Tackling health inequalities in Slough by creating a Multigenerational Household Outreach Programme using population health management

Profile

NHS Frimley integrated care board (ICB) covers a diverse area across the three counties of Surrey, Berkshire and Hampshire.

It includes five Places – Slough, Bracknell Forest, Royal Borough of Windsor and Maidenhead, Surrey Heath and North East Hampshire and Farnham.

Slough has the highest levels of deprivation with more than 150 different languages spoken and at least a 10-year life expectancy difference from its neighbouring town.

15.1% (5,540 children) live in low-income families and there is a 20-year gap with regards to healthy lived years.

All these challenges demonstrate that in Slough's population, disease develops earlier further complicated by its demographic and socio-economic make-up.

Summary

13.9% of Slough's population live in multigenerational households (MGHs), a fact highlighted during the pandemic – 3,761 households in total. Living in a MGH is not information captured in primary care or any other known datasets. We developed a novel approach using our shared care record, Connected Care. A linked data set was essential as different members within a household may be registered to different GP practices, therefore data from a single GP practice could not be used to estimate the MGHs.

A population health approach was taken focusing on 441 MGHs in Slough with <40% QOF completion. They were offered a home visit to complete all the different checks for the three generations within the household in one sitting.

The project was originally envisaged due to low levels of vaccination uptake in children, and data showed the same households had low levels of completed Quality and Outcomes Framework (QOF) health checks – such as diabetes, blood pressure and routine cancer screenings.

Practice staff, including GPs, nurses, and healthcare assistants, arranged to visit the families at home, administered the childhood vaccines and completed all outstanding checks in the same visit.

By offering the family an alternative way of accessing primary care, this has changed the behaviour of and the interaction with these families. We achieved a 16.1% improvement in QOF uptake across the cohort as well as an overall improvement in public health indicators and a reduction in urgent care activity.

Taking this approach to outreach and personalized care assessments and planning, reduced A+E attendances by approximately 16%, admissions by 13% and length of stay by 40% when comparing the target multi-generational household cohort to the Slough Place Population.

Watch the film here: Population health management – a GP's view (youtube.com). This video illustrates the need within Slough focusing on the wider determinants of health.

Aims

The Slough immunisation team wanted to address low levels of herd immunity due to the lower uptake of childhood vaccinations in Slough.

Parents reported they were not opposed to vaccination per se but other factors, such as work schedules or caring responsibilities prevented them attending routine vaccinations.

13.9% of Slough's population live in MGHs, where the grandparents, parents, and children all live together.

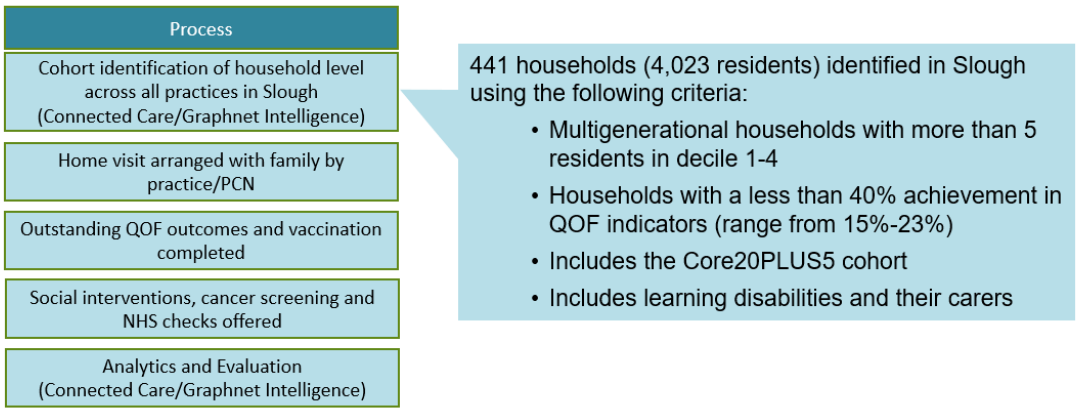
Aim: To use a population health management approach to offer home visits to MGHs that had < 40% of the QOF outcomes completed as of the 31st March 2023.

Solution

The Slough Transformational team supported 15 practices across Slough to implement the project from June 2023 to December 2023. The team supported with the strategic commissioning, monitoring, and evaluation aspects of the scheme. The overall programme was further endorsed and supported by the wider partnership, including Slough Borough Council and the Slough Voluntary Sector.

