Introduction of the Presenters

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Vamshi has enabled healthcare organizations to implement effective and efficient workforce optimization strategies for over 15 years. He takes pride in applying data science and operations optimization to the healthcare sector.

Learnings from the Pandemic

- Ability of workforce structures to respond is key for organizations to continue to produce right health outcomes

- Healthcare workforce needs to be considered as an investment towards patient care vs. cost of care; for optimal staff engagement

- Lean staffing did enable margin improvements, but it is not a great strategy without scenario planning for contingencies

- COVID exposed unmet needs in current workforce structures like:

  - Need for cross-utilization of staff (flexibility in staffing)

  - Need for better mix of variable Vs fixed workforce

  - Need for shift in skill mix like APPs Vs physicians

  - Need for Tele taskforce staffing

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So what does this mean in terms of fine-tuning a workforce optimization strategy?
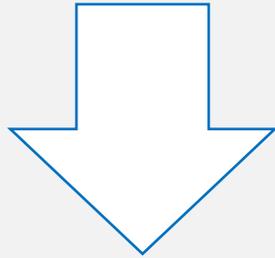
A need for an improved method to measure and monitor the maturity of healthcare workforce model

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Workforce Model- Maturity Matrix: Part 1

Maturity Level	Emerging:	Evolving:	Established:
Demand planning	**Workforce Model:** • Has no or limited demand scenario plans and surge plan preparedness. Leaders have verbal understanding of system and alerts **Technology support:** • Initiated trending of demand	**Workforce Model** • Has a written plan to document various demand scenarios • Has a written surge Plan • Leaders have understanding of system and alerts **Technology support:** • Technology produces reports with data on various demand scenarios by service lines	**Workforce Model:** • Has demand predictions by service lines • Has detailed Surge Plan Policy and Procedure with details at all levels that includes all key departments. • Performs Surge Plan Practice events. • Review and adjust targets and staffing proactively **Technology Support:** • Technology integrated with operations in producing demand alerts • Automated recommendations on staffing adjustments • Predictive hiring plans
Alignment of staffing configuration	**Workforce Model:** • Aligns positions approval to productivity metrics **Technology support:** • Automated reporting of productivity metrics and linkage to open positions	**Workforce Model:** • Runs scenarios of staffing configuration needed for near future demand • Utilizes a combination of historic productivity and near future needs to approve positions • Constantly assesses mix of full-time, part-time, per-diem & core Vs temporary **Technology support:** • Reports available to assess the mix of staff against care demand	**Workforce Model:** • Has staffing scenarios planned for various demand levels • Aligns hiring decisions with the potential staffing scenarios • Implements predictive hiring and scheduling per demand scenarios and periodically adjusts **Technology Support:** • Automated staff mix and skill mix scenarios linked to scheduling and hiring plans (per the demand predictions)

Workforce Model- Maturity Matrix: Part 2

Maturity Level	Emerging:	Evolving:	Established:
Safe & Efficient Patient Flow	**Workforce Model:** • Has no or limited plans in place to monitor and manage patient flow **Technology support:** • Patient flow metrics available	**Workforce Model** • Has a clear written plan to monitor and manage patient flow • Has understanding of how to integrate patient flow metrics into staffing planning **Technology support:** • Technology produces reports with data on patient flow metrics trends	**Workforce Model:** • Has goals for patient flow by DRG, department and service line • Has models in place to achieve the goals • Conducts huddles to review safety and efficacy of the patient flow models **Technology Support:** • Technology integrated with operations in producing real time alerts on patient flow • Patient flow metrics incorporated into staffing plan models
Staff Health & Wellbeing	**Workforce Model:** • Has not fully developed workforce health assessment program **Technology support:** • PTO metrics available	**Workforce Model** • Has a clear written plan to monitor and manage health of workforce • Monitors the workforce needs for time-off, training & development, engagement metrics and proactively defines plans for the same **Technology support:** • Technology produces reports with trends on PTO, attrition, workforce engagement metrics	**Workforce Model:** • Has goals for workforce wellness, retention • Has staffing models in place to back-fill shortages due to time-off • Program in place to constantly evaluate workforce satisfaction and engagement **Technology Support:** • Staffing model scenarios consider multiple back-fill needs (and data available to support the same) • Key metrics are published for all leaders and managers to view periodically.

Let's take a moment to check where do you (or your client organization) stand:
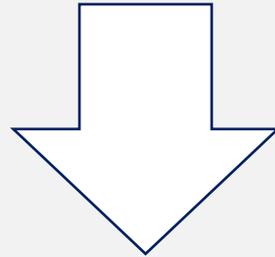
Please take the following poll and mark Emerging, Evolving or Established on the four dimensions

Demand Planning – Key Considerations

● Right algorithms for predicting Demand

Historic trends + Seasonality + Random events

Inpatient setting:

- Epidemiological Susceptible, Exposed, Infected, and Recovered (SEIR) model to predict COVID cases

- Coupled with service line-based projections for non-COVID patients

Outpatient setting:

