UNIVERSITY OF Southampton

PROTECT AND PREPARE

A Personal Planning Support Guide for SARS-CoV-2/COVID-19

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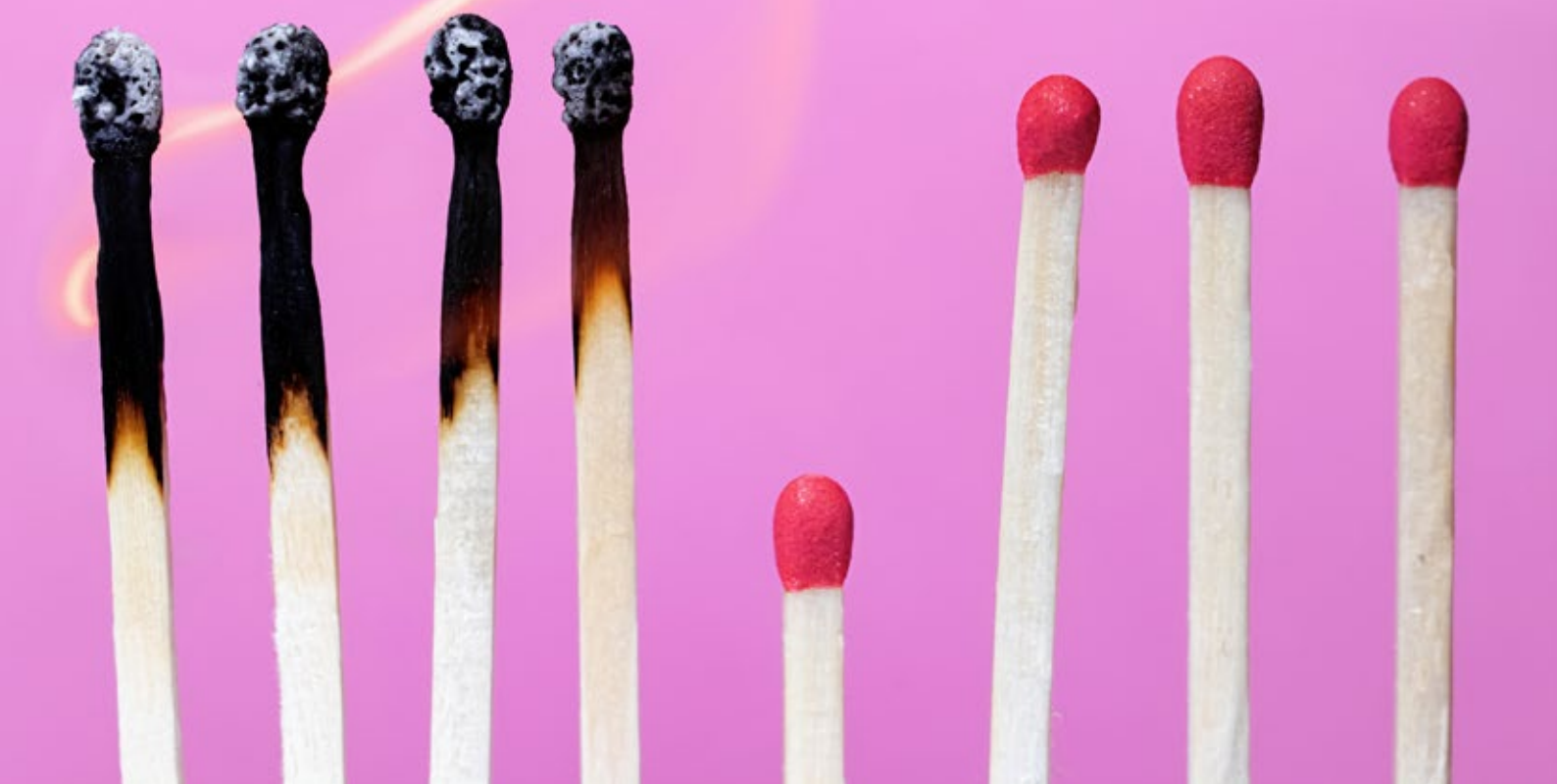

FOREWORD

Risk and uncertainty management are broad topics that are often underpinned by principles aimed at addressing the challenges faced by large organisations, such as governments, business and charities. However, what is often overlooked is that these underlying principles can be equally applicable and beneficial to the management of risk and uncertainty at the personal level. The applicability of these principles at the personal level is perfectly demonstrated in this Centre for Risk Research (CRR) guidance document. Specifically, the guidance draws upon some of the core tenets of recommended risk and uncertainty management practices (e.g., research, plan, prepare, control) to provide practical guidance that can be applied by individuals to deal with many risks associated with the SARS-CoV-2 virus and the COVID-19 disease it causes.

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Published in May 2020 by the Centre for Risk Research,
University of Southampton.

SECTION 1:
ABOUT THIS PERSONAL PLANNING SUPPORT GUIDE

INTRODUCTION

This **Protect and Prepare Personal Planning Support Guide** has been written as a Centre for Risk Research (CRR) Guidance Document, within Southampton Business School at the University of Southampton. It offers planning advice for dealing with SARS-CoV-2/COVID-19 risk, written with some academic and professional risk management terminology as would be expected from an academic Centre for Risk Research. Its author is neither medically qualified nor expert in public health, but has, however, been heavily involved with risk management research and teaching for many years. The guidance provided here reflects and seeks to share some of that experience and competency.

The Guide is written to share some selected areas of risk management expertise which, in the author's opinion, are most relevant for purposes of helping people plan to protect themselves and others against the SARS-COV-2 virus, and likewise, for helping people plan to cope with the COVID-19 disease caused by the virus. In a variety of other sources (including World Health Organisation literature), the expression "COVID-19 virus" is sometimes used for simplifying risk communication purposes. In the present Guide, however, the distinction between SARS-COV-2 (the virus) and COVID-19 (the disease) is preserved throughout to reflect the Guide's **balanced** concern with **planning for protecting against the virus** and **planning for coping with the disease**.

This balanced attention is intended to help users of the Guide compensate for any reluctance they may harbour towards contemplating the unpleasant prospect of becoming infected. Consider in particular that time taken now, to prepare for infection in the future, is precious for a variety of reasons. It allows for more free creativity, research, and ongoing improvement of ideas prior to implementation. It permits people to take important decisions while they can still think clearly. Perhaps most importantly of all, it gives planned health improvements, which may do a lot to help prepare the body for coping, more time to take effect.

This Guide cannot aspire to tell everybody who faces these planning challenges, all they need to know in order to protect against SARS-COV-2 and prepare for the unpleasant prospect of suffering from COVID-19 (and hence of becoming a SARS-COV-2 infection risks for others). That would not be a feasible ambition for a seventeen page document such as this. At the time of writing, in May 2020, newspapers are filled with coverage of practical things which people might do to help protect themselves, and to prepare for coping with the disease. It is not the purpose of this Guide to draw such suggestions together and look at the relevant science. Some practical measures are mentioned, but these are for the most part intended to illustrate the process, and the benefits, of applying the risk management expertise which the Guide is designed to convey.

To ensure the reader knows exactly what to expect, the risk management expertise to be transferred through the Guide can be summed up very briefly as centred upon:

- An understanding and appreciation of a simple technique – that of using **control cascades** – to create and improve **structured risk control designs**, and whose use offers the key advantage of focusing the minds of planners towards very high levels of planning detail;
- An ability to scrutinise (and thereby improve) all constituent risk controls within designed sets of risk controls, by considering the relevance of **nine scrutiny questions for controls**, which the Guide will explain in turn.