Living in a MGH is not information captured in primary care or any other known datasets. The Connected Care team developed a novel approach using our shared care record. A linked data set was essential as different members within a household may be registered to different GP practices, therefore data from a single GP practice could not be used to identify MGHs.

Using a population health approach, the MGHs were identified as described below and this data was matched in the EMIS record to identify any other remaining public health indicators. This included children and adult immunisations, NHS health checkups and cancer screening.



Practices either worked by themselves to the complete the relevant checks if the whole household was registered with them or they worked within their PCNs. Several household members were registered with multiple practices, however through the data, those households who were served by the same PCN member practices were identified. The PCN could deploy the shared Additional Roles Reimbursement scheme roles (ARRS), who had access to all the records from the different practices to complete the checks for the whole household.

Each PCN called the families in advance and visits were arranged for those happy to participate. They advised that all family members would be reviewed in one visit and some visits were arranged for after 4pm to ensure all the children were at home after school. The hour-long home visit was carried out by two staff members, and a variety of different healthcare professionals were involved, including GPs, nurses, healthcare assistants and pharmacists. If the family refused the home visit, they were encouraged to attend the practice to ensure all their health checks were completed.

Our focus was on outcomes rather than activity and therefore we devised an incentive scheme based on percentage improvement from baseline. The full funding was split into 4 parts:

- 25% of the payment to sign up for the scheme and prepare for the extra activity.
- 50% of the payment for 40% improvement from baseline.
- 75% of the payment for 60% improvement from baseline.
- 100% of the payment for 70% improvement from baseline.

Given we remunerated practices based on percentage improvement from baseline and encouraged this potential new way of working, we achieved an improvement in the uptake of the various care processes that would not have otherwise been completed or delivered in previous years.

NB: The programme was funded by Frimley ICB, who wanted to address health inequalities and support the most underserved population within the system.

Results

13/15 practices within Slough participated in the scheme and for initial analysis purposes, we analysed the QOF outcomes data March 2023 to August 2023, when the MGH programme was initially implemented.

When comparing the data to the rest of the system year on year during the same period, Slough was outperforming the rest of the system in achievement of health indicators. For example, we had completed a significant number of learning disabilities checks (which is one of our specific PLUS groups within the Core20PLUS5 strategy) in Slough compared to other places within the system. Those practices that were fully engaged with the MGH approach, achieved a greater improvement from baseline, potentially illustrating an alignment between the intervention and outcomes.

% ACHIEVEMENT OF HEALTH CHECKS ACHIEVED (YTD) COMPARED TO THE PREVIOUS YEAR

FROM MARCH – AUGUST 22VS 23

Total Population (ICB): (All health checks except Dementia)

Place / Locality name	Current YTD	Previous YTD	Difference
Slough	42.9 %	39.4 %	3.54 %
NEHF	42.1 %	40.0 %	2.05 %
RBWM	39.3 %	37.3 %	1.97 %
Bracknell Forest	36.2 %	36.5 %	-0.30 %
Surrey Heath	37.7 %	38.8 %	-1.09 %
Total	**40.3 %**	**38.7 %**	**1.68 %**

Total Population (ICB): (LD and SMI health checks)

Place / Locality name	Current YTD	Previous YTD	Difference
Slough	51.1 %	43.0 %	8.03 %
RBWM	37.0 %	34.2 %	2.79 %
Bracknell Forest	35.6 %	34.1 %	1.49 %
NEHF	38.7 %	40.2 %	-1.42 %
Surrey Heath	32.8 %	36.5 %	-3.71 %
Total	**40.8 %**	**38.5 %**	**2.26 %**

Total Population in Deciles 1-4: (All health checks except Dementia)

Place / Locality name	Current YTD	Previous YTD	Difference
Slough	43.6 %	39.5 %	4.09 %
RBWM	39.4 %	36.5 %	2.91 %
NEHF	43.3 %	42.4 %	0.87 %
Bracknell Forest	36.2 %	35.9 %	0.37 %
Surrey Heath	37.3 %	37.2 %	0.14 %
Total	**42.8 %**	**39.7 %**	**3.11 %**

- Compared to the other places in System, Slough has seen a greater improvement in QOF health check achievement compared to the previous financial year.
- There has been a greater % improvement in the deprived populations in Slough.
- LD and SMI health checks has had a much greater increase compared to the previous year, with Slough having the greatest achievement in the System.

