



Utah Primary Care Workforce Model

A collaborative effort of:
Utah AHEC, UMEC, and IBM Health Corps

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Why develop a new model of primary care workforce?

- Health care consumes 19% of GDP and rising
- Primary care is a key for reducing cost and improving quality
- Utah has widespread shortages of primary care
- Transition to team based care and value payment means old single-discipline models of workforce need are obsolete
- Health workforce planning has a long lead time
- Resource allocation should be driven by needs of the population for Chronic, Acute, and Preventive care

Staying Ahead of the Curve: Utah's Future Health Care Needs

- Utah's health care expenditures are growing at one of the fastest rates in the country
- The percent of the population age 65 and older in Utah is expected to double over the next 50 years
- Income levels differ considerably across Utah's population groups and counties
- Utah ranked as the fifth healthiest state in 2018
- Increasing mental health needs, substance use disorders, as well as diverging access to health care

The IBM Health Corps Project Challenge

How can we model primary care workforce requirements in evolving interprofessional team-based care?



Used by...

- Clinical Administrators
- Education Leaders
- Health Service Researchers
- Legislators

In order to...

- *anticipate health needs of population* in order to secure funding for programs that are best aligned
- *determine candidate programs to create* in order to output right people to fulfill the right demands
- *contribute & curate data from multiple sources* so healthcare organizations can build programs & teams to proactively handle community needs
- *understand current & future health needs of a population* to appropriately staff & train
- *make the most appropriate decisions* when creating policies
- *maximize use of resources* to provide high quality care at lower prices

Stakeholders Need Solid Data



Educational Leaders

- **future proof** programs so graduates will meet health needs of communities

Clinical Administrators

- **understand** health care needs of a community
- **forecast** future needs
- properly **staff** their teams

Legislators

- **obtain data:** transparent, unbiased
- **invest** in education and policies to maximize health and control cost

Researchers

- **support** key decision makers with a trusted, unbiased source of data

From Elephant to Beehive

Current State

- Information (supply and need) is scattered, has large gaps
- Few people can access comprehensive data
- Different answers to the same question, depending on methodology/sources
- Everyone uses data in their own way to support their view of the right solution