However, it should also be noted that while these key issues will form the basic subject matter for the most important part of this Guide (i.e. Part Two entitled *practical guidance* which follows shortly) the remainder of this first section will pave the way by raising a variety of further planning considerations that should matter to anyone who uses it. Sections on *intended users* and on *personal planning* will urge readers to consider that the planning processes advocated for in part two are best undertaken on a group basis rather than individually, while also remaining sensitive to individual circumstance, knowledge, preference and judgment. A section on *supporting user foresight* will then further prime the reader by urging them to consider that the basic rationale of the Guide is to compensate for commonplace unwillingness to contemplate unpleasant futures; in other words, the Guide's selective focus on a few simple control design and development techniques should make far more sense when it is appreciated that these techniques are intended very specifically to help strengthen user *foresight,* by stimulating a concern with planning detail that might otherwise be absent in very large measure. Then part one will conclude with a section saying a little more about the Guide's *technique*, clarifying in particular that readers of the practical advice in part two will gain most from it if they follow through themselves by writing down simple lists of controls which can form the basis of their own ongoing risk control design work. Ultimately, the success or failure of the Guide as a support for individual users will depend wholly upon their willingness to follow through in this way – and thereby to discover for themselves that the techniques are indeed able to strengthen their foresight.

To be clear, then, this guide is more about **how to plan**, via **forward-looking risk control design and scrutiny**, than it is about all the risk control options themselves (i.e. practical control actions which people might consider taking). Newspapers are already saturated with mention of such things, and academics within Centres for Risk Research are no better qualified than anyone else, for purposes of simply reiterating them. Likewise, no medical advice is intended within the Guide as that is not the author's area of expertise – whereas risk management is.

INTENDED USERS

The Guide is designed for widespread use. Ultimately, it is the **end user** who implements controls for themselves and those around them, who really matters. The **end user** can be literally anyone whose particularity of circumstance entails they must take decisions about protective and coping controls – either for themselves or on behalf of others whose particularity of circumstance they know well, and who they are responsible for or are otherwise able to help.

Sometimes, the end user will be someone who dislikes advice perceived as excessively paternalistic, hand-holding, hectoring, patronising or politically manipulative. Such perspectives can be dangerously anti-social, for example by encompassing virus denialism and associated risky behaviour. Nonetheless, such perspectives may serve to remind us of the desirability of academic work to support and strengthen planning expertise among laypersons – as indeed should fit within the broader agenda of improving societal risk communication amidst emergencies where there are various benefits to be gained from fostering dialogue and mutual respect between expert guidance issuers and laypersons who encounter emergencies within particular circumstances (that are sometimes not fully understood by the guidance issuers).

It should not be controversial to say that a healthy society is one where as many people as possible understand how to plan for themselves and for those around them – and indeed where standards of responsible behaviour amidst public health emergencies are appropriately individualised while also being strengthened through trust-based collaborations that align individuals and institutions in pursuit of common public health goals.

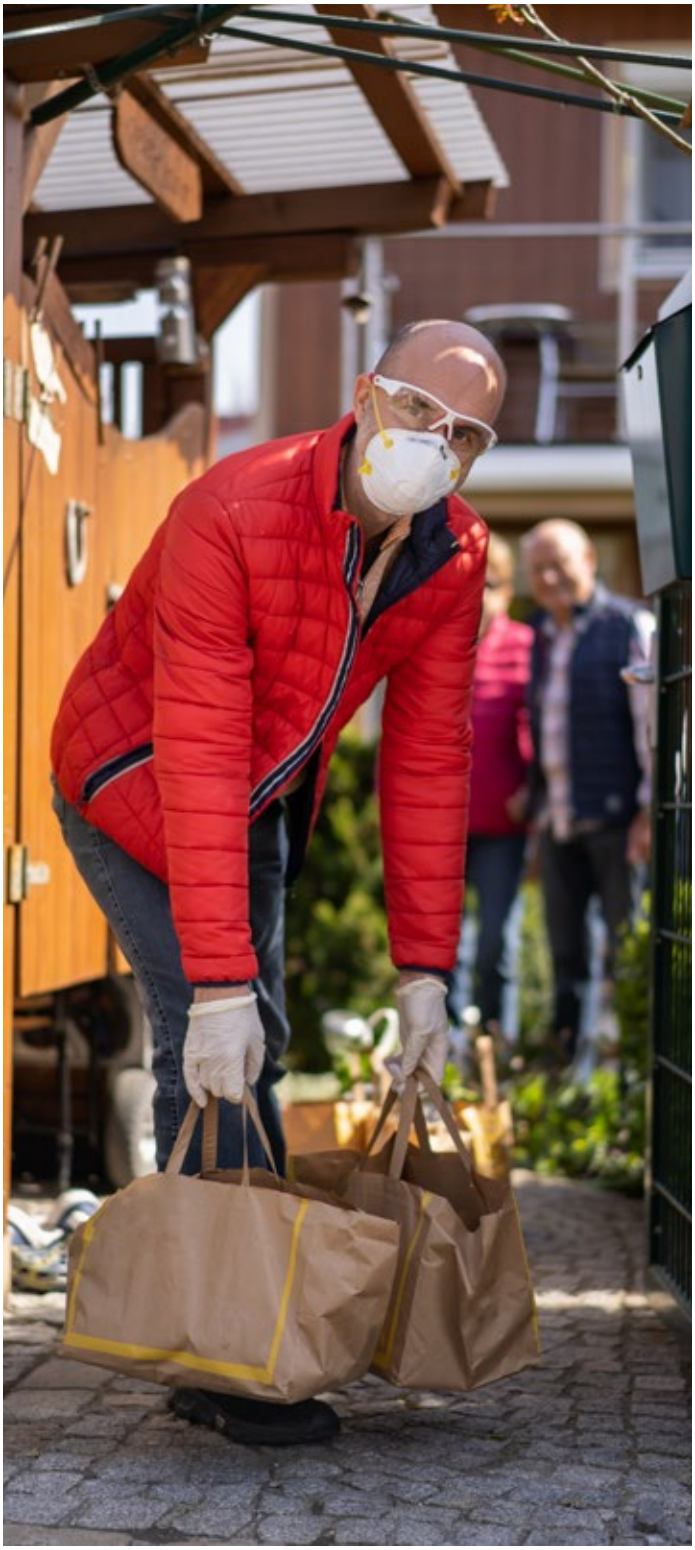
Accordingly, the present Guide is fundamentally concerned with providing risk management expertise to help support the discretionary powers of forward-looking judgment and planning of the layperson. It is hoped that as many laypersons as possible will gain something from reading it. The academic terminology and length of the Guide may be off-putting to some, but on the other hand it should be an investment of time and attention well spent.

Standing between the Guide and the end user, however, we might also usefully acknowledge the potential presence of many **guidance intermediaries** such as professional persons who have leadership, management and caring responsibilities within many private public and voluntary sector organisations. Such persons can be considered guidance intermediaries in the sense that they are faced with challenges of monitoring global and national public health guidance, as well as relevant scientific developments, in order to re-focus and rewrite guidance to fit the needs of specific groups such as supermarket shoppers or workers, delivery drivers, people with certain illnesses or handicaps, or people who live in particular household or community circumstances, etc. Journalists are also considerable as guidance intermediaries. They have a vital role to play in societal risk communication by helping people to become more aware of, and to weigh up, the behavioural risk control options available to them. Accordingly, it is hoped that all sorts of guidance intermediaries may find it possible take some direct procedural inspiration from this Guide when designing, improving and communicating controls for all sorts of end users – and indeed when listening carefully to and engaging with end users.

To summarise, the Guide offers forward-looking planning guidance for protecting against the SARS-CoV-2 virus and preparing for the COVID-19 disease. **Therefore its primary intended end users are people not yet infected.** It aims to guide and nurture their foresight, and their resolve to act on that foresight. Nonetheless, anyone who is currently infected may also benefit to some extent from the planning guidance provided on coping with the disease or its symptoms – and they may also use the guidance to help those not yet infected. Similarly, anyone who has been infected and has recovered or is recovering may wish to use the guidance to help those not yet infected – or perhaps to address their own long term reinfection risks, or indeed any ongoing risks of secondary bacterial infection.