This is the reverse of previous years, where deprivation, high levels of same day appointment demand, social diversity and language barriers all contribute to increasing length of appointments/duplicate appointments to cover the same clinical ground in different places. All these compounding factors have previously restrained improvements in Slough in the past.

Following this, we decided to carry out further analysis on the 441 households, which stretched from December 2022 to December 2023, including QOF outcomes and public health indicators and from June- December 22 vs 2023 for urgent care and general practice activity.

The methodology and assumptions using this analysis is set out below:

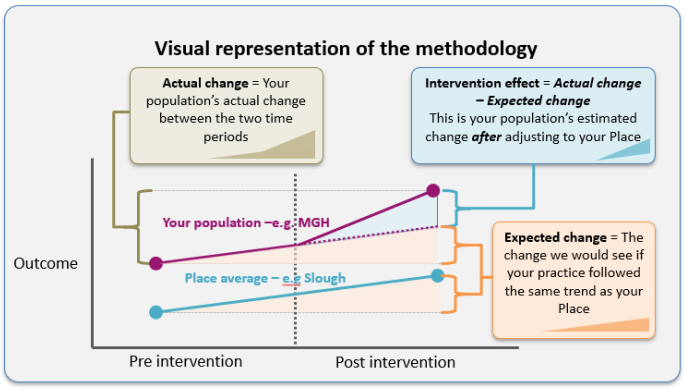
Understanding the methodology

We look at **relative** change compared to a comparator group (the place population).

Assumptions:

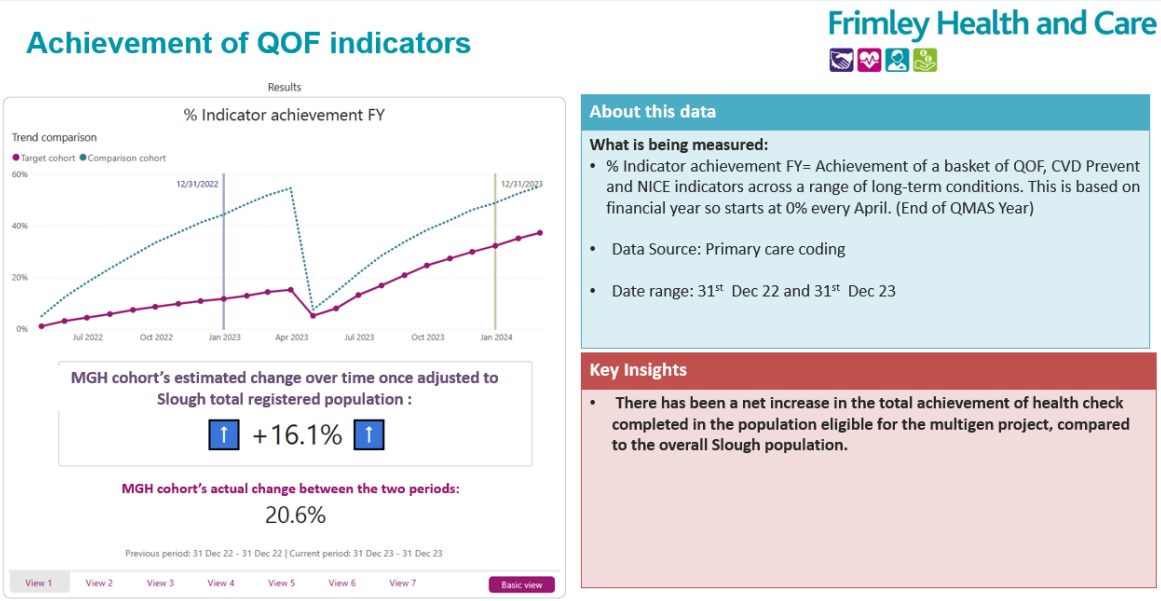
- Both groups experience **similar external factors**
- The difference in trends between your practice and place is due to changes that are **unique to your population** as we have adjusted for external factors

This methodology is called **difference-in-difference and is a common approach for estimating impact in complex systems. The results shown have not been subject to statistical testing and are therefore intended to serve as a robust signal and not to be used as a highly statistical, publishable finding*



For the purposes of the analysis shown below the target cohort is the MGH cohort and the comparison cohort is Slough Place.

