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## Learnings from the vaccines taskforce: an apotheosis in mission, purpose and handling risk

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### ABSTRACT

The Vaccines Task Force was established by the UK government in March 2020, with the objective of securing early access to effective COVID-19 vaccines for the UK population and internationally. The VTF was successful in securing the earliest access to the Oxford/Astra Zeneca and Pfizer/BioNTech vaccines, allowing the UK to be the first country in the world to deploy an approved COVID-19 vaccine. The VTF also played a critical role in supporting efforts to distribute vaccines globally, as one of COVAX's earliest and largest donors. This article presents the perspectives of senior members of the VTF on the features of the task force model which enabled this success, and considers lessons for when and how a similar approach should be applied to other public health and public policy challenges. We seek to identify principles for mission led government, and implications for how the structure and apparatus of governance can be organised to support this, including the application of the Task Force model where appropriate.

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### 1. Introduction

The objective of this article is to identify and discuss the 'success factors' which enabled the UK Vaccines Task Force (VTF) to secure early access to effective COVID-19 vaccines for the UK population and internationally, and derive lessons for application of the Task Force approach to future public policy challenges.

The VTF was established in March 2020 with the objective of driving at pace the development and production of promising COVID-19 vaccines, and securing access to these for the UK population, as quickly as possible<sup>1</sup>. The VTF also aimed to support equitable access to COVID-19 vaccines internationally, by making provision for international distribution of vaccines through the World Health Organization's COVAX scheme, and to strengthen the UK's onshoring capacity and capability in vaccine development, manufacturing and supply chain to provide resilience for future pandemics<sup>1,2</sup>. It was conceived by Sir Patrick Vallance, the then UK Government's chief scientific advisor, who saw the need for a dedicated, nimble private-sector team of experts embedded in the Government to lead the COVID-19 vaccine development agenda<sup>2</sup>.

The VTF initially sat in the UK government's Department for Business, Energy and Industrial Strategy (BEIS), with core interactions with the Department of Health and Social Care (DHSC), and comprised government civil servants and secondees and contractors with backgrounds in academia and

industry<sup>1</sup>. The rationale for this approach to staffing was to ensure that the VTF had access to deep, specialist expertise in vaccine preclinical and clinical development, regulatory issues, pharmaceutical engineering, manufacturing, and project management<sup>1</sup>. At its peak, there were almost 250 staff working in the VTF, but when the first vaccine was delivered this was closer to 180 people. This small scale ensured tight communication and clear lines of responsibility. The VTF was housed in BEIS given so much of the health agenda was in DHSC and to enable nimbleness and agility to run a rainbow team. Moreover, the VTF served all four nations of the UK and this needed a UK-wide department from a political and accountability perspective.

The VTF was successful in securing the earliest access to the Pfizer/BioNTech and Oxford/AstraZeneca vaccines, allowing the UK to be the first country in the world to deploy an approved COVID-19 vaccine<sup>3</sup> followed closely by a second<sup>4</sup>. The VTF also played a critical role in supporting efforts to distribute vaccines globally, as one of COVAX's earliest and largest donors<sup>3</sup>. The VTF closed in October 2022. Its vaccine supply responsibilities have since moved to the UK Health Security Agency (UKHSA) and its work in onshoring vaccine manufacture now sits within the Office for Life Sciences (OLS)<sup>1</sup>.

The article shares the perspectives of three key members of the VTF and other experts supporting research into this area. Ruth Todd acted as Programme Director for the VTF; Professor Sir Jonathan Van-Tam MBE who was the chief

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Clinical and Public Health Adviser to VTF and Deputy Chief Medical Officer at the DHSC during the COVID-19 pandemic and also supervising Stuart Carroll's PhD; Stuart Carroll acted as Senior Expert and Policy Strategy Adviser to VTF and is now researching a PhD focusing on the social policy and public health aspects of the COVID-19 vaccine response; and Professor Ian Shaw who is also supervising to Stuart Carroll's PhD. In discussion they identified a series of key factors which they believe contributed to the success of the VTF which are described below. These views do not necessarily reflect those of other members of the VTF, nor the UK Government.