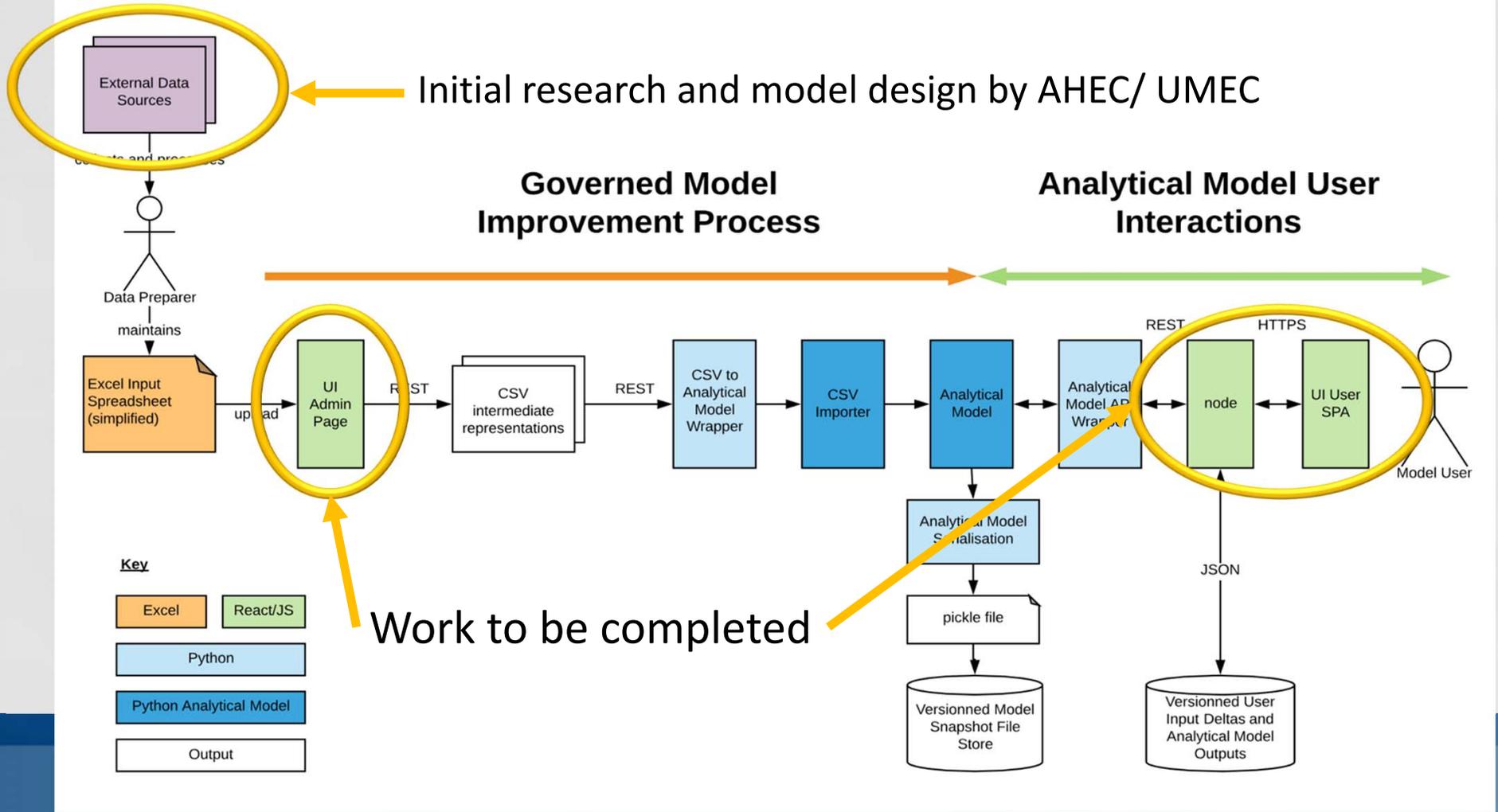


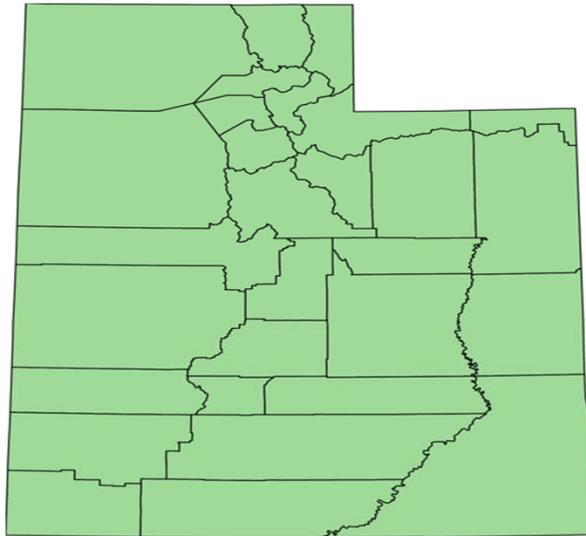
Goal State

- Best available data sources are gathered for each type of information
- Gaps are identified and filled over time
- All end-users can access consistent data and transparent trusted results
- The data inform a common story that ultimately benefits the Utah population



Data flow diagram





Filter the data

Areas
State of Utah

Provider types
All provider types

User Interface will filter data geographically.