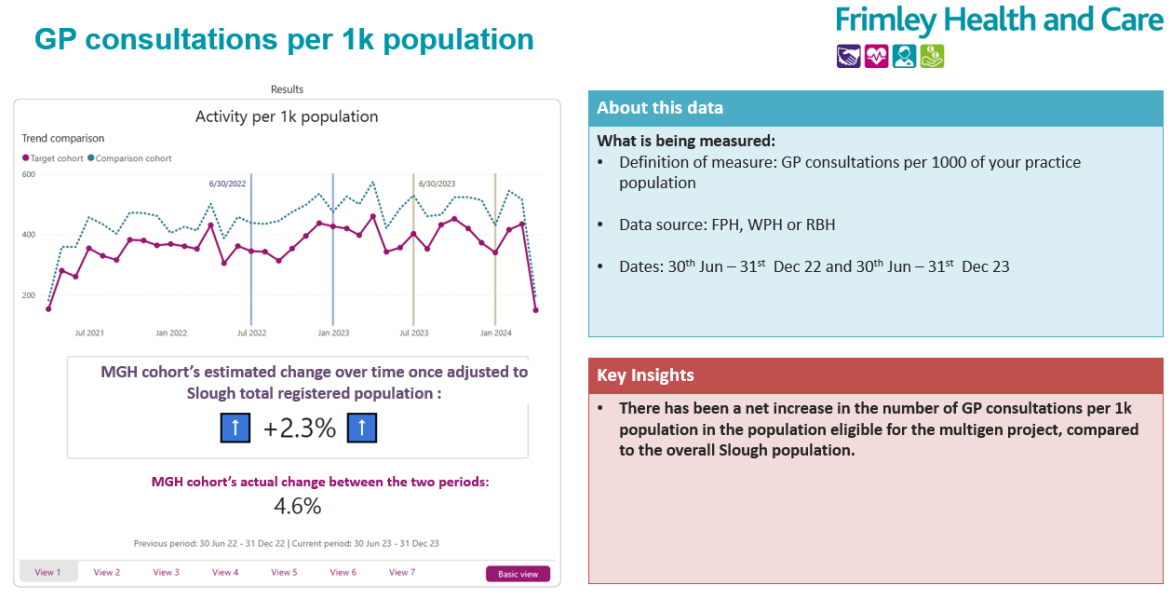
QOF Outcomes



During this period, the MGH cohort achieved a 20.6% improvement in QOF outcomes. When adjusted for the general improvement across Slough Place, we find that an improvement of 16.1% is attributable to the MGH initiative specifically, whilst the remaining 4.5% improvement is likely due to a wide range of other factors occurring at the same time across Slough. The data illustrates a significant overall improvement in QOF outcomes in this specific cohort, which was not being achieved in previous years.

We also analysed general practice appointment usage between June to December 22 vs 23. We observed a 2.3% increase in general practice appointments in the MGH cohort when

compared to Slough Place. Whilst unlikely to be statistically significant, we did anticipate a potential increase in contact due to improved health checks, including cervical smears.



NHS health checks were also provided, and family members were encouraged, where appropriate to collectively uptake the different national cancer screening programmes. Slough observed a 45% improvement in uptake of public health indicators year on year (December 22 vs 23). The MGH project has contributed to this success and perhaps, by sharing the information with all the different family members, this encouraged overall uptake. This was either by improving the carer's knowledge or/and an additive peer support element within the family consultation. We also provided leaflets, which were left in the home after the visit on cancer screening and urgent care support across the system.

Public Health Indicators:

