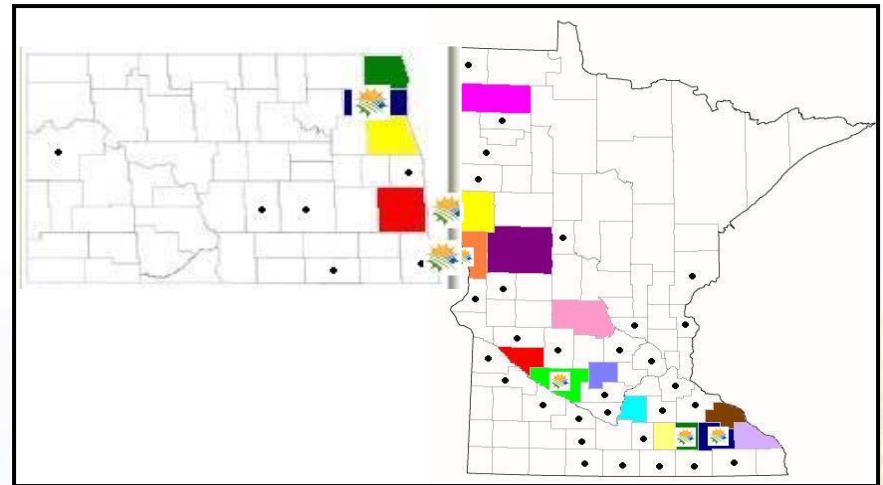


Organization Background

- Migrant Health Service, Inc. (MHSI) is a federally-funded nonprofit organization based in Moorhead, Minnesota
 - Provides primary health care services to agricultural workers in North Dakota and Minnesota
 - Operates ten health centers, six of which are seasonal centers that are open 2-4 months each summer
 - Houses a victim advocacy program for victims of domestic violence/sexual assault

Organization Background

- MHSI is one of 20 voucher programs in the country
 - Network of 650+ community medical, dental, pharmacy, and vision providers
- Only migrant clinic nationwide currently using electronic health records



Self-reported ZIP Code data, 2008
Black dots: <50 residents in county
Colored counties: >50 residents
Sunbursts: MHSI Fixed site locations

EHR Selection

- One of three members of Northern Minnesota Network
- Network partners with SISU Medical Systems
- Multi-year process to select EHR and Practice Management software
 - Ultimately chose GE Centricity Practice Solution



EHR Core Team

- Interdisciplinary team a must!
- Definitely get input from front office, and billing staff in addition to clinical and management staff
- We included year-round and seasonal staff; also central and remote site representation



Process Mapping

- Foundation of success
- Eased workflow development process
- Sparked discussion on justification of steps
 - Why do we do it that way?
 - Will we want to it the same way when electronic?
 - What information is needed?

Process Mapping

- Better able to see bigger picture, overlap/impact of relationships between workflows
- Review periodically during further decision-making processes



Key Decisions

- Pleased with GE's format
- Explained everything ahead of time/pointed out what to expect
- Allow plenty of time for core team to discuss issues at hand during session
- Prepare to spend several days during decisions meeting, up to another week to clear up the "TBD" decisions that need more discussion/research

Setup

- Privileges
 - Security
 - Signing documents
 - User access
- User setup
- Location setup
- Orders
- Custom lists
 - Medications
 - Problems
 - Allergies
 - Orders
 - Flowsheet views
 - Letters
 - Quick text



Setup

- Pharmacy and provider contact information
- Patient alerts
- Encounter types
- Document Templates
- Reports
- Customization?



Form Selection

- Asked staff to preview forms in demo (core: 3+ weeks, clinical 2+ weeks) to see which were more comfortable, suitable
- After review, came to consensus on which forms to use in 3 primary encounter types
 - Provider visit
 - Nurse visit
 - Preload

Form Selection

- Forms included vital signs, specifics for chronic disease and prenatal visits
- Limit number of forms used!
- Be very specific with which data elements you need for reporting
 - Ensure you know where they are stored in the system, i.e. individual obs terms

Form Selection

- Account for each potential numerator and denominator
 - Mantoux: Date performed → date read → result
 - Pap smears: Women in universe → women needing screening → women with completed screening → results
- Determine data collection format to ensure maximum capture

Workflow Development

- Created workflows to match to these 3 encounter types
- “Mapquest” method
- Peer review
- Review by staff totally unfamiliar with clinical processes
 - Can they achieve desired result?

Workflow Development

- Make a master list of all reports used with descriptions of use
- Choose a system that is easily modifiable
- Check for equivalent reports in new software
 - Make sure that they are the same: Same data source, same exclusions, etc.
- What data is needed? By whom?
 - Does admin. need a pap report? Do clinicians? Should they be separate or contain the same data?
- Who will run the reports? When?
 - Do they slow down the system?

Words of Wisdom

- Almost always takes more time than expected for everything – Murphy's Law
- Steep learning curve for some staff
- Keep track of all modifications made – when, what, where, how – and be as specific as possible
 - Might have to make them all again when upgrade to new version
 - Save custom report files in a backup location to avoid overrides or deletions



Words of Wisdom

- Not instant conversion from paper!
- Keep mindset that workflows, policies, procedures need to be fluid documents
 - Ours have been finalized after one year of use/modifications
- We would choose CySolutions over GE for support, considering how embedded the CHC components are in the EHR and PM



Words of Wisdom

- You may need other software to get the reports that you need
- Check possible solutions with colleagues
- Interfaces may be a necessary evil
- Use reports that are easy to modify
- Save reports that work



Words of Wisdom

- Be mindful of units for lab results, text-only fields vs. numeric fields, etc.
- Determine workflow for requesting and writing additional reports



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