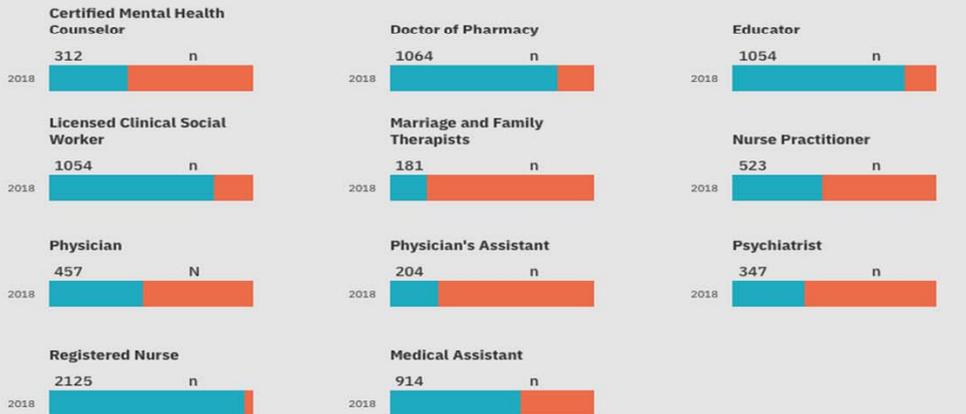
Map will display:

- Optimal Provider Supply/ Need FTEs by profession.
- Population health data by age and gender

Gap Analysis by Providers

Year 2018

Legend: current optimal



User Interface will allow for modification of the following model inputs in order to conduct what-if analysis.

- Provider's wage
- Provider priority of each service
- Population demand
- Time to deliver each service
- Provider suitability (who can deliver what service) and % of time one can spend at top/bottom of their licensures per each service
- Add new condition/disease
- Add new service

Team Composition Advanced filtering

| Current | Optimal | |
|---------------------------------|---------|-----------------------------------|
| <input type="text" value="10"/> | N | Certified Mental Health Counselor |
| <input type="text" value="5"/> | N | Registered Nurses |
| <input type="text" value="2"/> | N | Physicians |
| <input type="text" value="3"/> | N | Physician's Assistant |
| <input type="text" value="4"/> | N | Medical Assistants |

Team Composition Advanced options

Trade off Analyzer

Cost optimized ○ Patient Satisfaction

Budget analysis ←

Estimated budget

Service time modifier

Alcohol Misuse Counseling

BOL ○ TOL

Min. time minutes Max. time minutes

Think of each service as deserving its own square space

Behavioral Health Screenings in context

Alcohol Misuse Counseling

BOL ○ TOL

Min. time minutes Max. time minutes

Autism Spectrum Disorder Screening

BOL ○ TOL

Min. time minutes Max. time minutes

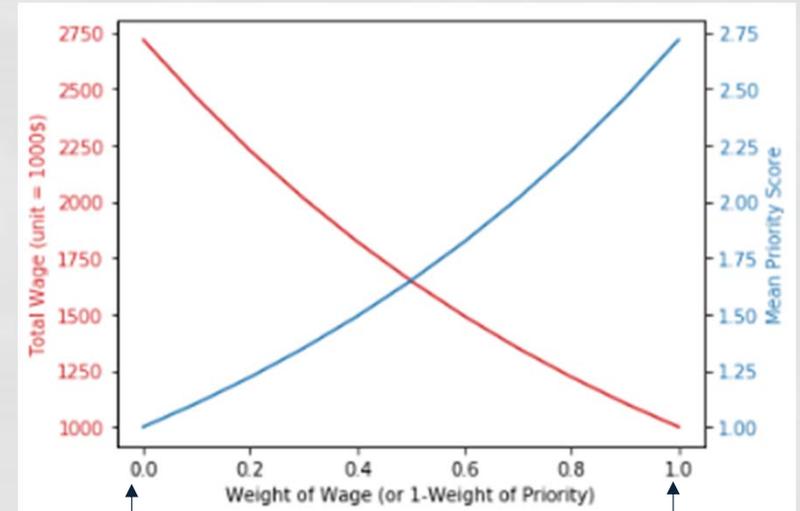
Depression Screening

BOL ○ TOL

Min. time minutes Max. time minutes

Ideal Provider Staffing

Optimal allocation: Users can choose weight between **total wage of providers** and **suitability/priority** to find optimal staffing to minimize total wage or suitability/priority score