A PERSONAL PLANNING GUIDE

This is a *personal* planning Guide by **recognising everyone as having a role to play in dealing with SARS-CoV-2/COVID-19 risk, both for themselves and on behalf of others.** It regards everyone's planning predicament, spanning the risk-related challenges they face, the knowledge and skills they possess, and the range of planning solutions available to them, as always being unique to at least some degree. It can also be argued that everyone has a unique planning imagination, formed from their own unique experience of, and learning within, the world.



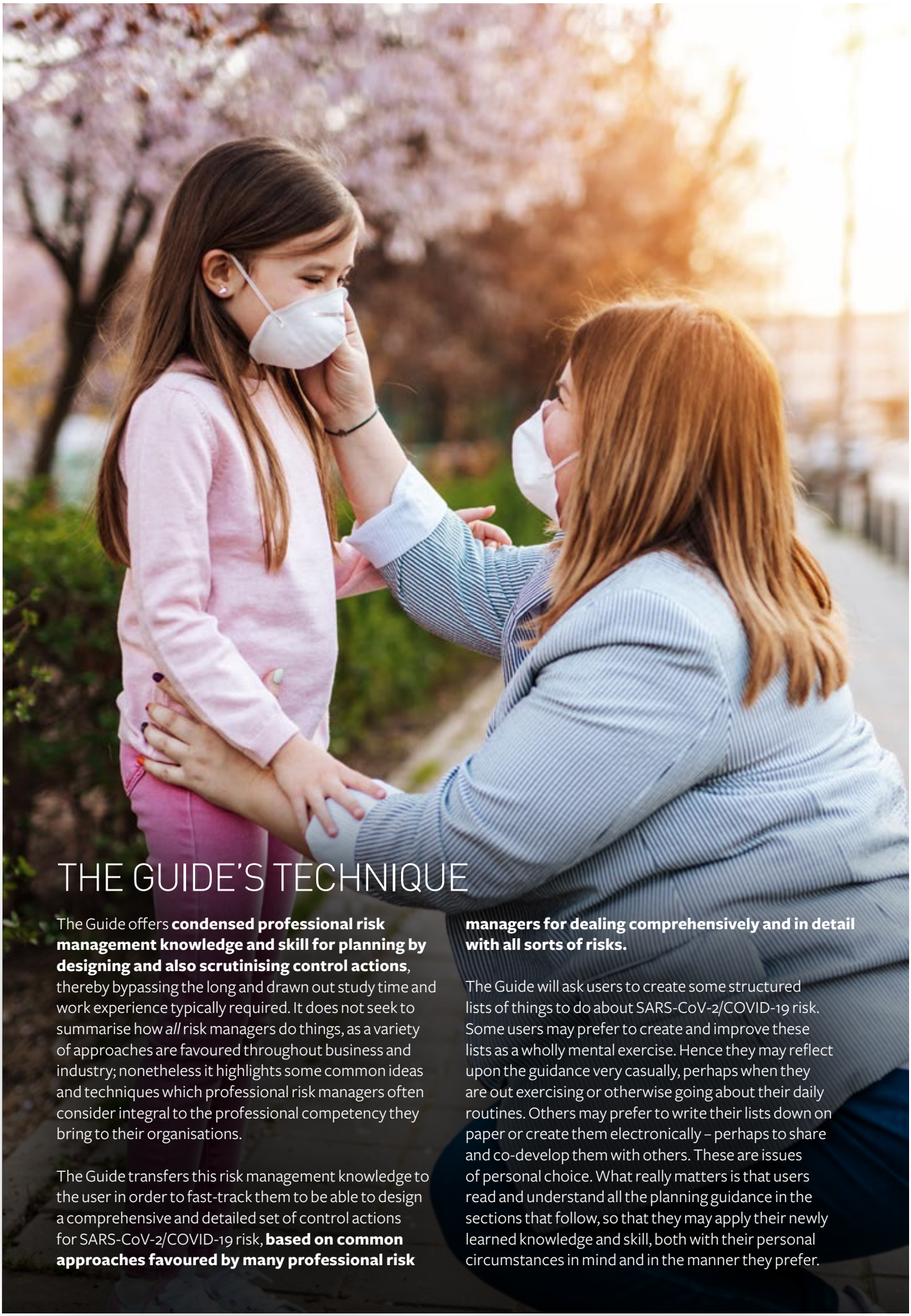
Of course, the Guide also recognises that these planning predicaments are also shared to a large extent, in households, among groups of work colleagues within organisations, and of course across local communities and across broader societies. Households are especially important – as this is where the virus is most easily transmitted. Hence end users are encouraged to use the guidance together, where possible, and particularly within households. This simply entails reading the present document together, and working within the structured framework it offers, to share and perhaps write down ideas for actions that can be taken to deal with SARS-CoV-2/COVID-19 risk. Many such actions are, of course, social rather than individual in nature. **Sharing responsibilities, and allocating responsibilities to particular individuals, may often be the best way forward, particularly within households.**

SUPPORT FOR USER FORESIGHT

This is a *support* Guide by **supporting users to think about and commit to useful things they can do in difficult circumstances which some might feel are largely beyond their control and competency.** Focusing on things well worth doing, under such circumstances, can itself be empowering and motivational. The more people realise that there are important things they can do to help themselves and those around them, the less likely they are to feel helpless and sometimes even sink into the excessive passivity that is called *learned helplessness*.

Where we find it extremely unpleasant to contemplate very bad things that might happen to us, it is likely that in addition to feeling helpless we will experience this as some combination of anxiety, fear, dread, doubt, anomic disenchantment and detachment etc. There may also be feelings of *ontological insecurity* to consider, where uncertainty and doubt intensify as what were the certainties of life now slip away. This broad class of problems should not be underestimated. The unconscious psychological strategies we use to avoid contemplating unpleasant possibilities – such as selective inattention and amnesia - are many, varied and sometimes very powerful. This support Guide is designed very specifically to address and correct these problems. **It achieves this by structuring and directing the user's foresight, thus enabling better planning for protecting against infection from SARS-CoV-and preparing for COVID-19 disease, comprehensively and in high levels of detail.**

The Guide recognises in particular that even when we do plan to protect ourselves from exposure to the SARS-CoV-2 virus, we may still find it particularly unpleasant to contemplate circumstances where our efforts have proven insufficient and the COVID-19 disease has taken hold. **That is why this planning guidance is designed very specifically to give balanced attention to protecting against SARS-CoV-2 infection and preparing for having to cope with COVID-19 disease.**