## 2. Defining the target: a clear and codified mission

A clear and codified mission was an essential factor in the success of the VTF, which was fundamental to enabling the other success criteria described below. This mission was fundamentally around vaccine supply to save lives: an imperative which provided critical motivation to, and focus for, every team member. The VTF had three specific and clearly defined objectives: to secure access to promising COVID-19 vaccines for the UK population as quickly as possible; make provision for international distribution of vaccines; and strengthen the UK's onshoring capacity and capability in vaccine development, manufacturing and supply chain to provide resilience for future pandemics. Underpinning these objectives was a single, central moonshot: "do whatever it takes to save lives" by ensuring the fastest possible access to a safe and effective vaccine.

The VTF received emergency funding to facilitate its operations and allocated budgets to enable the procurement negotiations in line with the above objectives. Business cases were required but expedited given the scale of the pandemic emergency. Although public health objectives were primary and focused on the need to save lives and protect population health, economic and financial considerations were part of this process and heavily placed in the context of opportunity cost and the potential for a vaccination programme to lift the UK out of lockdown, which was costing the UK billions in foregone growth, furlough costs, additional health spending and productivity losses. Evidence shows the programmes saved over 123,000 lives and avoided millions of infections, whilst economically it saved billions in lockdowns and ill-health avoided<sup>5</sup>.

Although there was crystal clarity on these objectives, external scrutiny and media criticism focused on trade-offs between supply of vaccines and stockpiling in relation to other countries, particularly developing nations. It is important to note there were no trade-offs and no stockpiling. However, the nature of securing urgent access to vaccines for the UK population did mean investing in developmental vaccines which might fail or suffer delays in the clinical development and manufacturing pathway and not achieve successful or timely licensure. This could have been construed externally as stockpiling or over-ordering, when in fact it was insurance against failure. The VTF was heavily involved in ensuring commitments to ensure provision to

COVAX – the WHO's initiative designed to enable fair and equitable access to COVID-19 vaccines across the world – but ultimately final decisions were political and determined by Ministers. The overriding objective of the VTF was to ensure full supply and contingency to support any recommendation decision determined by the Joint Committee on Vaccination and Immunisation (JCVI) for the emergency vaccination programme. The ethos applied was a "no regrets" policy and hence deliberate decisions to over order and to provide maximum flexibility given clinical, epidemiological and deployment uncertainties. The VTF supported other nations in getting their deployment plans in place, but the UK was faster and ready sooner due to national infrastructure and ability to mobilise the NHS to deliver the vaccination programme. The UK also donated doses proactively to other countries outside of COVAX.

In the second month of the VTF's operation, following the appointment of its chair, the mission and objectives of the VTF were codified in a paper agreed with the Prime Minister. Throughout the operations of the VTF, they were continually emphasised by the VTF leadership as the guiding principle of all activities. The clear, concretely defined and shared mission and objectives provided a joint framework to guide decision-making, which empowered individuals and teams to take ownership of their roles and responsibilities and facilitated alignment within and between VTF teams. Clarity on the overall purpose of the VTF was also a key enabler of the VTF's agile and experimental approach (discussed further in [section 4](#)), and helped to maintain motivation and focus given the context of an inevitably intense and pressurised working environment. Practically, the VTF's mission translated to a number of key functions including:

- Manufacturer and industry liaison and coordination
- Supplier management
- Logistics management including international supply chain management
- Procurement and purchasing of vaccines
- Clinical and scientific advice and liaison
- Supply and deployment of vaccines
- Risk planning and mitigation
- Communications and policy
- Project management and strategic planning
- International affairs and government coordination.

There were a number of other enabling projects the VTF undertook which included supporting laboratory work; managing number of vials and operational readiness; lead time reduction and lean planning; supply chain planning; and supply and demand management. A key area of consideration was transparency and communication to the public. Although the procurement of the vaccines required commercial in confidence agreements, which is standard to business operations and contracting, the work of the VTF was proactively communicated at national press conferences including by the Chief Medical Officer, Deputy Chief Medical Officer and Chief Scientific Officer.

Figure 1 highlights the broad timeline from the VTF's formation through to transition into a COVID-19 unit as part of business-as-usual governance in UKHSA<sup>5</sup>.