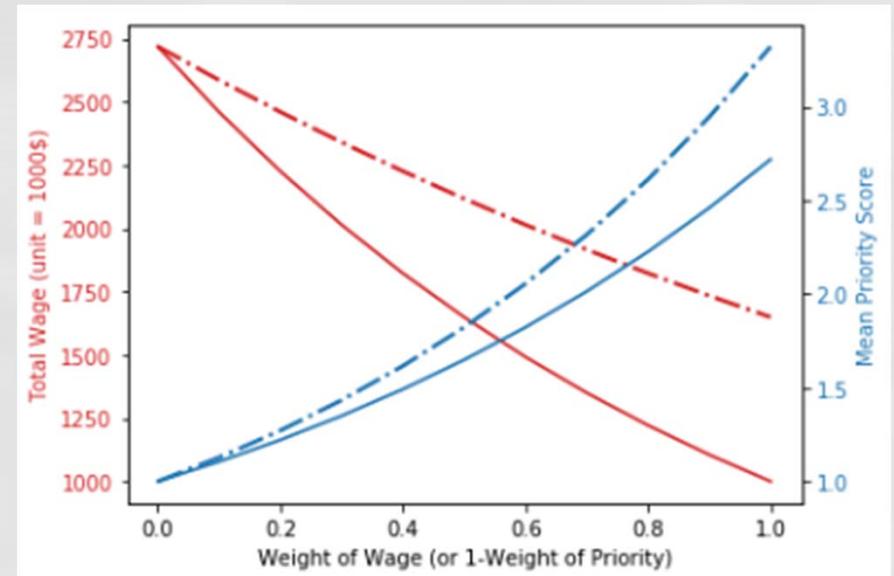


3 Physician, 1
RN, 1 PN, 1
educator

1 Physician, 1 RN, 1 PN,
1 LCSW, 1 MA, 1
educator

Ideal Provider Staffing Constrained by Current Providers' Composition

- Similar to Ideal provider staffing
 - When there is excess of provider(s): show a message (e.g. there are more MA than needed)
- Otherwise:
 - User can choose weight between total providers wage and priority to find optimal staffing to minimize total wage or priority score.
 - Users can conduct same *what-if* analysis



— Ideal staffing
- - - Ideal staffing constrained by current provider

Thank You!
Questions?



36 South State Street, Suite 2200
Salt Lake City, Utah 84111-1486

Mark R. Briesacher, MD
Chief Physician Executive
President, Intermountain Medical Group

February 7, 2019

Dear Senator Grover, Representative McKell, and Members of the Committee:

I am pleased to support the Utah Area Health Education Centers (Utah AHEC) and the Utah Medical Education Council (UMEC) on their funding proposal. This appropriation will assist Utah AHEC in completing the work that IBM began earlier this year with their partnership.

By calculating primary care workforce need in a team-based setting, the model they are building will help shape workforce projections in an evolving healthcare system and more accurately define primary care needs in the Utah population. This model will be useful in workforce planning among health systems as well as educational planning among the health profession programs in the state.

One-time funding from the Utah Legislature will help finish the user interface and allow Utah AHEC and UMEC to continue to refine the model until such a time as they apply for federal grant funding.

I give this proposal my full support and look forward to collaborating with Utah AHEC on this initiative in the coming years.

Respectfully,

A handwritten signature in blue ink that reads "Mark Briesacher" with a stylized flourish at the end.

Mark Briesacher, MD
Senior Vice President & Chief Physician Executive

January 24, 2019

Higher Education Appropriations Subcommittee
Utah State Capitol
350 North State Street
Salt Lake City, UT 84114

Dear Senator Grover, Representative McKell, and Members of the Committee,

I am delighted to support the Utah Area Health Education Centers (Utah AHEC) and the Utah Medical Education Council (UMEC) on their funding proposal. This appropriation will assist Utah AHEC in completing the work that IBM began earlier this year with their partnership.