THE GUIDE'S TECHNIQUE

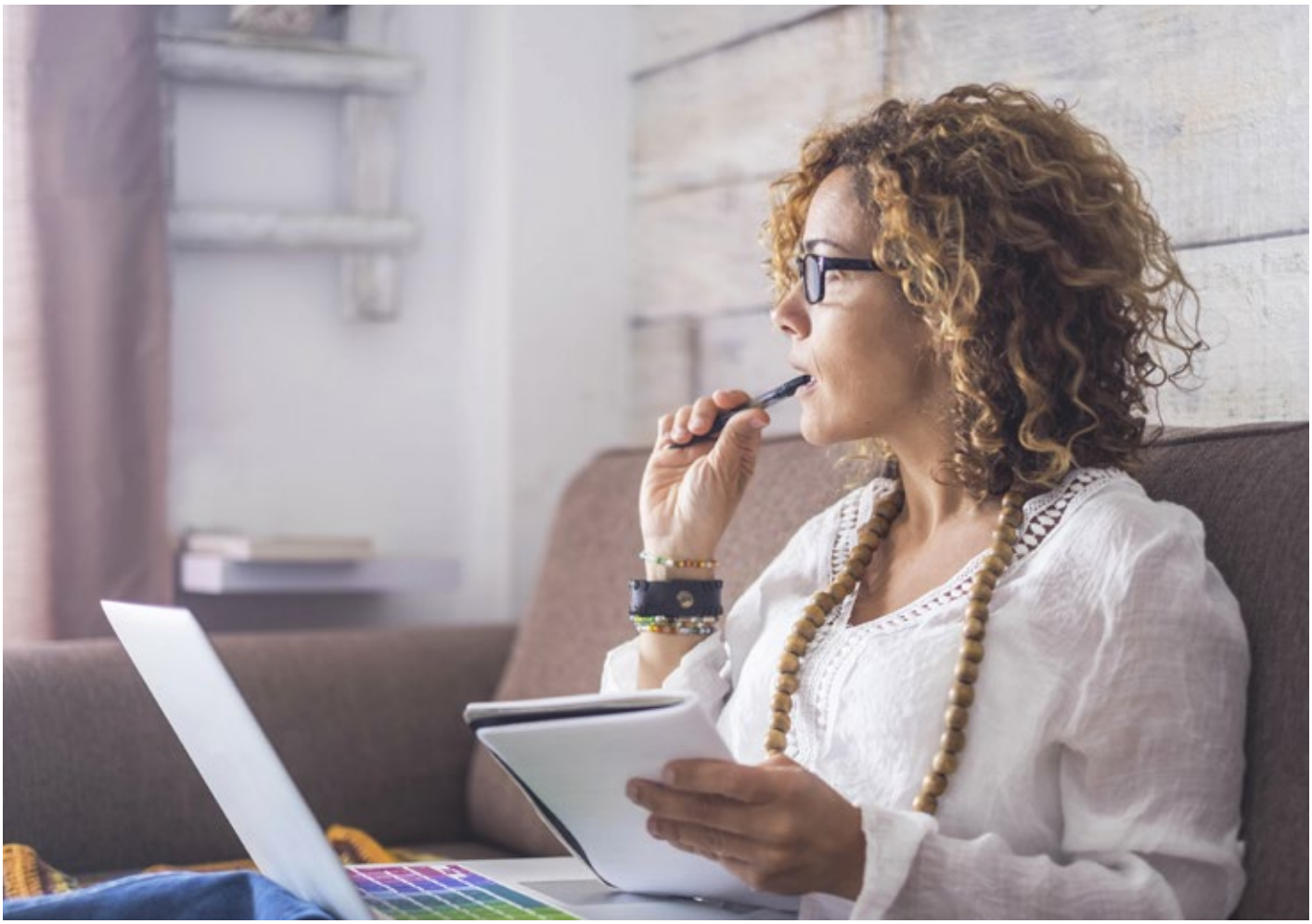
The Guide offers **condensed professional risk management knowledge and skill for planning by designing and also scrutinising control actions**, thereby bypassing the long and drawn out study time and work experience typically required. It does not seek to summarise how *all* risk managers do things, as a variety of approaches are favoured throughout business and industry; nonetheless it highlights some common ideas and techniques which professional risk managers often consider integral to the professional competency they bring to their organisations.

The Guide transfers this risk management knowledge to the user in order to fast-track them to be able to design a comprehensive and detailed set of control actions for SARS-CoV-2/COVID-19 risk, **based on common approaches favoured by many professional risk managers for dealing comprehensively and in detail with all sorts of risks.**

The Guide will ask users to create some structured lists of things to do about SARS-CoV-2/COVID-19 risk. Some users may prefer to create and improve these lists as a wholly mental exercise. Hence they may reflect upon the guidance very casually, perhaps when they are out exercising or otherwise going about their daily routines. Others may prefer to write their lists down on paper or create them electronically – perhaps to share and co-develop them with others. These are issues of personal choice. What really matters is that users read and understand all the planning guidance in the sections that follow, so that they may apply their newly learned knowledge and skill, both with their personal circumstances in mind and in the manner they prefer.

SECTION 2:
PRACTICAL GUIDANCE

This section will now proceed to describe how to plan control actions for dealing with SARS-CoV-2/COVID-19 risk. It will look, first of all, at how to design a structured set of control actions. It will thereafter list and explain nine scrutiny questions which users should ask about every control they decide to include within their structured set of controls. They should do this in order to help them think of some further and more detailed improvements, both to the individual controls and to the structured sets that house the controls.

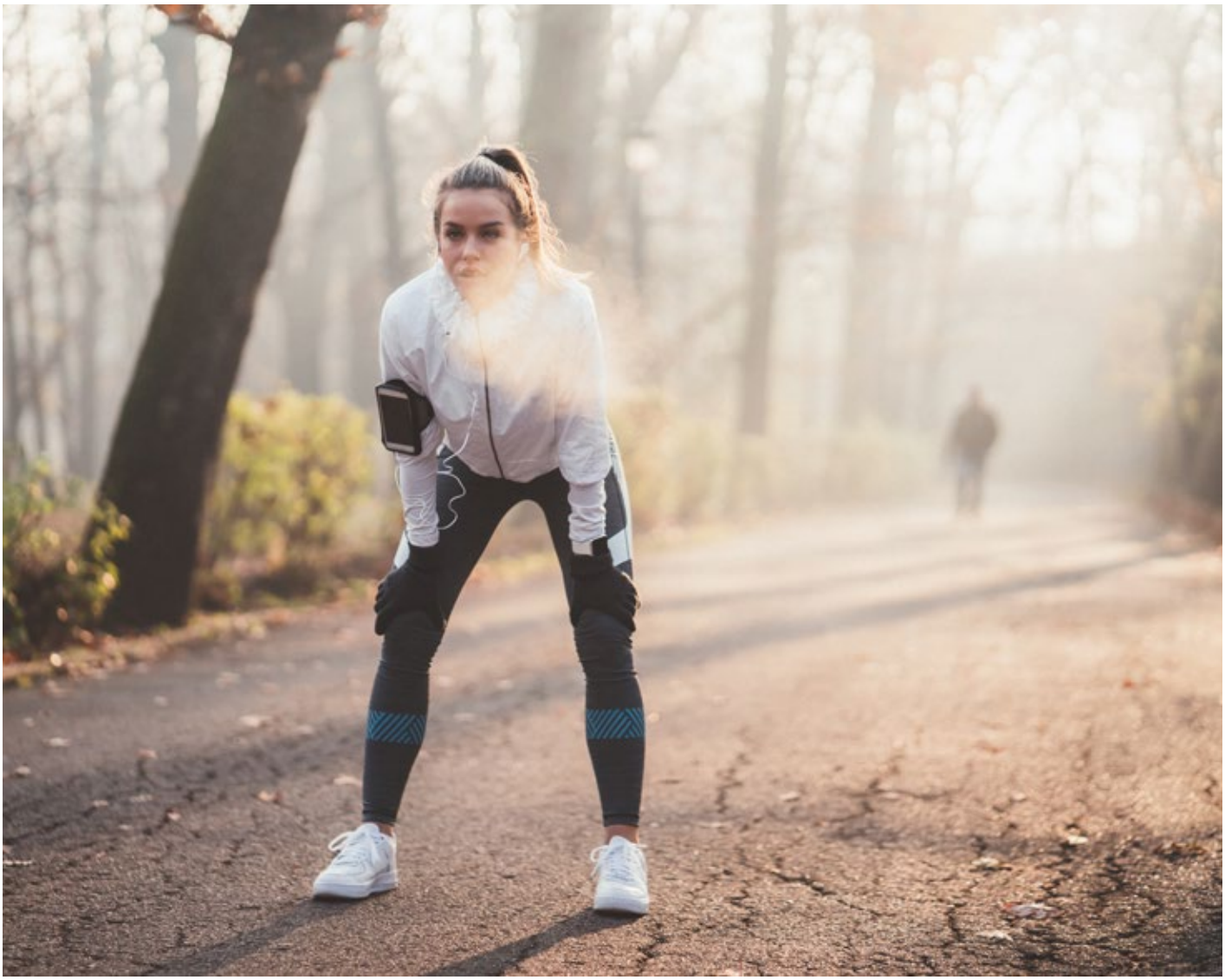


PLANNING BY DESIGNING LISTS OF CONTROL ACTIONS

Control actions, often just called **controls**, are quite simply things you can do to influence what happens to you and/or to others. They always modify your relationship to the world around you in some way, allowing you to seek some intended advantage. Crucially, they always reveal the work of some initiating planning mind which has anticipated that the control may be effective in producing or contributing to a desired outcome. This relationship between mind and action is recognised implicitly in typical descriptions of controls as things that get **enacted**, **implemented** or **applied**, as might equally be said of plans.

