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Mainstreaming NUDGES in public health behavioural sciences in Saudi Arabia – seven steps to success

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Abstract

Introduction: Nudging by government health and welfare authorities has increased in popularity given the potential to add-value to the current arsenal of behavioural research tools and approaches. A needs assessment was conducted for the Health NUDGE Team, Ministry of Health, Kingdom of Saudi Arabia, with the intention of mainstreaming and institutionalizing NUDGES within the behavioural sciences in the Gulf State and the region. Needs assessment aims included identifying global progress, impact and lessons learned for continuous improvement.

Method: A rapid evidence literature review was implemented, and standardised discussion agenda developed for consultations with sixteen stakeholders from leading global NUDGE Units from 9 country programs. Data was analysed with NVivo 2020 qualitative software.

Results: The Benchmarking and SWOT analysis identified a number of challenges and opportunities for NUDGE Units in their infancy to consider. “Seven Steps to Success” are proposed.

Discussion: Important considerations are provided for fine-tuning NUDGE organisational, functional and technical capacities, leveraging of activities, and advocacy and promotion of best-practice approaches. The steps can assist in optimising NUDGE performance as the strategy evolves in Saudi Arabia and the Eastern Mediterranean Region. Benchmarking with other providers plays an important part in continuous improvement as well as flexibility to adapt behavioural science processes and approaches to better reflect the needs of country and regional stakeholders.

Keywords: NUDGE; Behavioural Economics; Behavioural Science; Health Research; Behaviour Change; Behavioural Public Policy

1 Introduction

NUDGE Theory uses behavioural science and behavioural economics to garner insights into human behaviour [1].

NUDGE emanated from Prospect Theory which proposed that people reacted differently when faced with potential losses or potential gains, thus acting toward “risk aversion” [1]. Since 2008, NUDGE has gained increasing popularity

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with Governments and Health Authorities seeking to influence people's choices through evidence-based interventions that offer the right incentives or create hurdles so that people choose the more economically beneficial options [1]. Nudging by government health and welfare authorities has also increased in popularity [1], given the potential of the approaches to add-value to the current arsenal of behavioural research tools and approaches.

The Ministry of Health, Kingdom of Saudi Arabia, established a Health NUDGE team (HNT) in 2018, with the intention of mainstreaming and institutionalizing NUDGES within the behavioural sciences in the Gulf State. Under the overall framework of World Health Organisation (WHO) to promote evidence driven health education interventions, policies and tools to promote health, a needs assessment was implemented. The needs assessment aim was to identify global progress, impact and lessons learned for continuous improvement for the HNT strategy in Saudi Arabia, and the broader Eastern Mediterranean Region (EMR). Specific objectives included identification of Strengths, Weaknesses, Opportunities and Threats (SWOT) to NUDGE in the region, explore the impact of NUDGES in the global context including the latest innovations, identify opportunities for optimal delivery of behavioural Insight best practice approaches and their adaptability to the Saudi Arabia and the EMR, identify NUDGES and other innovations that may provide best returns on investment (ROI), and explore opportunities for greater integration and sharing of NUDGE approaches, particularly in EMR country settings.

2 Methodology

Given the resource constraints and the challenges of Covid-19 travel restrictions, a Rapid Assessment and Response (RAR) approach to the needs assessment was adopted. RAR has been identified as a practical, pragmatic and cost-effective approach to formative research for a range of health issues in a number of cultural settings [1, 2, 3], with rapid reviews found to be particularly effective in collecting evidence in complex and challenging environments, including the EMR [1].

The first step of the RAR involved reviewing the national and international literature secondary data sources. Primary data sources involved a stakeholder consultation process with international, regional and national stakeholders to explore co-design synergies [1] for continuous improvement. The NUDGE program review supported the development of formative research with program stakeholders using a framework analysis approach which is a qualitative method aptly suited for applied policy research which aims to address specific questions, has a limited time frame, a pre-designed sample and a priori issues [1]. A standardised discussion agenda was developed for semi-structured interviews (SSIs) to explore the perspectives, needs, and preferences of NUDGE experts globally. SSIs allow for open-ended questioning and the free flow of information on stakeholder attitudes and opinions toward NUDGE strategies in the EMR, as well as allowing the exploration of specific and diverse areas of interest [1].

