



Gestational Diabetes

A Clinical Decision Support Tool

Gestational Diabetes (GDM)

What is it?

- Glucose intolerance first diagnosed in pregnancy
 - NB: A small number of women will have unrecognized, pre-existing diabetes
- Pregnancy hormones increase insulin resistance
- Occurs in 8-24% of all pregnancies (approx 1500 per year Newham and RLH)

Gestational Diabetes (GDM)

Risk Factors

- High BMI
- Family history
- Sedentary lifestyle
- Previous GDM
- South East Asian woman carry 6-11 times greater risk than white European woman.
 - 9.2% of all pregnancies account for 25.6% all GDM

GDM Complications

Increased risk of:

- High blood pressure and pre eclampsia
- C-section or assisted delivery
- Shoulder dystocia
- Still birth
- Hypoglycemia and jaundice for baby
- Future health risks for baby associated with LGA or SGA
- Future risk of T2DM for mother and baby
 - Up to 60% increased risk of T2DM in next 10 years

GDM Management

- Multi disciplinary approach
- Diet and exercise used first to achieve glycemic control
- Metformin and insulin
- Planned delivery of baby in timely fashion
- Close observation of baby's sugars following birth
- Follow-up postnatally to ensure GDM has resolved

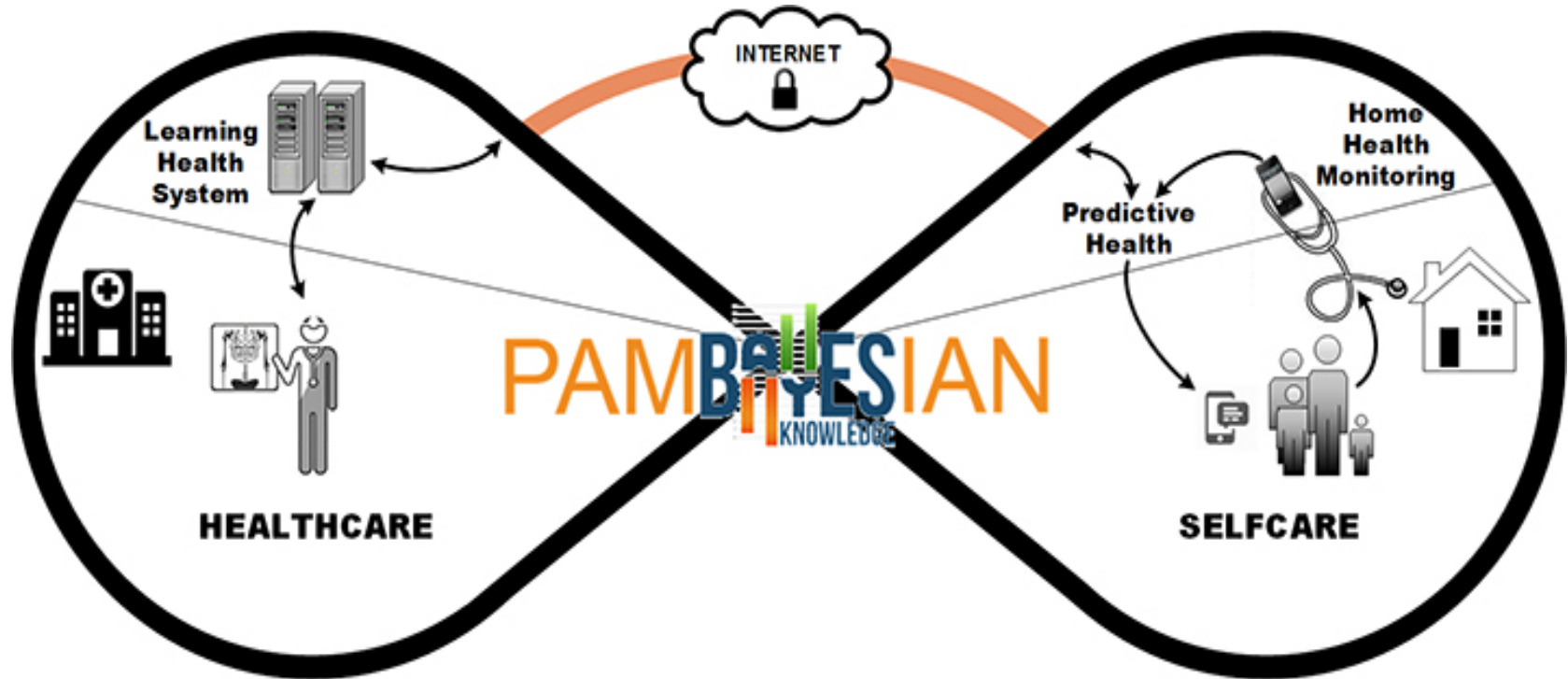
PAMBAYESIAN GDM Case Study

Aims:

- Create a new generation of easy-to-use, computerised support systems to support and empower women with gestational diabetes
- Aid decision making of health professionals
- Reduce pressure on busy clinical settings in primary and secondary care
- Improve outcomes and experience of pregnancy care.



PAMBAYESIAN GDM Case Study



PAMBAYESIAN GDM Case Study

***Study Design:* Retrospective Data**

- Literature review and review of current practice guidelines
- Audit of clinical data from past GDM pregnancies
(Six years from RLH)
- Seek opinions of women and clinicians on their care
- Gain clinician involvement
- GP involvement also being sought
- Build and train Clinical Decision Support Tool using Bayesian Networks

PAMBAYESIAN GDM Case Study

***Study Design:* Prospective Data**

- Women with GDM pregnancy at RLH, Newham University and two community sites (~ 500 over 3 years)
- Collect data alongside routine GDM care:
 - Booking history, blood results, routine blood glucose readings, diet, medication initiation and dose management
 - Decision to deliver baby
 - Outcomes for mother and baby
 - Postnatal follow-up
- Present data to Clinical Decision Support Tool
 - Does it make the same recommendations and accurately predict risk and outcomes?

Conclusion

The PAMBAYESIAN GDM Case Study will:

- Give women with GDM more confidence and empowerment to self-manage and participate in care
- Improve clinic experience for women and clinicians
- Perhaps allow more GDM to be managed in the community, reduce pressure on secondary care