When to plan, and when to apply a planned control, are two separate issues. Planning in the present moment should always give regard to the question of *when* the best time may be to act in the future. A particularly important control timing consideration is that people vary in their patience and capacity to endure intensive control regimes – and so it may be best to concentrate these during periods where exposure risk is greatest. Furthermore, sometimes decisions about controls may require deferral or revision, pending new and better scientific evidence about SARS-CoV-2/COVID-19. Generally, speaking, then, controls are best thought of as requiring ongoing critical scrutiny geared towards finding improvements, as well as proactive effort to gather information which facilitates that scrutiny. **This means that designing and maintaining controls for SARS-CoV-2/COVID-19 risk is best thought of as an ongoing and iterative process.**

Sometimes it may be deemed best to begin to implement a control now even though uncertainties exist over whether it might be shown by future scientific evidence to have proven unnecessary or ineffective. Such controls are likely to be deemed worthwhile in accordance with what may be termed the **proactionary** principle which seeks advantage through active innovation and experimentation amidst uncertainty – depending of course upon the inconveniences and other costs incurred. The proactionary principle arguably applies well to controls such as reading newspapers with gloves to protect against direct virus particle transfer from newsprint to skin, or allowing mail to sit in sunlight for several hours before opening it, to allow ultraviolet light to decay any virus particles present, and perhaps also to the practice of giving runners in the park a very wide berth in order to minimise exposure to viral auras from deep breathing.



Alternatively, sometimes it may be best to hold off from implementing a control due to an uncertainty recognising that future scientific evidence may reveal the control to be harmful or counterproductive. Such deferral decisions are justifiable in terms of the **precautionary** or **safety case** principle which says that actions should not be taken until it has been **proven** that they will not cause harm. Examples of precautionary deferral for COVID-19 risk control include placing limits on use of certain supplements as a precaution against their stressing vital organs and/or possibly contributing to immune system over-reactions to the disease that can lead to (sometimes fatal) cytokine storm.

Planning via lists of control actions should also consider that **thorough planning** for any given risk must entail investigating the scope for implementing useful **control actions** during various intervention periods *vis a vis* the chronology of the risk experience or occurrence. This same point is sometimes made in terms of planning for intervention at different points in the **causal sequence**, or even in the **story**, of any given risk. No matter how we phrase it, what this means is that it is important to design control actions now for implementation at various planned-for points in time both **before** and **after** a particular risk experience or occurrence (such as infection by SARS-CoV-2). The expressions **precautionary control** and **remedial control** are very commonly paired to ensure this essential thoroughness in planning. Wrapping precautionary and remedial controls around a risk event is often called **bow-tie risk management**, which is also sometimes regarded as risk management in its simplest form.

Applying this logic to SARS-CoV-2/COVID-19 risk control, our most fundamental guidance proposition is that users of this planning support Guide should compile (and continually revise and improve) two separate lists as follows:

1. what they can do to **protect** themselves against SARS-CoV-2 (these actions will be called **protective controls**);

2. what they can do to **prepare**, just in case COVID-19 symptoms develop (these actions will be called **coping controls**).

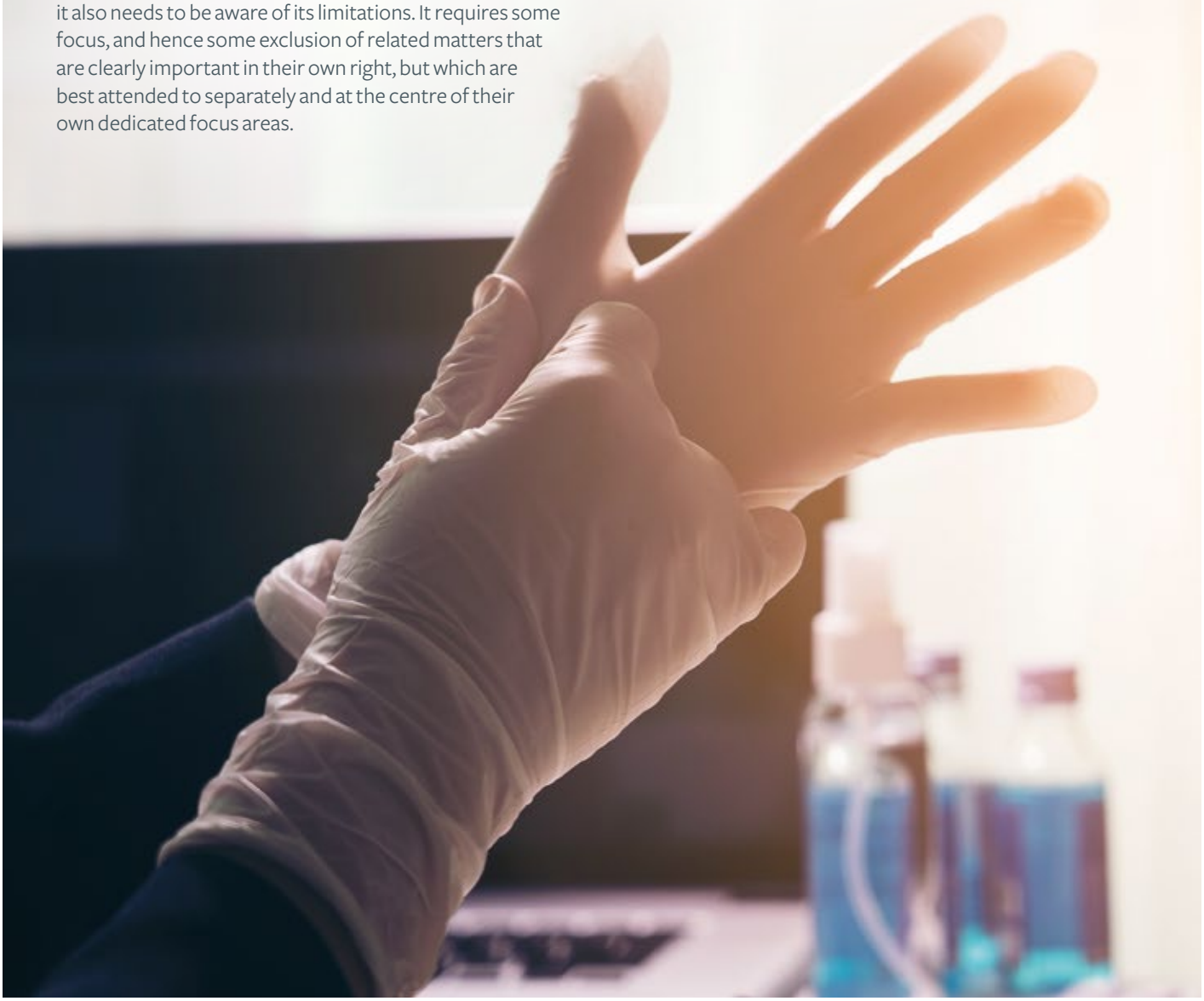
This planning support guidance will now turn attention towards explaining how to create and improve lists of detailed control actions under the twin headings provided by these **two basic categories of control action**. We would advocate that the two lists required are written side-by-side rather than separately. This is because a control action may sometimes offer both protective and coping benefits (e.g. control actions which help build or maintain a healthy immune system). Such control actions should be recognised within lists of both protective and coping controls so as to remind users of the enhanced benefits they offer, which may improve user resolve both to apply them and to highlight them as priority focus areas for ongoing improvement.