With Covid-19 travel restrictions in place, fieldwork approaches required that stakeholder consultations be conducted on Zoom and Google digital online conference platforms. NUDGE Units/BITs were randomly selected from locations in number of regions of the world. Initial contact with stakeholders was made via email using a standardised introduction, with the review objectives, topics for discussion and ethical considerations provided in an attachment. Confirmation and acceptance of participation in the review was followed up with meeting time options and the provision of links to Zoom/Google meeting apps. Where stakeholders did not respond to initial requests for an interview, they were followed up with two subsequent requests for a discussion. In the case of a refusal, the moderator sought alternative stakeholders in the country of operation who may be able to support the NUDGE enquiry.

2.1 Participants

Sixteen stakeholders from leading global NUDGE Units/BITs in 9 country settings were purposively recruited based on their location in different regions of the world, with a focus on EMR countries and NUDGE operations which had a governmental and/or health focus. (see Table 1.). Ethical considerations included voluntary agreement of stakeholders to participate in the elicitation study, and acceptance of the key roles supporting a co-design philosophy [9] for NUDGE in underserved regions.

2.2 Data Analysis and Reporting

Following completion of data collection, primary data from stakeholder consultations was synthesized with the secondary data sources to provide comprehensive NUDGE strategy intelligence. Data analysis was conducted using NVivo 2020 qualitative analysis software from transcripts of the audio taped SSIs. Analysis approaches relied on 'Grounded Theory' to identify and code key issues and explore cross-case patterns emerging across the stakeholder feedback, with this approach found to provide a more organic and systematic way of examining qualitative data from the perspective of those experiencing the phenomena [1]. Framework analysis included contextual, diagnostic,

evaluative and strategic categories to explore the dimensions of attitudes, perceptions and experiences of participants, and the factors underlying those attitudes and opinions. Additionally, evaluative and strategic categories assessed how NUDGE objectives were achieved, the types of services required to meet the organisational needs, and barriers and opportunities that existed. Exemplar quotes were predominantly framed around SWOT criteria, common in business strategy reporting, while aligning to the core categories and other sub-categories.

Table 1 Global NUDGE Unit stakeholders consulted on the NUDGE Strategy

| Country of Operation | NUDGE Stakeholder Unit and Title* |
|----------------------|--|
| 1. Australia | Behavioural Economics Team (BET) - Managing Director of BET of the Australian Government and Policy Advisor, Policy Innovation and Projects Division, Department of the Prime Minister and Cabinet. Canberra, ACT. |
| 2. Denmark | INUDGEU - Managing Director, Int. Operations and Behavioural Analyst. |
| 3. France | Behavioural Insights Team (BIT): The Organisation for Economic Co-operation and Development (OECD) – Executive Director Behavioural Insights Team, OECD, Paris, France. |
| 4. Kuwait | Public Appraisal Lab (PAL): PAL & The Behavior Change.org Commercial Unit – Executive Director. |
| 5. Lebanon | NUDGE Lebanon - Founder of NUDGE Lebanon. |
| 6. Oman | Behavioral Economics Unit (BEU): BEU - Head of the Behavioral Economics Team and Principal Researcher. |
| 7. Peru | MINEDuLAB - Research Specialist and Head of Monitoring and Evaluation and Karen Espinoza, Coordinator, Lima Peru. |
| 8. Saudi Arabia | (1.) HAWAZ company - Head of Behavioral Economics Unit. (2.) Health NUDGE Team (HNT) Ministry of Health – Director and Head of Research, Riyadh, Saudi Arabia. |
| 9. Singapore | BIT: Behavioural Insights Team - Senior Advisor, Singapore. |

* NUDGE Units contacted but choosing not to engage or not respond include Netherlands Behavioural Insights Network (BIN), Qatar, Behavioural Insight Unit (QBIU), The Behavioural Economics in Action Research Centre at Rotman [BEAR], and the UK Government NUDGE Unit.