One area where, in hindsight, additional clarity would have been helpful is the envisaged lifecycle and the inherently temporary nature of the VTF mission. A task force is, by definition, an "ad hoc" organisation intended to solve a specific problem. It should perhaps be called a "task and finish force" or at least have this predefined. More explicit recognition of the need for the VTF to end, or evolve, over time would have facilitated stronger succession planning, allowing for effective transition and the conscious integration of relevant aspects of VTF operations into ongoing operations to support health security in general and delivery of effective immunisation programmes under 'Business as Usual' arrangements. This is particularly important given the utilisation of external experts and private skills.

A keystone for Whitehall to adopt is to ensure a clear and codified mission is an essential factor for all major governmental projects. A task force model is one option for facilitating delivery of that mission, but it is important to caution against 'taskforcification', or the idea that a task force is always the appropriate structure. Structure must follow strategy and that in turn must be determined by the mission or the purpose behind the project. Rather, collective learnings emphasise the importance of developing a governmental culture and mindset which recognises the centrality of mission in providing the clarity required to navigate the complex processes associated with any large bureaucracy. It is here that the research of Daniel Pink, former advisor to Al Gore, which emphasises the role of collective ownership in creating the motivation and ambition that underpins mission is salutary<sup>6</sup>. Mastery with the autonomy of the VTF, combined with purpose and a sense of individual and collective membership can drive a culture of belief and a critical focus on delivery of the mission, from beginning to end.

### 2.1. A diverse and expert team

The VTF team were characterised by its diversity of backgrounds, skills sets and competencies. Empowerment was a key element with a culture of servant leadership and autonomy to act and make decisions. The original conceptualisation of the VTF was guided by a recognition of the importance of engaging deep, specialist, expertise from the private and public sector across the breadth of issues relevant to its objectives: vaccine preclinical and clinical development, regulatory issues, manufacturing, and project management<sup>2,3</sup>. In addition to this diversity of skills, identifying individuals with the competencies or 'ways of working' most suited to specific roles was paramount for ensuring effective team and relationship management within the VTF and with a heterogeneous group of stakeholders including manufacturers, academics, and the general public. Regular appraisal of the fit between team members and their assigned roles, and swift action to remedy challenges identified, was also important for driving excellent team performance. This targeted emphasis on recruiting the right team,

and providing staff with the ongoing management support needed to ensure excellent performance, is a lesson with potential application throughout government. This is concentric to the basis of having a clear and codified mission, and the culture of collective ownership which underpins it, and becomes a reinforcing mechanism for supporting recruitment of the most able and committed team members.

### 3. An agile approach, embracing of risk

Also fundamental to the performance of the VTF was the deliberate fostering of a culture which embraced manufacturing risk and the mentality of 'failing to succeed'. This was premised on the critical delineation between defining what constitutes a risk versus what is actually uncertainty, namely the difference between the probability of an occurrence (risk) versus the status of knowledge (uncertainty). The VTF spent significant time analysing potential challenges and proactively scenario planned mitigations to these issues. This included specific items such as the supply of bags to reducing the length of time for batch release and approval. The high levels of risk and uncertainty inherent in a pandemic context were explicitly recognised, and experimentation in the sense of business planning and strategy (not clinically and in terms of vaccine safety which was strictly the independent function of the Medicines Regulatory and Healthcare products Regulatory Agency (MHRA) was viewed as an opportunity to generate learnings and consciously update priors in pursuit of the VTF's overarching mission. It is important to note that every clinical and regulatory step was still taken. The VTF focused on removing duplicative processes, especially in manufacturing but was never involved in the adjudication of safety or effectiveness.

Fundamental to the success of this conceptually Bayesian or 'adaptive' approach was its methodical application, involving mapping of risks; identification of mitigation strategies; and continuous monitoring of performance. The VTF team worked across four modalities, seven vaccines, and twenty-four projects, and structure was essential for ensuring that this high volume of experimentation produced useful learnings rather than chaos.

This approach to risk is arguably at odds with the dominant approach to risk within the UK government, where for example risk is explicitly defined as hazard and harm in the HM Treasury Green Book, which is the procurement bible for governmental decision-making on investment decisions<sup>7</sup>. A more positive approach to risk is another element of the VTF which we believe could be successfully embedded into ongoing governmental practice.

In addition to embracing risk and learning from failure, the VTF culture emphasised agility in "course correcting" on the basis of new information. Working at pace and making decisions in the context of ambiguity were recognised as paramount to the objective of delivering a safe and effective vaccine as quickly as possible. This included speed of contracting through moving to genuine red-lines versus points of negotiation.