DESIGN STRUCTURED LISTS OF CONTROLS – WITH CONTROL CATEGORIES

Before you populate your lists of protective and coping controls you will first need some more basic structure to work within. Lists of both protective and coping **control categories** can provide this initial structure. It is perhaps best, in the first instance at least, to think of control categories as distinct headings under which you can assemble together more numerous lists comprising the controls themselves. This is why they provide helpful structure.

Notice in particular that our initial selection of protective and coping control categories has the effect of focusing attention very specifically on the SARS-CoV-2 virus and the COVID-19 disease as the **risk objects** that are taken as mattering for practical risk management. In other words, for our control design purpose, these are taken as the specific threats that matter, as opposed to, for example, the many financial threats and threats to business or service continuity which presently exist as a consequence of the global pandemic. Control design needs ambition and yet it also needs to be aware of its limitations. It requires some focus, and hence some exclusion of related matters that are clearly important in their own right, but which are best attended to separately and at the centre of their own dedicated focus areas.

Designing a viable set of control categories, covering both protective and coping controls, will focus your mind and help you think with more structure and thoroughness about all the things you can do to reduce SARS-CoV-2/COVID-19 risk. The more control categories you use, and the more creative you are when giving names to your control categories, the more creative, thorough and useful the controls themselves are likely to be at the end of the design and listing process. Designing control categories is very much an art. The more thought you give to possible control categories, in each case thinking further about the sorts of controls you might list together under each category heading, the more you will in effect be strengthening your powers of foresight because your planning imagination will be directed towards ever more possibilities for action. A really good control category will tend to be one that is labelled with clear and unambiguous meaning, and which clearly adds something distinctive to the overall control category mix, the evidence for this being that it gives rise to some new and distinctive controls.



Here are four illustrative control categories, each of which has a list of more numerous and specific control actions set beneath it:

Protective Controls (against the virus)

Protective Control Category 1: **Keep a Virus Free Household**

- practice social distancing;
- consider wearing masks and gloves and avoid touching face when outdoors and without access to washing facilities;
- work from home if possible;
- walk or cycle if possible to minimise reliance on public transport;
- minimise shopping trips;
- minimise household visitors;
- clean food packaging when it enters the household;
- open letters and home delivery packages with appropriate caution;
- monitor any children in the household to ensure their compliance with protective controls;
- support and encourage others to practice protective controls scrupulously and set a good example for them;
- maintain a 'weakest link situation list' of virus exposure situations which you are likely to encounter, and which will put you most at risk;
- routine handwashing, showering, clothes laundering and other precautionary cleaning activities .

Coping Controls (for the disease)

Coping Control Category 1: **Be as Healthy as you can be**

- eat a healthy and varied diet for a strong immune system;
- consider taking supplements (especially vitamin D) for a strong immune system;
- get regular outdoor exercise that improves the cardiovascular and immune systems;
- exercise outdoors when it is sunniest, in order to produce more vitamin D naturally, through exposure to sun;
- ensure that your food and drink stocks contain the sorts of foods and drinks you are likely to prefer if you are sick (e.g. which are relatively easy to cook without too much time and effort), and yet which will also provide you with appropriate nutrition and hydration during such times;
- establish means by which you can be provided with additional foods and drinks, and perhaps cook for yourself, should you need to self-isolate, perhaps with sickness;
- Get as much high quality sleep as you can to improve your immune system and general wellbeing.

Protective Controls (against the virus)

Protective Control Category 2: **Cleanliness / washing**

wash hands regularly when at home and at work;

wash hands (and then face) after travelling outdoors;

consider carrying hand sanitiser and sanitising wipes for regular use on devices such as mobile phones;

try to pay electronically in shops;

maintain clean surfaces at home and at work;

consider removing outdoor clothes and shoes when returning home;

consider rotating between outdoor shoes, and perhaps other clothing items, to ensure they remain unworn long enough for virus particles to decay before next use;

consider laundering work clothing between each use, especially if it has been worn indoors at work throughout the day and on public transport where social distancing is hard to maintain;

motivate yourself by thinking of cleaning and handwashing activities as daily rituals which may each confer very marginal risk reduction benefits in isolation, but which become significant when considered in their entirety – and encourage others to participate with an awareness of the total risk reduction over time.

Coping Controls (for the disease)

Coping Control Category 2: **Improve / maintain sleep**

install blackout curtains in the bedroom;

remove unnecessary lights (e.g. LEDs) from the bedroom;

try to avoid using tech devices, especially those with brightly illuminated screens, in the hour or so before sleep;

try to get to bed early to benefit from as many sleep cycles as you can, and from the most highly beneficial hours of sleep that are concentrated in the early hours of the morning in particular;

consider taking baths late in the evening to help relax prior to sleep;

avoid or reduce alcohol consumption;

avoid caffeinated drinks such as coffee and energy drinks in the evenings;

consider taking supplemental forms of magnesium (e.g. magnesium glycinate) and/or various non-prescription (e.g. herbal) medications which may help you sleep;

consider whether anxiety, sleep apnoea or some other serious underlying condition may be contributing to poor sleep, and whether consulting a GP is appropriate (given the pressure they may be under during the pandemic).

Reflecting on the above four categories and their associated controls, there are some important points you need to be aware of:

- A key tip for designing an initial set of high level control categories is to consider that these are best expressed, just like the four categories above, as **general goal oriented activities**. This allows you to then express individual controls as **more specific goal oriented activities** which can contribute towards achieving those general goals.

- Both second control categories listed above (*cleanliness/washing* and *improve/maintain sleep*) were previously listed as controls within the first control categories situated immediately above them (*keep a virus free household* and *be as healthy as you can be*). Conceivably, all other controls within the first control categories can also be reconstituted as control categories in their own right, with new lists of controls written for each of them.

- Provided you express each control category, and each associated control, as a **goal oriented activity,** you should be able to evaluate the potential for any control to be reconstituted as its own control category, and therefore to have new controls written for it. This is how your planning imagination can progress towards ever greater detail.

- Establishing a control as a category in its own right can also be thought of as creating a new layer within a **control cascade**. Obviously, control cascades cannot continue to cascade indefinitely. Nonetheless, you should attempt to create control cascades wherever possible. To reiterate and reinforce this key point, this is a vital technique for detailed planning. Every time you open a new layer within a control cascade you then naturally begin to think in more meticulous and practical detail about things you can do to protect against the virus and prepare for the disease.

- Control cascades help you to think within a clear logical structure. They remind you of your reasons for doing things. Let's say you decide to reconstitute the *get to bed early* control as a control category. You might then list some very practical controls that help you accomplish this, such as *altering your daily schedule* to give yourself more time to *wind down in the evening*. Each time you give yourself time to wind down in the evening, you can then usefully remind yourself of why you are doing this by retracing your logic upwards through your control cascade. Each time you retrace this logical thread through *schedule alteration*, *winding down in the evening*, *better sleep*, and *stronger immunity* in order to finally arrive at improved capacity to *cope with COVID-19*, you will be reassured that you are a logical and systematic planner – and that you are doing everything you can.