3 Results

The literature identifies that the principles of choice architecture or NUDGES are presented by their creators through the following mnemonic device: iNcentives, Understand mappings, Defaults, Give feedback, Expect error, and Structure complex choices. Since the publishing of the original thesis [1], Nudging has been met with considerable enthusiasm and advocacy of approaches. This is evidenced by the 200 or more NUDGE Units/Behavioural Insights Teams (BITs) established globally during the past decade, which service the public and private sectors [1]. However, NUDGE has also received some criticism on ethical [1] definitional and normative challenges [1].

Findings from the international and regional context indicate that NUDGES that apply behavioural science to health issues can have considerable benefits particularly with priority issues such as noncommunicable diseases (NCDs) [1,2] and other chronic and infectious diseases [1,2] which significantly contribute to the global burden of disease, resultant health care costs, and productivity losses. NUDGES also offer benefits for communicable disease control including pandemic threats such as Covid19 [1, 2, 3] as well as innovations to tackle other microbial threats [1]. Behavioural insights and behavioural economics have also been assessed for their effectiveness in changing physician behaviour [1] and encouraging workplace health and safety [1].

The SWOT analysis identified a number of challenges and opportunities for BITs in their infancy, to consider. Strengths for NUDGE in Saudi Arabia identified from the rapid evidence review and stakeholder needs assessment include good high-level support for behavioural science approaches and linkages to senior Ministry officials, with a number of NUDGE experiments negotiated with stakeholders and adequate internal capacity to manage key project research functions. Potential weaknesses identified by the review include findings that “easy-wins” to advocate for NUDGE are often elusive. Additionally, the benefits of NUDGE approaches may not be well understood by the broader health and other sectors. The considerable human and financial resources to implement experiments using randomised control trials (RCTs)

were also seen as possibly deterring potential partners from engaging. In line with these findings, good integration and mainstreaming of activities with existing research stakeholders is yet to be achieved. As a result, NUDGE behavioural science approaches are not yet institutionalised within the health sector, public sector, civil society and private sector agencies supporting health programs. NUDGE opportunities identified from the needs assessment include opportunities to build improved partnerships and greater engagement with international NUDGE Units and National Academic Centres for Behavioural Science. Improved organisational structures and line management could also better integrate the NUDGE philosophy of evidence-based approaches into other agencies. Integration could be further improved through increased Public Private Partnerships (PPPs) for NUDGE community interventions and research, and improved multisectoral engagement. Additionally, more critical reviews of international NUDGE projects may be warranted to explore priority policies and interventions which could be easily adapted to local settings. Finally, opportunities exist to use findings from the review to advocate for the scaling-up of successful health programs nationally and regionally and to support greater global networking opportunities for sharing and capacity building.

Table 2 Stakeholder feedback on NUDGE Strengths, Weaknesses, Opportunities and Threats (SWOT)

| NUDGE SWOT Analysis Findings | |
|-------------------------------------|---|
| Strengths | High Level Support “We are the only nudge unit within a government entity within Saudi Arabia and the first unit that was established.” Health Nudge Team (HNT) – Saudi Arabia |
| Weaknesses | Elusive Easy-Wins “First develop data and information systems so the organisation can generate this information on a regular basis, so you don’t have to rely on other data to generate the pilots as this is important when you are starting.” MINEDULAB - Peru |
| Opportunities | Improved Networks/Multisectoral Support “It could be really interesting to have (improved networks going forward), as people are interested in examples within the region. If it has been done in the UK it is different. We are Arabs so a sharing platform would be great and even a regional network and a get-together with meetings annually.” Behavioral Economics Unit – Oman |
| Threats | Access to Data for New Players in the Field “The challenge is on running the experiments - who owns the data to run the projects.” Health Nudge Team (HNT) – Saudi Arabia |