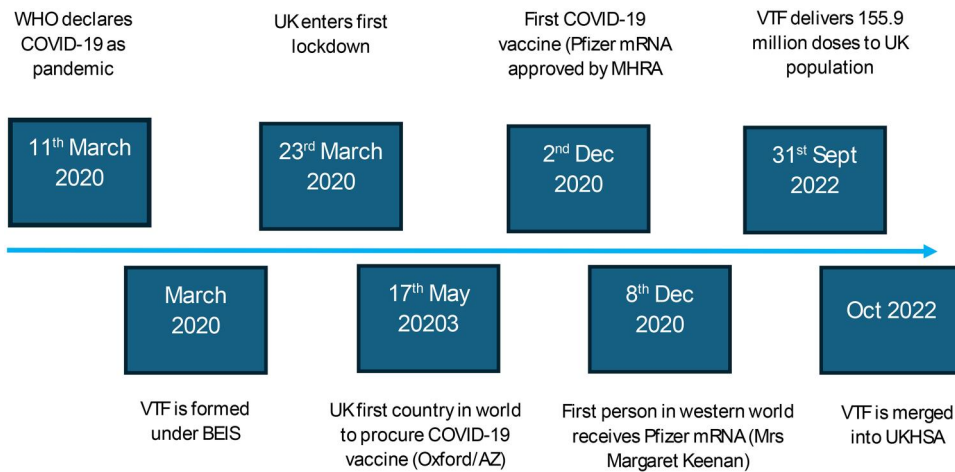


Figure 1. Timeline from VTF inception to transition to COVID-19 unit<sup>7</sup>.

#### 4. Empowering and empowered governance

Project management and delivery support from dedicated personnel was essential in empowering the wider VTF team to deliver to the best of their abilities, and at speed. Major public investments rightly involve high levels of scrutiny and significant reporting, and a dedicated assurance team allowed each individual to focus on their own role. The governance team also worked consciously to develop an empowering and 'flat' structure which celebrated success. The flat organogram and accessibility enabled speed of decision-making and an "business owner" culture. This in turn enabled the frank and open communications essential to effective decision-making and maintained team spirit despite the intensity of the working environment.

Equally essential to the success of the VTF was support from senior members of the government, including the Prime Minister. The governance team were empowered with relatively high levels of decision-making autonomy, which facilitated the VTF as a whole to work with agility, embrace risk, and allow team members to identify and maximise opportunities.

#### 5. Lessons for the future

Each of the factors identified above were necessary for the overall success of the VTF. However, in deriving lessons for other public policy challenges, it is important to recognise that the Task Force model is only appropriate in certain contexts, and that success factors might also vary between Task Forces.

A Task Force is, by definition, a unit with a singular focus on achieving a limited number of specific goals, in a limited time period. It would be semantically more accurate to refer to such structures as "task and finish forces" to accentuate their ephemeral nature and to also focus minds on the legacy pull-through as part of status quo or "business as usual" ways of working. This approach is therefore likely to be most appropriate in the face of new or unusual challenges not already dealt as part of the 'business as usual' of other government departments. The definition of a Task Force also

implies that clarity in mission is essential. Whilst the scale and human cost of the COVID-19 pandemic created a particularly compelling mission, it essential for maintaining focus and ensuring effective decision-making that any Task Force works to define its underlying purpose.

Due to their time-limited nature and the novelty of the challenges they are often designed to tackle, Task Forces have the ability to attract high quality expertise from individuals with careers in other sectors. They are therefore likely to be particularly suited for cross-cutting challenges. One learning from the VTF is to identify team members based not only on their technical ability, but competencies. This includes styles of working and characteristics to ensure a rainbow team can be formed to provide agility to wider problem solving.

Another consequence of this novelty is that Task Forces will often – though not necessarily – be required to tackle challenges in the context of high uncertainty. The VTF has shown how proactively managing this uncertainty, and taking on risk through structured experimentation across a range of approaches, can be powerful in such a context.

Task Forces will often – though not necessarily – be required to work at speed. High levels of autonomy and ability to speak directly to the most senior levels of government are important enabling factors for this imperative.

We have also identified a series of lessons which are generalisable beyond the Task Force context. Specifically, mission and team are at the heart of delivery of all successful government projects. A culture of collective ownership and empowerment is fundamental to both.

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