- Projection of new appointments + follow-up appointments

- Tele migration assumptions and schedule utilization

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Staff Configurations – Key Considerations

Hiring for Flexibility

Full-time, part-time and per-diem mix

- Function of day of week schedule requirements

Core Staff vs. Temporary Staff Configuration

- Function of demand fluctuations by month and seasonality

- Plus backfill needs

Skill Mix

- Function of care model: Nurses Vs Techs, APPs Vs Physicians

Staff Configurations – Key Considerations

Hiring for Flexibility

Future State Example

The forecast of demand facilitates the proactive planning and recruitment of temporary and permanent staff positions (and also enables use of economies of scale through float pool)

Legend:
- **Current Core FTEs**
- **FTEs Required**
- **Core Optimal FTEs**

Y-axis: FTEs (0 to 80)
X-axis: Pay Period (1 to 26)
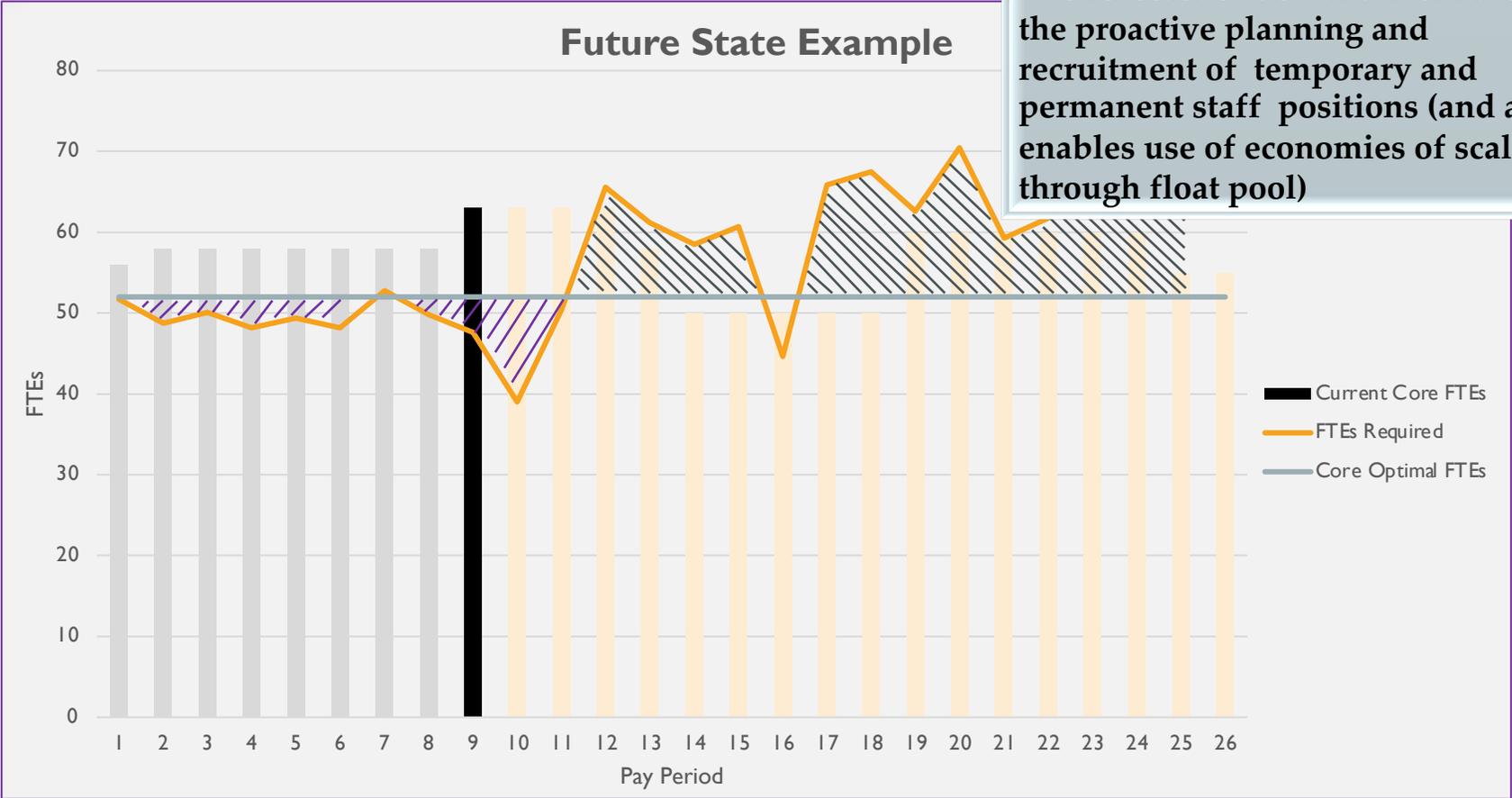
....The predictive hiring model to determine right combination of core staff Vs flex

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Staff Configurations – Key Considerations

Holistic Support System of Care

Quantifiable support system of care index

- Clinician to non-clinician ratio by service line

- Dynamic support resources structure to reduce clinician burn-out (service line based)