Threats identified for the NUDGE strategy going forward in the region include ongoing challenges in accessing and deciding on ownership of high-quality data for evaluations and to use the data as a baseline for NUDGE interventions. Infrastructural issues involved with many projects may also jeopardise the ability to carry out interventions. Other threats include financial resource limitations which inhibit scalability of successful experiments. Last and most important, is that NUDGE Units may be perceived as a threat to growth and sustainability of other Ministry research stakeholders. Feedback on threat perceptions included resistance to independent evaluations of health interventions, resulting from the fear of poor findings (see Table 2.).

3.1 Benchmarking of global NUDGE Units/BITS

The rapid assessment identified a number of key performance indicators (KPIs) to assess global NUDGE Units/BITS against standardised performance criteria. This included team size, skillsets, strategic priorities, partnerships, budgeting, monitoring and evaluation (M&E), policy initiatives, and advocacy and promotion activities. Of the 9 global units supporting a range of behavioural research projects, findings identified a number of consistencies in strategic approaches including the need for a core team with mixed skillsets of project managers, behavioural scientists, psychologists, economists, research analysts, and neuroscientists. Strategic priorities varied in line with the orientation of NUDGE Units/BITS, such as if they were a standalone unit or one embedded within a government or private sector organisation. Broader strategic priorities were noted with more mature units operating in high-income countries where behavioural insights were more institutionalised within the public sector.

Table 3 Benchmarking Matrix of Global NUDGE BITS against Key Performance Indicators

| Key Performance Criteria | Team Size | Skillsets | Strategic Priorities | Partnerships | Budgeting | M&E Approaches | Policy Initiatives | Advocacy & Promotion |
|--|---|---|---|--|--|---|---|--|
| Country of Operation AUSTRALIA Behavioural Economics Team of the Australian Government | Operational since 2016 Global network of staff across 31 countries. Includes 17 staff in NSW with 2 Int. Advisors. | Broad mix of Behavioural Advisors & Analysts with skills in Economics, Social Science, Psychology, Environment, Education, Organisation Transformation, Capability Improvement, Finance, Law, & Service Delivery. | Broad range of high priorities to support a number of Ministries- Domestic violence, health service demand, screening services, timely payment of tax, fines, social housing arrears etc. | Runs projects in conjunction with partners. Employ an Academic Panel with Universities from a number of locations. | Through NSW Government with cofounding from Ministry partners where required. | Mostly RCTs and high-level impact assessments with large sample sizes. | Property Securities Register, Add-on Insurance, Cyber Security, Almost 30 projects with over 30 partners, trained thousands of public servants and delivered over \$25 million annually in direct benefits to government. | Excellent website with detail on experiments and findings, journal articles, simple policy papers and a learning hub Behavioural Economics (pmc.gov.au) |
| DENMARK iNUDGEyou | Established in 2011 and now comprise 12 staff. | Senior and Junior staff - Researchers, Analysts, Int Operations, Finance & Communication staff. | Applied to all behavioural science problems. Use of a diagnostic model, BASIC© screening tool. | Broad networks & resource sharing including OECD, the World Bank and the European Commission | Donor and national funding with cofounding of a number of research projects to build engagement. | Focus on outcomes due to perceived bias in formative research. Use a rapid process of 50-60 people to identify the Minimum Detectable Effect (MDE) then apply RCTs. | Healthcare, Transportation, Energy, Tourism, Workplace Health & Safety, Public Policy, Finance, Environment, Sustainability Management & Decision Making, | Excellent website with projects & publications listed. Good advocacy through national media. More than 500 national and international talks as well as a newsletter. iNUDGEyou iNUDGEyou |