- While writing this guidance, the author looked for some possible enhancements to his own coping controls that might illustrate the value of seeking opportunities to create new control cascades. The author had bought a home oxygen concentrator in February 2020, intended primarily as a coping control to ease breathing in envisaged circumstances where health services are overloaded, entailing possible delays in receiving treatment after phoning for medical assistance. The author realised that this was, in fact, a prime example of why it is important to create new control cascades. He realised that much could be done to further prepare for use of the oxygen concentrator under these possible circumstances. Maintenance could be attempted. The nasal cannula and oxygen mask could be experimented with for ease of use and to ascertain through direct experience what levels of oxygen enhancement could be expected. Neighbours could be informed, to ensure that they know they are welcome to borrow it if they need it. Indeed, lending such equipment during times of need could be considered another control category in its own right – and so the control planning could continue onwards towards ever greater detail. Another coping control – that of facilitating access to medical services – was improved by the author by downloading the NHS app and registering with a local pharmacy to ensure the local surgery could send them any required prescriptions electronically. Clearly, all of these additional controls have a practical commonsense character. The process of thinking through the creation of new control cascades will very often supply the necessary nudge to think of them and implement them.

SCRUTINY QUESTIONS FOR CONTROLS

Working from the above understanding of why control cascades are useful, you now have an important **scrutiny question** to ask, **for any protective or coping control.** That question can be expressed as follows:

Scrutiny Question 1:
Can I reconstitute this control as a control category and extend my control cascade onto a new layer by developing controls for the new category?

However, it is worth noting that there is an even simpler way to express this scrutiny question, which is: **how should I apply the control?**

This planning guidance will now conclude with some further scrutiny questions which can usefully be asked for *any control*. Just like the first scrutiny question which we have just mentioned, all of the following scrutiny questions are intended to stimulate more detailed, more logical, and more systematic planning, culminating in the production of more and better protective and coping controls.

Scrutiny Question 2:
When should I apply the control?

Some protective controls (e.g. regular handwashing) will correspond to daily routines that can begin immediately and persist for as long as SARS-CoV-2 infection risk remains significant. As was mentioned earlier, it may sometimes also be wise to vary the intensity of routine ongoing controls to correspond to periods when infection risk is greatest. Other controls may correspond to single planning actions (e.g. registering for online prescriptions or for multiple online shopping delivery services) that you might not want to put off for too long. You may also wish to plan to apply a control when or if something very specific happens in the future. An obvious example of this is the question of *when* to call for medical assistance if you feel you may have COVID-19 symptoms, and likewise *when* to call for further assistance if you feel your symptoms are worsening. The sooner you give some thought to these timing questions, the better. The control solutions are likely to centre upon becoming familiar with medical advice, its sources, and how to access available sources urgently should the need arise.

Notice in particular that simply asking these basic timing questions has the effect of drawing your attention to new coping controls that often entail searching for information, much of which can be found without having to wait until it is needed, at which point the person who needs the information may be suffering from symptoms that could include a reduction in clear-headedness and, hence, reduced capacity to find and assimilate information. There is much you can do now to seek healthcare guidance from government and other reputable sources for what to expect and what you should do – if you have not done so already.

Scrutiny Question 3:
Why should I apply the control?

Asking this question may prove beneficial for at least three reasons. Firstly, this can help to remind you that many small and perhaps seemingly trivial controls, which you might be tempted to commit to only very half-heartedly, offer protective and coping advantages that become very significant when viewed together and holistically. Secondly, there are some controls such as vitamin d supplementation which you may be tempted to categorise as offering both protective and coping benefits. In such cases, you may find that asking the *why* question has proven beneficial by leading you to reflect more upon the double benefit and hence further improve your knowledge with both benefits in mind. Thirdly, some control activities are, or may become, important for various reasons that are external to their significance as SARS-CoV-2 or COVID-19 controls. People in lockdown and self-isolation may develop all sorts of hobbies such as growing herbs and vegetables, cooking with different sorts of foods (e.g. dehydrated foods and fruits) or home wine and beer making. They do this sometimes to provide routines which help protect mental health, sometimes to compensate for supermarket supply chain disruptions and difficulties in obtaining home deliveries, and sometimes also to seize upon the excess free time available for embarking on what might become life-long hobbies and interests. The more people reflect upon the full range of benefits, and, in particular, the multiplicity and efficiency involved, the more likely they are to persist in these activities.

Scrutiny Question 4:
Where should I apply the control?

Some controls developed for the household might also be applied within the workplace (and vice versa). Some might even transpose between the household, the workplace, and any travel, shopping or exercise situation. Clearly these will tend overwhelmingly to be protective rather than coping controls. In particular, regular handwashing, as well as usage of masks and gloves, can be considered for their protective value within a wide range of situations. We should not allow the contexts within which we develop controls to narrow our planning imagination.

Scrutiny Question 5:
Who should apply the control?

This question can usefully be asked on top of scrutiny questions 1 to 4 each time they are asked. These four questions all assumed, for purposes of simplicity, that the person asking the question is

also the **control owner.** In reality, however, appropriate control ownerships are things to be discussed, shared, allocated, and perhaps reallocated on a group basis. Very often the best choice of control owner will be the person, or the group, whose past experiences, aptitudes, interests, access to resources, knowledge and skills, or even simply willingness and enthusiasm, set them apart as such.

Scrutiny Question 6:
Is the control adequately resourced?

It is always important to pay at least some attention to the resourcing necessary to ensure a control is successful. *Staying at home* is a well-known protective control for SARS-CoV-2, yet its protective benefit will be compromised by frequent foraging trips to shops unless means can be found to stay well stocked with provisions. Flu masks, hand sanitisers, soaps, gloves and washing powders and tablets for washing machines are all obvious resourcing issues for *cleanliness/washing* controls. Yet subtle applications of foresight can also draw less obvious resourcing issues to light, particularly involving contingencies where the resources you rely on fail when you need them. For example, do you have a back-up for your mobile phone, should it fail under circumstances where you need to call for urgent medical assistance?

Scrutiny Question 7:
Might the control produce unintended consequences?

It is possible to enquire into the possible unintended consequences of controls in a more structured and thorough manner by considering the following possible control outcomes:

- the control may not work or may not be necessary (e.g. supplementing when you already have sufficient vitamin intake may do nothing to further improve your immune system);
- the control may be directly counter-productive (e.g. using flu masks in situations when they are excessively moistened with use or are improperly fastened may create a false confidence whereby wearers place themselves at even more risk, and for longer periods, than they would in the absence of the control);
- the control may jeopardise something else (clearly, staying indoors excessively can jeopardise mental health, athletic careers, ability to earn income, etc.);
- the control may offer particular external benefits (e.g. staying indoors can also provide a stimulus to the acquisition of new hobbies, skills, online qualifications etc.);
- the control may offer general resilience benefits (e.g. controls which involve keeping well stocked with non-perishable foods and preparing for possible interruptions in gas, electricity and water supplies, may prove useful for a broad range of unexpected emergency occurrences at local or national level).

Clearly, balanced judgments need to be taken about such matters as **the extent to which** control practices like staying at home are appropriate. These five questions about possible unintended consequences, when taken together, can further stimulate the planning imagination and allow such judgments to be more thorough in the range of matters considered.

Scrutiny Question 8:
Can you estimate a risk reduction for the control?

Not all controls will lend themselves to the calculation of risk reduction estimates. However, where a control is significantly scaled, and in particular where it counts as a category in its own right, you may find it useful to estimate the risk reduction value of the control, expressing this as either a reduction-by-percentage or as a reduction-by-fraction. Hence, you might estimate that all your efforts to stay at home as much as possible are reducing your overall SARS-CoV-2 exposure risk by, say, 90%.

If you decide to do this, you then have the further option of expressing improvements to controls in terms of further risk reduction estimates. Perhaps you might decide that by cutting the frequency of your foraging for small numbers of items at supermarkets, you could improve your risk reduction estimate for your *stay at home* control from 90% to 95%. You might even set yourself some risk reduction targets for further improving such controls. This might entail striving towards full risk mitigation, or it could entail establishing some target level for risk reduction that you are most comfortable with, and which strikes a sensible balance between effort and protective value.