Achievement in Dec 2022			Achievement in Dec 2023						
Clinical	Public Health	Total Achieved Points	Clinical	Public Health	Total Achieved Points	Maximum Points	Percentage Achieved Dec 2022	Percentage Achieved Dec 2023	Trend
307.52	101.8	409.32	297.21	125.4	422.61	561	72.96%	75.33%	↑
227.18	94.98	322.16	176.69	100.23	276.92	561	57.43%	49.36%	↓
205.08	54.48	259.56	189.1	103.39	292.49	561	46.27%	52.14%	↑
173.19	57.62	230.81	314.02	113.77	427.79	561	41.14%	76.25%	↑
313.62	73.98	387.6	312.38	106.09	418.47	561	69.09%	74.59%	↑
251.72	78.76	330.48	326.79	124.68	451.47	561	58.91%	80.48%	↑
285.11	86.39	371.5	276.4	106.38	382.78	561	66.22%	68.23%	↑
199.19	58.43	257.62	298.41	109.82	408.23	561	45.92%	72.77%	↑
297.29	138.9	436.19	341.77	150.9	492.67	561	77.75%	87.82%	↑
203.12	84.55	287.67	149.92	99.01	248.93	561	51.28%	44.37%	↓
320.73	114.94	435.67	351.7	115.92	467.62	561	77.66%	83.35%	↑
282.4	115.95	398.35	291.23	136.22	427.45	561	71.01%	76.19%	↑
143.16	81.78	224.94	242.43	136.34	378.77	561	40.10%	67.52%	↑
199.14	76.28	275.42	251.45	93.42	344.87	561	49.09%	61.47%	↑
214.54	48.72	263.26	229.52	106.59	336.11	561	46.93%	59.91%	↑

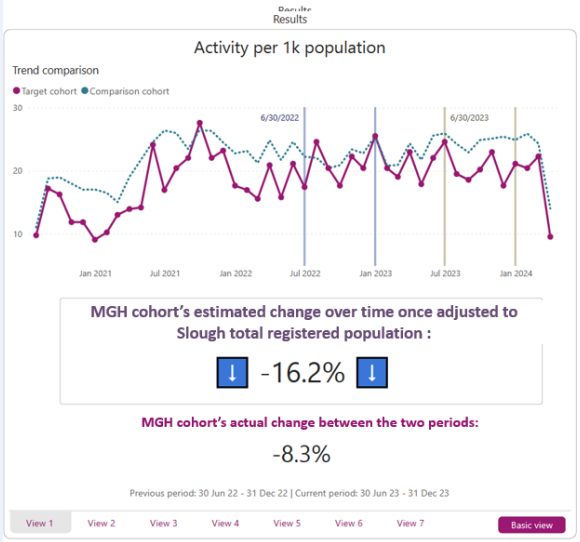
13/15 practices that have participated in the MGH programme have all seen an improvement in QOF & Public health indicators YTD.

Urgent Care Activity

As part of analysis, we compared the use of urgent care services from June – December 22 vs 23, including A&E attendances, admissions, and total bed days per 1K.

A&E attendances per 1k population

Frimley Health and Care



About this data

What is being measured:

- Definition of measure: Total number of AE attendances per 1000 of your practice population
- Data source: FPH, WPH or RBH
- Dates: 30th Jun – 31st Dec 22 and 30th Jun – 31st Dec 23

Key Insights

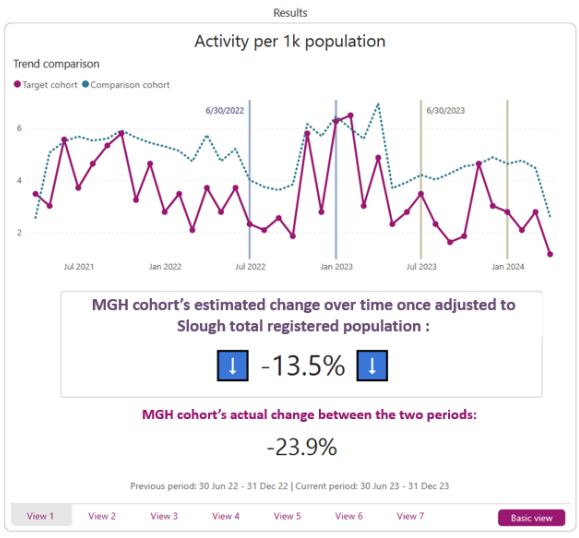
- **There has been a net reduction in AE attendances per 1k population in the population eligible for the multigen project, compared to the overall Slough population.**

The MGH cohort observed a reduction of 8.3% within this period, however when adjusted for the overall increase in activity in Slough, this improvement rose to -16.2%.

On analysis of admissions, the cohort observed a reduction of 23.9% in admissions per 1K and when adjusted for Slough Place this reduced to 13.5%.