| | | | | | | | | |
|--|---|---|---|--|---|--|---|--|
| <p>KUWAIT Policy Appraisal Lab</p> | <p>Working for 2 years. Unit currently comprised of 3 staff.</p> | <p>Behavioural Strategist, Creative Translation & Research Analyst.</p> | <p>Behaviour change in the private sector and behavioural interventions in the middle east mostly in Kuwait including health, environment, safety, and financial literacy.</p> | <p>Member of World Bank's Mind, Behaviour And Development Unit (Embed) & International Social Marketing Association.</p> | <p>For profit commercial consulting and government and donor funded projects.</p> | <p>More traditional M&E - qualitative and quantitative research designs to feed into practical strategy plans to influence behaviour and achieve social change</p> | <p>Health, Medical sector and the Environment. Partnering with private sector on CSR issues including road safety.</p> | <p>Website but no publications identified. Good networking with regional partners and membership of accredited affiliated agencies. (scpd.gov.kw) THE BEHAVIOR CHANGE (thebehaviourchange.com)</p> |
| <p>LEBANON NUDGE Behavioural Insights Unit</p> | <p>Operating for 3-4 years with 12 staff based in Lebanon.</p> | <p>Mix of skillsets with Behavioural advisors, Research specialists and Data analysts.</p> | <p>Nongovernmental & non-profit initiative to apply behavioural insights to policy challenges including Rule of law, Health and Well-being, Fighting Corruption, Finance, Economic Development, Conservation, Energy and Extremism.</p> | <p>Partnered with the Lebanese University to launch a Behavioural Economics course. Collaborate with Academia and other institutions on behavioural science research projects.</p> | <p>Not for profit organisation working cost recovery with funding from clients.</p> | <p>Mainly RCTs but also consideration of other experimentation methods.</p> | <p>Road safety (Speeding), Blood pressure screening, Composting & environmental issues, Student Performance.</p> | <p>Website with academic papers and reports included. NUDGE – NUDGE Lebanon</p> |
| <p>FRANCE The Organisation for Economic Co-operation and Development (OECD) BIT.</p> | <p>Operating since 2012 with 15 internal staff but servicing many more at OECD offices internationally.</p> | <p>Broad mix of skillsets behavioural scientists, data scientists visualisation, strategy consultants, experiment</p> | <p>International organisation working to support policies that foster prosperity, equality, opportunity and well-being in</p> | <p>Partners with many countries in the region and globally on behavioural science solutions and support.</p> | <p>Not for profit organisation fully funded by donor countries.</p> | <p>Open to a variety of M&E approaches based on the needs of clients. Emphasis on flexibility in approaches.</p> | <p>Adaptation of approaches across countries for policies and programs related to energy sector, health, education,</p> | <p>Website for BIT and OECD projects with many resources.. Behavioural Insights and Public Policy: Lessons from Around the World en OECD</p> |

| | | | | | | | | |
|--------------------------------|--|---|---|--|---|--|--|---|
| | | project managers and neuroscientists. | more than 135 countries globally. | | | | welfare, gender, finance, digital issues, illicit trade, anti-corruption and integrity. | |
| OMAN Behavioral Economics Unit | Start-up in 2020 under the Supreme Council of Planning. Moved to Ministry of Finance following abolition of the Supreme Council of Planning. | Director and Behavioural Researcher. | Contribute to the realization of Oman Vision 2040. | Establishment support & Capacity building through UK BIT. Very interested in establishing regional network. | Funded through MoE although look toward co-funding with projects to build a sense of responsibility. | Focus on RCTs but also research projects which have easy wins related directly to policy and talked about in Oman. | Policy papers on Education, Water Conservation, Job Searching & Energy, as well as private sector projects. | No direct website but YouTube video on priorities and a Ministry website page. Ministry Of Economy (scp.gov.om) |
| PERU MINEDuLAB | Operating since 2014 and currently have 5 full time staff with support staff from other areas. | Heads of Monitoring and Evaluation and Statistics, Innovation Unit, Unit Coordinator and Specialists in Economics & Behavioural Science – Min of Admin. | First innovation laboratory for educational policy in Peru. | Main researcher from academia or a research institution who is the lead person for the group with Unit staff supporting and coordinating with the pedagogical areas. | Small budget, staff and services with main funding coming from clients with the scale of the experiments and studies dependent on available funds. Focus is on low costs innovations. | Flexible approaches with formative and evaluative research considered. Small scale RCTs focussing on message alternatives using SMS and MEducation approaches. | Informing monetary and social returns of education, Effective communication to improve school management, Gender, Increasing teacher motivation and satisfaction, School's performance results and Reducing teacher absenteeism. | Excellent website with experiments aligned with policy briefs. MineduLAB |