These estimates do not need to be wholly accurate and you will often have no means to establish their accuracy. What matters is that they can help guide various judgments about controls, such as how best to improve and prioritise them, when to invest further effort into them, and when to stop or reduce such effort.

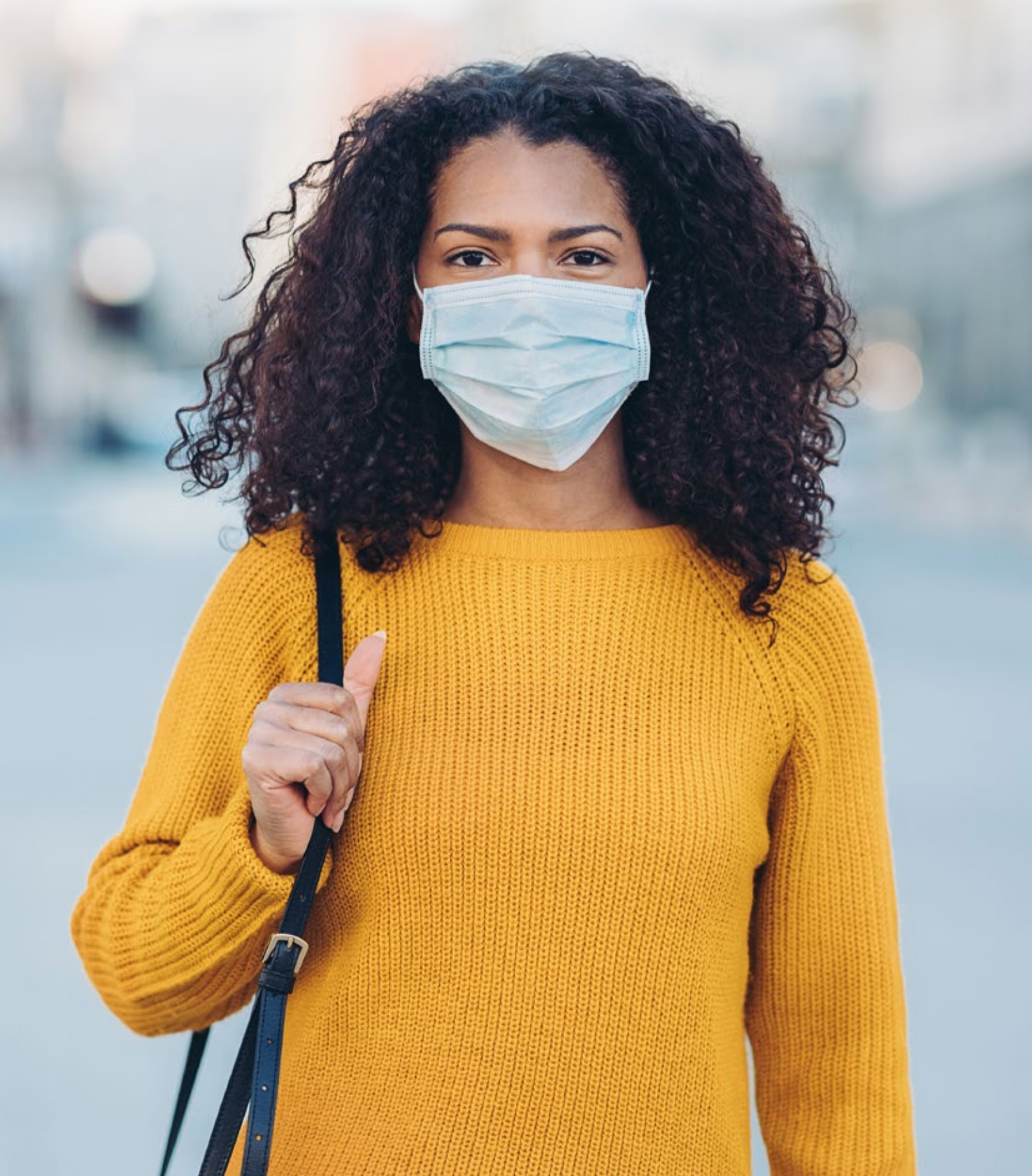
Scrutiny Question 9:
If you are uncertain about a control, can you seek further information?

Knowledge is power, as the saying goes; accordingly, it is important to appreciate that some controls take the form of knowledge itself. There are many things you are likely to benefit from knowing about, pertaining to how SARS-CoV-2 spreads, what the COVID-19 symptoms are, what other people are doing to control the related risks, and in particular what numbers should be called in a medical emergency, etc.

In many other cases, your contemplation of the control will lead you to realise that you are uncertain about it in some way. For example, you may realise that you stand to benefit from some further acquisition of knowledge in order to better apply the control and be more certain of its effectiveness (e.g. for controls where medical knowledge is important). Alternatively, there may be some ethical uncertainty whereby you may wish to be reassured

of how other people think about ethical issues raised by the control (e.g. for controls that involve hoarding resources or restricting the activities of children).

Doubt is, after all, an essential ingredient for critical thinking about controls and it can help to tease out many important issues requiring further and more detailed scrutiny, entailing further information search. This seems especially true of controls involving diet and supplementation for a healthier immune system. Many and varied claims are available, pertaining to the protective benefits of elderflower, echinacea and many other supplements. Many claims are also made about the curative properties of colloidal silver, intravenous vitamin C, and the like. Ongoing monitoring of reputable information sources therefore makes very good sense. It may be helpful in particular to focus critical judgments on the **credibility** of the claims that are being made and the **reliability** of the sources that make them. The *Dr John Campbell* YouTube channel is a particularly good source of regular updates on relevant medical knowledge, provided by an experienced medical professional.



SECTION 3:
SOME CONCLUDING THOUGHTS

The planning guidance set out above has been designed in haste in response to the rapid onset of the SARS-CoV-2 pandemic and it is hoped the reader will forgive any points which appear insufficiently attended to. There are many of those – particularly regarding the work which the design imagination can do to produce categories and lists of controls. However, it is hoped that the basics are in place. Should the reader discern any shortcomings then, on balance, this is probably all to the good, as it means the guidance will have in that way spurred someone's creativity for thinking about risk controls.

The purpose of the guidance has been to encourage its users to take a simple and yet structured approach to planning, where they think critically about, and seek improvements for, all the protective and coping controls they can think of. It is intended to fast-track the user to be able to plan for SARS-CoV-2/COVID-19 risk, and likewise to be able to plan for many other risks, with the thoroughness of a professional risk manager.

Professional knowledge for corporate risk management has been the inspiration for all of the guidance content. Consider that professional risk managers, in the corporate world, may take months or years to learn their briefs and may then spend much of their workaday lives dealing with intricacies of risk control. By contrast, those cast into the predicament of personal planning for SARS-CoV-2/COVID-19 will receive no education or on-the-job training to help them find their way in this difficult, and extremely urgent, task.

Hence it is hoped that everyone who reads this guidance will take at least something from it to help them plan during what, at the time of writing in May 2020, is a very troubled and uncertain time. It appears, at present, that the first wave of the global SARS-CoV-2 pandemic is nearing what may turn out to be its *first* peak. Subsequent pandemic waves, which may well occur within contexts of global economic recession and perhaps also greater pressure on global supply chains (and therefore greater potential for civic panic and political unrest) may further transform what it means to control for SARS-CoV-2/COVID-19 risk towards a concern with maintaining the fundamentals of life. This might be viewed as necessitating a shift of risk management focus away from the virus and the disease themselves. In particular, ensuring access to supplies and medicines, maintaining mental health, and striking a balance between being economically active (and therefore financially secure) and being safe, may all prove extremely challenging – and may all provide useful initiating categories for risk control design.

The guidance above might best be understood, in the final analysis, as offering its users some structured mental habits for planning which may continue to help them even more if circumstances do continue to deteriorate, as well as throughout their lives.