Admissions per 1k population

Frimley Health and Care



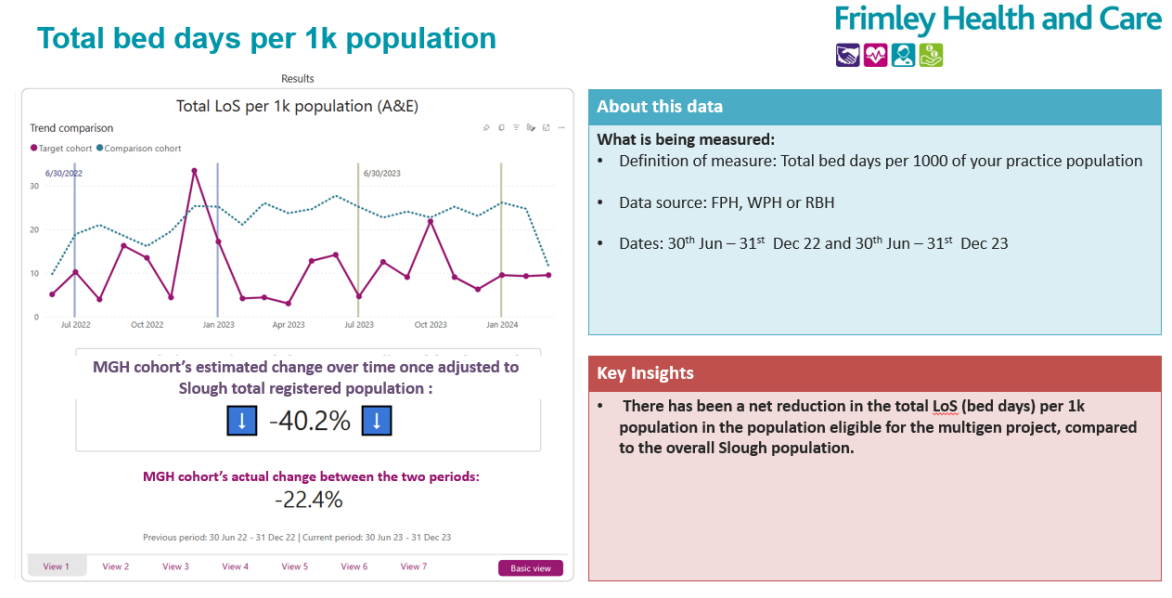
About this data

What is being measured:

- Definition of measure: Total number of Inpatient Admissions per 1000 of your practice population
- Data source: FPH, WPH or RBH
- Dates: 30th Jun – 31st Dec 22 and 30th Jun – 31st Dec 23

Key Insights

- **There has been a net reduction in Admissions per 1k population in the population eligible for the multigen project, compared to the overall Slough population.**
-



However, when analysing total bed days, those admitted had approximately a 50% reduction in bed days compared to Slough Place as whole. This further supports the importance of reaching out to those most in need and proactively managing their chronic health conditions to support the potential impact on the wider system.

Further analysis and comparison with MGHs who were not part of the study is ongoing.

Testimonials

Feedback from patients:

• Mr TS said: "It is very good service, especially as my elderly relatives as well as my children were all seen at the same time. This was much easier for me as their main carer and from a work perspective, I did not have to take multiple days off work for separate appointments."

• Patients appreciated the blood tests, long-term condition and medication reviews were all done simultaneously at home.

Feedback from staff:

• Staff enjoyed the outreach element.
• Staff were able to be active during the day rather than simply sitting at a desk.
• Staff appreciated reviewing the home environment of their patients and understanding the potential barriers to access.

Project GP lead Priya Kumar: "It was fascinating for me as a GP to visit these homes, the conversations I was having with the families were much more meaningful, and they appreciated we had taken time out of our day to visit them specifically. As a result, the residents said they were more likely to invest in their own health and wellbeing in the future given this single interaction, which was evident on multiple occasions with many of the patients attending the follow up appointments made at practice. Furthermore, some residents who did decline the offer of the home visit, engaged with us at practice level and we were able to complete the necessary checks."

Jim O'Donnell, Slough Place Lead, said: “In twenty years of clinical leadership in Slough I have not seen another initiative that has achieved so much with those for whom engagement and participation is such a challenge as the MGH project. If you believe in the preventative and care power of QOF, then MGH reaches parts of the population that other initiatives repeatedly do not. We should all care a great deal about that. That this is also truly “family medicine” at its best reminds us of why we choose to work in general practice.”