Distinguish support requirements for COVID & Non-COVID

- Deduce support resource needs based on your organization's care plans

- Quantify how Tele support (like Tele triage, tele check-ins) and Tele visits can enable better support

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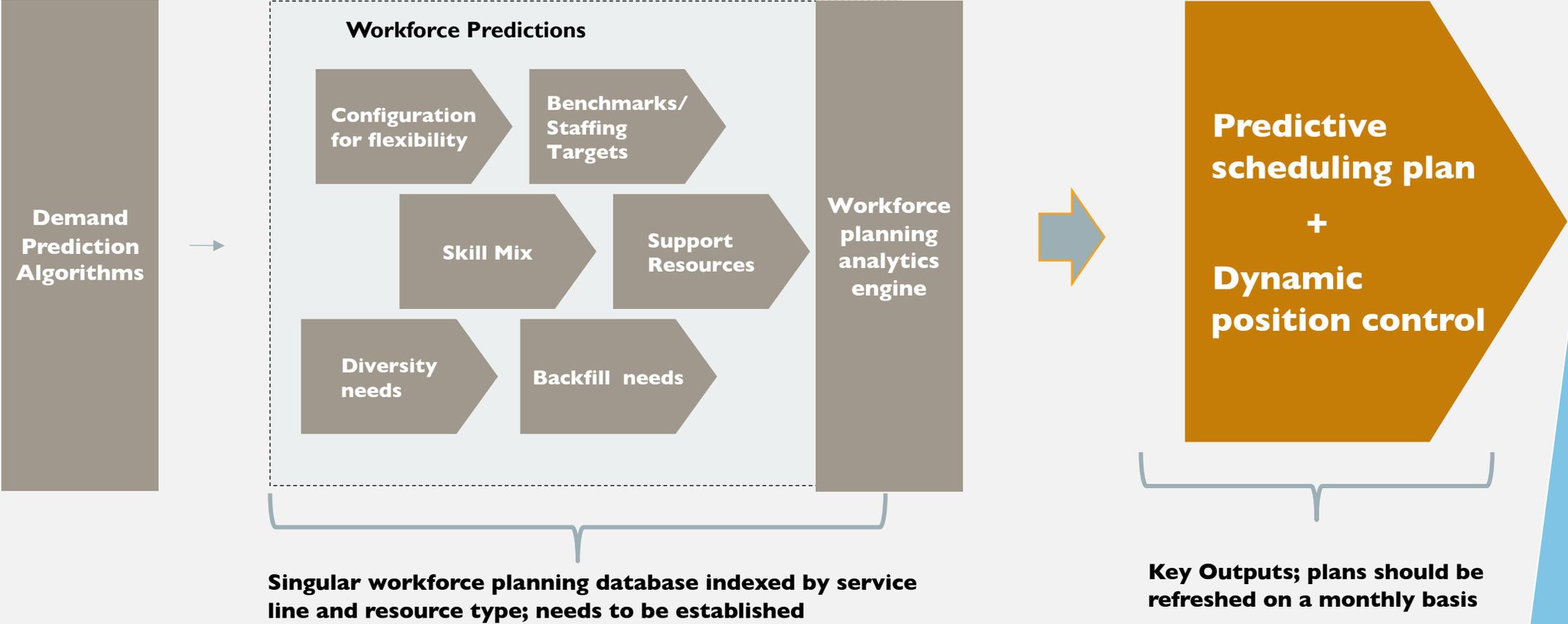
Workforce Wellness – Key Considerations

Algorithm for Backfill

- Projection of right backfill factor by service line and resource type

- Typical factors to consider for backfill:

    PTO, Sick, Vacation, FMLA, LOA, Vacancy rates

- Additional factors to consider for optimal planning:

    Impact of burn out, non-availability due to COVID exposure.

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Dynamic System – to Implement Predictive Staffing

Demand Prediction Algorithms

Workforce Predictions

Configuration for flexibility

Benchmarks/ Staffing Targets

Skill Mix

Support Resources

Diversity needs

Backfill needs

Workforce planning analytics engine

Predictive scheduling plan + Dynamic position control

Singular workforce planning database indexed by service line and resource type; needs to be established

Key Outputs; plans should be refreshed on a monthly basis

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Additional Resources

How Premier Inc and a few other companies solved predicting admissions and mean length of stay

- https://www.ahrq.gov/predictive-analytics-challenge/about.html

Healthcare workforce as an investment:

- https://www.directshifts.com/post/healthcare-workforce-investment

Nursing Shortage:

- https://www.aacnnursing.org/news-information/fact-sheets/nursing-shortage

How NYC hospitals Budgeted Differently: Compilation by DirectShifts

- https://www.directshifts.com/post/nyc-hospitals-budget-pandemic

Why is lean staffing by itself not a great strategy:

- https://www.wsj.com/articles/hospitals-for-years-banked-on-lean-staffing-the-pandemic-overwhelmed-them-11600351907?mod=searchresults&page=1&pos=2

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Questions???

Please do reach out to Knowledge@DirectShifts.com if you have more questions or need more info on this topic

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