| | | | | | | | | |
|---|---|---|---|--|---|--|--|---|
| SAUDI ARABIA (A.) Behavioral Economics Unit (HAWAZ) | 11 staff with Head of Behavioural Economics managing the Behavioural Insights team. | Behavioural Science, Economics, Finance, Technology, research & Data Analytics. | Focus on consulting services and creative solutions to priority behavioural problems in private and public sector including change management. | Private and public sector partnerships | | Focus on A/B testing RCTs and Quasi-experimental designs. | Knowledge and policy briefs developed on a variety of topics related to behavioural sciences. | Website available with key information. Hawaz |
| SAUDI ARABIA (B.) Health Behavioral Economics Team of Ministry of Health | Established in 2018 and currently have 7 staff including PHDs and junior researchers. | Project Managers with training in Behavioural Sciences, Social Work Psychology, Public Health & Data Analysis.. | Mainly supporting MoH projects but open to other government project priorities. Currently working on 5 projects deemed 'NUDGEable' from 90 or so health challenges collected. | Internship program with Saud and Princess Noura Universities, MOU with several gov't depts. to assist with behavioural issues. | Through the Centre of Innovations, attached to The Minister's Office. | Mainly RCTs considered but also econometric analysis and service demand analysis. | MoH priority issues that can be impacted through Behavioural Science approaches. Recent establishment has limited policy impact. | Website not evident. Need for publishing of experiments acknowledged. Fast communication conducted through WhatsApp groups of key stakeholders. |
| SINGAPORE Behavioural Insights Team | Operating since 2012. Two staff in 2016 but currently 6 full time staff. | Broad range of skillsets recommended to cover broad portfolio of work. | Innovate social policy and improve outcomes, focussing on empiricism and social impact. | Regularly work with academic staff and other agencies on research projects. | Fully funded but seek buy-in's from partners to commit to project and outcomes. | Look for easy wins through population level approaches i.e. Access to healthcare, treatment, health insurance seen as "easy wins". | Current priorities include retirement, home affairs, financial wellbeing, housing, social cohesion, and public health. | Good website reporting on projects and publications. Singapore The Behavioural Insights Team (bi.team) |

In terms of partnerships, it was evident that NUDGE Units/BITs with greater human and technical resource challenges, including those in the EMR, were more focused on building sustainable partnerships with organisations, that could be leveraged to provide funding or technical skillsets. Alternatively, well-resourced NUDGE Units/BITs infrequently utilised their established positions to build partnerships to support new and emerging BITs in under-resourced settings. Budgeting criteria identified that large, well-resourced agencies, were well placed to meet their own needs, while smaller units relied on a funding model based on remuneration from government or private sector clients. Less well-resourced agencies emphasised the importance of seeking co-funding on projects to support research needs, but also the desire to engage their clients more fully in behavioural insights projects.

M&E performance criteria identified the focus of well-resourced agencies in adhering to more stringent application of RCTs for the evaluation of their experiments, while smaller, less well-resourced agencies, were more flexible in research approaches. Policy initiatives identified that more established agencies had contributed significantly to a broad range of policy initiatives within the public and private sectors, while smaller agencies embedded within existing government agencies focussed on a more limited and specific range of policy initiatives. Although policies for larger agencies were broader, a number of significant policy initiatives were nonetheless achieved by small NUDGE Units/BITs embedded within government agencies in LMIC settings.