By calculating primary care workforce need in a team-based setting, the model they are building will help shape workforce projections in an evolving healthcare system and more accurately define primary care needs in the Utah population. This model will be useful in workforce planning among health systems as well as educational planning among the health profession programs in the State.

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I give this proposal my full support and look forward to collaborating with Utah AHEC on this initiative in the coming years.

Respectfully,



Jose Rodriguez, MD, FAAFP
Interim Associate Vice President
Office of Health Equity & Inclusion
The University of Utah



Utah Hospital Association
2180 South 1300 East, Suite 440
Salt Lake City, Utah 84106

Ph: 801-486-9915
Fax: 801-486-0882

February 5, 2019

Dear Senator Grover, Representative McKell and Members of the Committee:

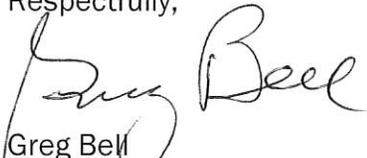
The Utah Hospital Association is pleased to support the Utah Area Health Education Centers (Utah AHEC) and the Utah Medical Education Council (UMEC) on their funding proposal. This appropriation will assist Utah AHEC in completing the work that began with their partnership with IBM in 2018.

By calculating primary care workforce needs in a team-based setting, the model will help shape workforce projections in an evolving healthcare system and more accurately define primary care needs in Utah. This model will be useful in workforce planning among health systems as well as educational planning among the health profession programs in the state.

One-time funding from the Utah Legislature will help finish the user interface and allow Utah AHEC and UMEC to continue to refine the model until such a time as they apply for federal grant funding.

I give this proposal my full support and look forward to collaborating with Utah AHEC on this initiative in the coming years.

Respectfully,



Greg Bell
President/CEO



AUCH

ASSOCIATION FOR UTAH COMMUNITY HEALTH

MEMBERS

Bear Lake Community Health Center, Inc.

Carbon Medical Services Association, Inc.

Community Health Centers, Inc.

Enterprise Valley Medical Clinic

Family Healthcare

Green River Medical Center

Midtown Community Health Center

Mountainlands Family Health Center

Paiute Indian Tribe of Utah

Planned Parenthood Association of Utah

Urban Indian Center of Salt Lake

Utah Navajo Health System, Inc.

Utah Partners for Health

Wasatch Homeless Health Care, Inc.

Wayne Community Health Centers, Inc.

AFFILIATE MEMBERS

Health Clinics of Utah

Health Choice Network Utah

Maliheh Clinic

Odyssey House– Martindale Clinic

People's Health Clinic

January 24, 2019

Dear Senator Grover, Representative McKell, and Members of the Higher Education Appropriations Subcommittee,

AUCH is pleased to support the **Utah Area Health Education Centers (Utah AHEC) and the Utah Medical Education Council (UMEC)** on their funding proposal. This appropriation will assist Utah AHEC in completing the work that IBM began earlier this year with their partnership.

As the federally designated Primary Care Association for Utah since 1985, AUCH represents and supports 13 Federally Qualified Health Center (FQHC) grantees, including two tribal organizations, with a total of 60 Health Center clinic locations throughout the State of Utah. AUCH has long been a strong supporter of Utah AHEC and UMEC, and the services these programs offer in building a strong and sustainable healthcare workforce.

The model that Utah AHEC and UMEC is building to predict future primary care workforce needs will help shape workforce projections in an evolving healthcare system. This model will be useful in workforce planning among Utah's Health Centers and help with educational planning among the health profession programs in the state.

One-time funding from the Utah Legislature will help finish the user interface and allow Utah AHEC and UMEC to continue to further refine the model until such a time as they receive federal grant funding.

AUCH gives this proposal full support and looks forward to collaborating with Utah AHEC on this initiative in the coming years.

Respectfully,

Alan Pruhs, Executive Director
Association for Utah Community Health