Conclusion:

Whilst the initial concept was built on improving childhood immunisation uptake, it became apparent that home visiting was also important for the 40-to-60-year age group. This is a cohort general practice often struggles to reach because of the pressures of daily life. For example, a 39-year-old gentleman had missed his pre-diabetic check-up over the past 2.5 years and by visiting him at home, his blood test was taken, and all the necessary checks were completed. As a by-product of the conversation, his wife also requested if we could offer smoking cessation advice, highlighting the importance of the peer support element within the household visit.

Some families agreed to a visit and then refused when the team arrived, others happily took up the intervention, whilst other families were keen to come to practice once offered the home visit. However, the family-based home visit approach achieved much more than we initially thought as this was an opportunity to gain a greater understanding of the patients’ home environment and social situation. Social prescriptions, pre-paid certificates, voluntary sector group options and supportive digital apps were all also offered as part of the programme.

By simply offering an alternative access point and understanding the needs of the family as whole, this changed the behaviour of and the interaction with these families, which resulted in better outcomes across the system. Reaching out to these residents, they felt empowered to self-care, were able to engage with their checkups, and understand the importance of preventative offers available for all three generations.

The MGH concept is unique given the potential scale and impact in our underserved populations. We need to create time, space, and the infrastructure within our systems to ensure we continue to deliver above and beyond the traditional routes of access for these communities. Identifying disengaged households across the system is key in unlocking the need and by co-creating with these communities, we hope the trust will continue to grow to create sustainable change.

Learning points

A health inequality related to 'dementia' may have been created as these checks dramatically fell during this period. When looking at the data, dementia was not a key condition within the MGHs, illustrating the potential under-diagnosis in these ethnic groups. As we continue to expand the concept, we are considering including a dementia review in the next phase as part of a routine check in identified households.

Next steps and sustainability

- Aylesbury has followed in Slough's footsteps and have implemented the outreach element of the vaccination programme.
- Bradford has recently implemented the MGH Project with public health indicators being the signal for non-engaged households.
- Section 2.7 in the School4ChangeAgents Programme (NHS Horizons) –comments and feedback from participants.
- The ICB Connected Care team with Dr Priya Kumar is currently working with EMIS to create the household search linked to missing QOF outcomes and immunisations within their own database. If this can be further linked on a PCN level, we can potentially spread and scale the programme utilising the ARRs staff to support multiple practices across EMIS sites.

Acknowledgments

This project was made possible due to the co-ordinated work between the Slough Place team, Slough Primary Care Networks, Connected Care Team, and practice staff. Thanks also to our Chief Medical Officer, Dr Lalitha Iyer for her support and Frimley's Leadership Team in development of this programme.

Contacts

Slough Clinical Team

Priya Kumar – GP and Transformational Digital Lead, Connected Care – project lead (primary) priya.kumar1@nhs.net

Jim O'Donnell – GP and Clinical Lead for Slough Place – jim.o'donnell@nhs.net

Lalitha Iyer – Chief Medical Officer, NHS Frimley ICB – L.iyer@nhs.net

Slough Transformational Team

Caroline Farrar- Director of Primary Care Development and Slough – cfarrar@nhs.net

Sangeeta Saran – Director of Operations – saran.sangeeta@nhs.net

Andrea Hollister - Associate Director of Primary and Community Care- Slough – andrea.hollister@nhs.net

Amran Qurban – Senior Primary & Community Care Development Manager – amran.qurban@nhs.net

Data Analytics & Evaluation Team (Connected Care Team)

Shariqa Abkar –Connected Care Analyst, Slough Place Lead -shariqa.abkar@nhs.net

Chris McGee – Connected Care Analyst – christopher.mcgee3@nhs.net

Alex Barnett – Associate Director of Analytics – alex.barnett@nhs.net

Sharon Boundy – Director of Transformation and Digital – sharon.boundy@nhs.net

Mark Sellman – Chief Clinical Information Officier (CCIO) – mark.sellman@nhs.net

Sam Burrows – Chief Transformation& Digital Officer – sam.burrows3@nhs.net

"Taking this approach to outreach and personalised care assessments and planning, reduced A&E attendances by approximately 16%, admissions by 13% and length of stay by 40% when comparing the target multi-generational household cohort to the Slough Place Population."