Last, advocacy and promotion criteria identified that almost all of the well-established BITs utilised extensive promotional and advocacy levers and had well-developed websites and networks to advocate for the successes of their programs. Younger and smaller agencies also had a limited number of tools and approaches to promote their program successes, including websites with links to reports, journal articles and media releases. Findings of the benchmarking across the 9 country settings are provided in Table 3.

4 Discussion

The following “Seven Steps to Success” emanate from the RAR needs assessment review of primary and secondary data sources.

4.1 Step 1: Keep it Simple

“We faced some of these challenges to build support, both in the public and private sectors. They do not buy science, they buy solutions, so let’s work together on identifying the problem and we will work together on finding the best behavioural solutions to solve the problems.”

4.1.1 *iNUDGEyou – Denmark*

Stakeholders emphasised the considerable technical jargon associated with NUDGES since the inception of methods, more than a decade ago. Although the acronyms and novel jargon has inspired interest in Nudge, it may also be seen as trivialising what is essentially the application of behavioural science and evidence-based approaches with those already involved in more traditional forms of scientific discovery.

The EAST framework [25] emphasises the need to make processes: “Easy, Attractive, Social and Timely, in order to ‘simplify procedures, forms and other written messages’”. EAST may also assist in making procedures for articulating NUDGE clearer and simpler to understand and inspire greater interest in the Gulf and broader EMR countries. This may require client presentations and training which stresses the importance of providing solutions to client problems, rather than introducing new terms or explaining the intricacies of behavioural insight research methodologies.

4.2 Step 2: Pick Easy-Wins

“I would focus on projects which have easy wins. For us it was anything that related to policy directly and was talked about in the country - the high cost of paying bills and unemployment; these are critical projects for any country, and we also picked up education which is also of interest to the local community.”

4.2.1 *NUDGE Unit – Lebanon*

In line with the first step to success, the second step – “picking easy-wins”, is about identifying projects that can provide the best return on investment (ROI) at the lowest cost to human and financial resources. Although easy-wins are not the only solution for research projects, they are an important aspect of advocacy and promotion in the early years, following NUDGE start-ups. Stakeholders have identified a number of issues that can be addressed, with the possibility that these approaches are transferable and adaptable to different contexts, including Saudi Arabia. Online health messages may provide simple platforms to showcase the benefits of NUDGES to address priority issues.

4.3 Step 3: Pick your Projects Carefully

“I think the health projects that operate at population level have the best impact because you could be dealing with 100s of thousands of people”.

4.3.1 Behavioural Insights Team - Singapore

Although, the EAST principle is important in reducing confusion on what NUDGE represents, units in their infancy also need to develop a functional portfolio of projects that will provide “easy wins” while also enhancing the standing of the unit as one that can contribute to significant behavioural outcomes for priority programs. While it is acknowledged that that perceptions on what are important issues will differ among key stakeholders, also important is the need to educate stakeholders on using existing data from epidemiologists and national health and demographic surveys to guide research priorities.

Therefore, a “Tiered” approach to research priority assessment may be warranted with a select number of Tier 1 – high-priority projects, moderate number of Tier 2 – mid-level priority projects, and a broader number of Tier 3 – lower level, easy-win” priority projects, in the pipeline.

4.4 Step 4: Secure Budgets

“Those (BITs) who have been more rigid are probably the ones that have struggled and some of them are in danger, and it may or may not be that their funding doesn’t continue; and the flip side of that is that you need to be more strategic, and you do need to demonstrate your value-add.”

