وزارة الصحة
Ministry of Health

THE INSIGHTS

April (I) 2022

Assistant Deputyship of Planning and Organizational Excellence
General Directorate of Research and Studies

Periodical Bulletin

For Recent Trending Scientific Publications of Health Systems & Health Policies

Mind the gap: a review of optimisation in mental healthcare service delivery

This review article explored the complexities associated with mental health and described how these influence service delivery. Also, reviewed studies employing optimisation techniques that address service delivery issues in mental healthcare. It was found that the application of optimisation to mental healthcare is in its early stages. Commonalities between mental healthcare service provision and other services are discussed, and the future research agenda is outlined. The existing application of optimisation in specific healthcare settings can be transferred to mental healthcare.

**Noorain S, et al. Health Systems (2022): 1-34. In Press.*

1

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Advancing primary care with Artificial Intelligence and Machine Learning

Facing the Artificial Intelligence and Machine Learning technology (AI/ML) revolution, the primary care community would benefit from a roadmap revealing priority areas and opportunities for developing and integrating AI/ML-driven clinical tools.

This article presents an IDEAS framework that identifies five domains for AI/ML integration in primary care to support care delivery transformation and achieve the Quintuple Aims of the healthcare system.

**Yang Z, et al. Healthcare (Amsterdam). 2022;10(1):100594.*

2

Scan or Click

I — **Infrastructure upgrade**
- Construct multidisciplinaly longitudinal research data plalform
- Facilitate collaboration in data generation within and outside of health sector

D — **Delivery transformation**
- More beyond develop AI ON primary care to FOR primary care
- Diagnostics and risk prediction
- Holistic patient-centered disease management
- Medication and treatment Plan optimization

E — **Evaluation modernization**
- Health risk adjustment
- Social Determinants of Health (SDOH) risk adjustment
- Heterogeneity of SDOH risk

A — **Algorithm marketing authorization and reimbursement**
- Trust building with primary care physicians (PCPs) and patients
- Understand Clinicians need in workflow
- Data update and algorithm improvement

S — **Social justice**
- Develop AI/ML application to mitigate health equity in primary care
- Collaborative for ethical algorithm development
- Social epidemiology research for marginalized populations

E Efficiency
Effectiveness
Equity

- Better Health
- Better Experience
- Lower Cost
- Better Provider Wellness
- Equity

IDEAS Framework to Integrate AI/ML in Primary Care

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A systems thinking approach for antimicrobial stewardship in primary care

The establishment of antimicrobial stewardship (AMS) in primary care is central to substantially reduce the antimicrobial use and the associated risk of resistance. This highlights the importance of systems thinking to set up and facilitate AMS programs in primary care. We highlight the importance of systems thinking to identify and understand the resource arrangements, system structures, and dynamic system behaviors to optimally design and implement AMS programs. An AMS systems thinking systemigram (i.e. a visual representation of overall architecture of a system) could be a useful tool to foster AMS implementation.

**Saha SK, et al. Expert review of anti-infective therapy. 2021; 1–9. In Press.*

3

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Bridging the impactibility gap in population health management: a systematic review

The objective of this systematic review is to assess whether impactibility modelling is being used to refine risk stratification for preventive health interventions in primary and secondary healthcare populations.
The efficiency and equity of targeted preventive care guided by risk stratification could be augmented and personalised by impactibility modelling

**Orlowski, A, et al. BMJ open. 2021; 11(12): e052455.*

4

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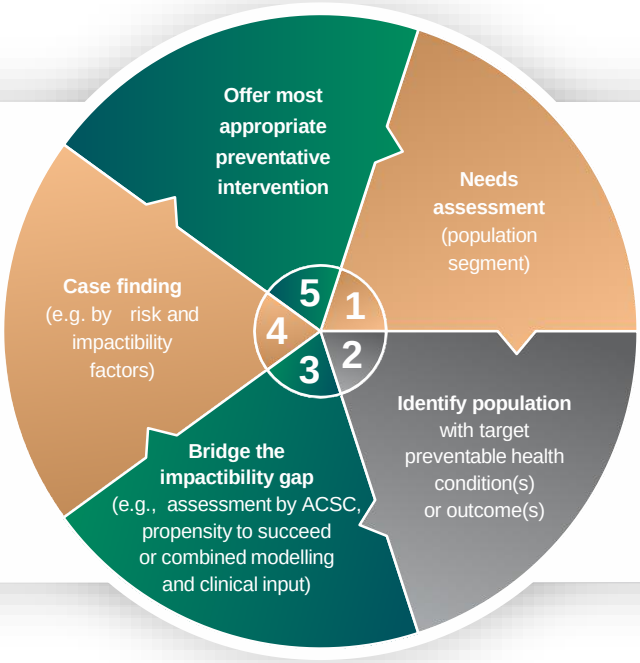
INCREASED CHANCE OF ACHIEVING THE TRIPLE AIM

- Improved individual experience of care
- Improved population health
- Reduced costs per capita



Use of impactibility modelling to enhance identification of patients amenable to benefit and likelihood of achieving the triple aim