4.4.1 Behavioral Insights Team OECD – France

If a NUDGE unit is to evolve to become a major research player in the health space, including conducting population level studies, then financing issues will need to take a high priority. A number of potential sources for additional funding arise from the review and are also evidenced in the benchmarking process. The first is the issue of cost-sharing on projects which can simultaneously increase engagement from partner agencies as well as leveraging of human and technical resources for advanced research projects. Second, is the opportunity for the NUDGE Unit to be more proactive in soliciting for additional funding for “special projects” which may align with the interests of a number of financially well-resourced partners who may not have the technical skills to implement behavioural intervention studies.

Budgets for larger scale projects may be also addressed through leveraging of Public Private Partnerships (PPPs) given the number of wealthy private sector organisations that have institutionalised Corporate Social Responsibility (CSR) activities and sponsorships, within their organisational culture. Possible private sector agencies to seek financial support for co-funding of research initiatives in the EMR include the petrochemical sector, banking and financial sector, private hospitals and health insurance providers.

4.5 Step 5: Address Friction Points

“The model we use is of the referred behaviours and the unexpected behaviours, and then you have the biases and the things nudging away from the behaviour. So boosting is a combination of two or more behavioural insights which can drive a larger or more sustainable effect, and this is dependent on the context and the drivers for those interventions to be successful.”

4.5.1 iNUDGEyou – Denmark

In line with the previous step to success, is the need to address ‘sludge’ or ‘friction factors’ [1] which may impede continuous improvement of approaches in building NUDGE Unit standing as a lead research service provider. BITs already design their experiments to account for sludge [1], friction factors and program gaps. However, NUDGE Units in the early days of operation should also be examining the contextual variables which may actively impede research activities following interactions with clients. Sludge factors may include, difficult to shift programming paradigms which have been institutionalised in health and other research agencies. Thus, shifting these paradigms may be the transaction cost to attract internal and external clients [1]. Impedance inefficiencies relate to lengthy, time-consuming processes with excessive documentation and difficult-to-complete tasks [26] NUDGE experts identify impedance as interactions with an organisation including process, communication and inclusivity factors with sludge seen as most prominent in areas of customer service. Technology was also identified as a new “breeding ground” for sludge, testifying to the importance in considering friction points when establishing relationships with potential clients.

4.6 Step 6: Engage Audiences

Behavioural change for health priorities is reliant on improvements in consumer health literacy [1,2]. A Co-Design approach, which requires working closely with health consumers to identify problems, may also provide better insights on culturally appropriate solutions to major health challenges [1]. Co-Design research process, which ranges in intensity from relatively passive to highly active and involved, may provide a significant differentiation in approaches from those previously adopted for health settings in the region.

To enhance behavioural insights with health consumers, continuous improvement mechanisms for formative research can include quantitative rating scales including continuous rating scales on online surveys [1] to complement qualitative feedback from respondents segmented by sociodemographic and vulnerability indicators

4.7 Step 7: Improve Partnerships/Build Networks

In any area facing technical resource constraints, leveraging activities through greater engagement of partners is an effective strategic approach. This could include partnerships in specific areas of need where leveraging resources may provide more viable, mutually agreed upon behavioural insights and improved outcomes to benefit partners and program beneficiaries. As well as PPPs with large corporations, partnerships could also be expanded to include market research providers, advertising and media agencies through their CSR activities.

5 Conclusion

This is the first review of NUDGE approaches in under resourced settings such as the Middle East and Eastern Mediterranean Region (EMR). Within the 7 Steps to Success lie important considerations highlighted by the needs assessment which may assist in optimising NUDGE performance and success as the behavioural insights strategy evolves in the region. The findings and recommendations of the review provide a number of opportunities for fine-tuning NUDGE organisational, functional and technical capacities, leveraging of activities, and advocacy and promotion of best-practice approaches. Benchmarking of HNTs with other regional providers is an important part of the continuous improvement process as well as flexibility of NUDGE units to adapt behavioural science processes and approaches to better reflect the needs of national and regional stakeholders.

Compliance with ethical standards

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Statement of informed consent

Informed consent was obtained from all individual participants involved in the study."

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