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Shaping health communications with behavioral insights: experience from The Bloc

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The importance of advancing healthcare through effective communication that speaks directly to healthcare professionals (HCPs) is well recognized. With the landscape of communications changing rapidly, there is an ever greater need to closely assess human behaviors and tailor messages accordingly, such that communications effectively address the concerns of the audience and evoke the appropriate behavioral change. To address this need, The Bloc developed a comprehensive health communications strategy, Behaviorally Enriched Communications (BE-COMMS®). BE-COMMS is based on well-established, validated behavioral models and is developed to ensure communications can be targeted toward specific behavioral barriers and drivers, thereby evoking the desired behavioral change. Consistent application of BE-COMMS in different healthcare communications scenarios has demonstrated that, regardless of geographic location and therapy area, HCPs' behaviors are influenced by many overt and covert factors related to capability, opportunity, and motivation (as defined in existing behavioral models). While capability and opportunity factors are easily identified, motivational factors are frequently overlooked when designing communications. We also found similarities in HCPs' behavioral drivers and barriers across different therapeutic areas, but the combination of them in a specific scenario is often unique. Although our analysis is not systematic, it provides a well-rounded overview of factors influencing HCP behavior, as well as our perspective on effectively tailoring communications to bring improvements to patient care. Our accumulated years of practical experience with BE-COMMS demonstrate that communications require a tailored approach for different circumstances to drive behavioral change and improve patient healthcare.

KEYWORDS

behavioral change, behavioral insight, behavioral science, health communication, healthcare professional, medical communications, medical education

1 Introduction

Healthcare has advanced tremendously over the past half-century (Assidi et al., 2022), thanks to the coordinated efforts of scientists, HCPs, regulators, patients, and communicators, who ensure research translates to improved patient outcomes. Meanwhile, the communication landscape has undergone its own revolution. Technological advancements in recent years have substantially increased the volume of information available to HCPs. Although the availability of data is generally welcomed, HCPs are continually faced with the challenging task of navigating mazes of complex new information in addition to their core role in providing patient care. Effective communication, therefore, must go beyond information sharing to inspire advances in care.

Behavioral science has a long history in health communications (UNICEF, n.d.; Starr and Householder, 2019; Nancy and Dongre, 2021; Routley and Pringle, 2021; The UK Government Communication Service, 2021; Hart et al., 2023). The Health Belief Model published in the 1950s, marked one of the earliest formal applications of behavioral science in health communication (Nancy and Dongre, 2021). Since then, other models have been developed (Davis et al., 2015; Nancy and Dongre, 2021), including the Transtheoretical Model (Prochaska and Velicer, 1997; Davis et al., 2015; Nancy and Dongre, 2021), the Theoretical Domains Framework (TDF) (Cane et al., 2012), COM-B (Michie et al., 2011), and the PRIME Theory of Motivation (West and Michie, 2020). In parallel, frameworks such as the Acceptance and Commitment Therapy (ACT) Matrix (Polk and Schoendorf, 2014; Polk et al., 2016) have been introduced to help map internal experiences, values, and committed actions - elements that increasingly inform how communication strategies are designed to support behavior change. Despite their differences in focus (individual vs. community) and scope (psychological, social, environmental, or contextual factors), all these models aim to gather and utilize behavioral insights to guide communications that can evoke desired behavioral change (Davis et al., 2015).

Behavioral science principles have been applied in diverse healthcare and health communications settings (Davis et al., 2015), yielding varying levels of success. For example, in the UK, behavioral change techniques have been used to increase vaccine uptake (Grailey et al., 2025); a similar approach has also been applied in Malaysia to optimize public communications on COVID-19 prevention (World Health Organization, 2022). Digital health initiatives have also included behavior change techniques (e.g., goal setting, continued support) to help manage the weight of patients with type 2 diabetes (Li et al., 2025).

Communications that successfully change behavior require a systematic application of behavioral change techniques. To this

end, The Bloc designed a comprehensive, systematic approach in applying behavioral change theories and techniques in health communications, BE-COMMS®. BE-COMMS is a 4-step communication framework that includes processes and tools that can be tailored to different communications scenarios (Table 1). It is built upon the principles that: (a) behavioral change is the end goal of communication; hence, the techniques of behavioral change should be embedded in every step of a communications strategy, from planning and ideation to execution and evaluation; (b) behaviors are shaped by both conscious and non-conscious factors, and a change in behavior requires capability, opportunity and motivation, which communications can intentionally strengthen or remove; and (c) any change in a behavior or its drivers or barriers (capability, opportunity or motivation) will affect the system, which may in turn create additional drivers or barriers to further behavioral change. BE-COMMS draws on the well-established and validated models, including COM-B, Behavioral Change Wheel (BCW), and refined TDF models (Michie et al., 2011; Cane et al., 2012), as well as complementary frameworks such as Transtheoretical Model, PRIME Theory, and the ACT Matrix (Prochaska and Velicer, 1997; Michie et al., 2011; Cane et al., 2012; Polk and Schoendorf, 2014; Polk et al., 2016; Starr and Householder, 2019; West and Michie, 2020; West et al., 2020; Hart et al., 2023). While the theoretical foundations on which BE-COMMS is based are not new, its systemic and process-driven structure enables a consistent and comprehensive analysis of the factors influencing HCP behavior, which is of particular importance in complex and rapidly evolving healthcare environments. Communication strategies designed with BE-COMMS can, therefore, directly address the barriers and drivers identified through this behavioral diagnosis. Here, we summarize the insights gathered through our experience in applying BE-COMMS in health communications.

TABLE 1 BE-COMMS® framework: components, foundations, and application process.

BE-COMMS components	Behavioral diagnosis	Behavioral strategy	Behavioral design	Behavioral measurement
4-step process	UNDERSTAND Identify behavioral drivers and barriers using validated behavioral models	DEFINE Determine the behavioral objective and communication strategy	ACTIVATE Apply behavioral change techniques to create targeted communications	OPTIMIZE Assess communication impact and refine based on behavioral measurement
Tools	A landscape analysis tool, created based on COM-B and TDF, that includes situation-tailored questions to help identify factors influencing stakeholder behaviors	An ideation tool, developed based on the BCW and TDF, for generating solutions against the factors identified via the landscape analysis tool. The tool also considers theories from the transtheoretical model, PRIME Theory and the ACT Matrix to generate an action plan		Reapplication of the landscape analysis tool, taking account of the transtheoretical model of change
Output	A clear list of the key behavioral drivers and barriers that need to be addressed	A focused behavioral objective and a communication strategy designed to achieve it	Communication ideas, messages, and tactics intentionally crafted to influence the targeted behaviors	Evidence of expected behavioral shifts and guidance on how to improve future communications
Theoretical foundations	COM-B • TDF • BCW • Transtheoretical Model • PRIME Theory • ACT Matrix (Prochaska and Velicer, 1997; Michie et al., 2011; Cane et al., 2012; Polk and Schoendorf, 2014; Polk et al., 2016; West and Michie, 2020)			

ACT, Acceptance and Commitment Therapy; BCW, Behavioral Change Wheel; COM-B, Capability, Opportunity, Motivation-Behavior model; TDF, Theoretical Domains Framework.

2 A clinical situation outcome or practice is shaped by the behaviors of multiple stakeholders

2.1 Identifying a target behavior for change can be challenging due to the interconnected nature of behaviors and their influencing factors

To ensure a communication intervention can inspire behavioral change, the target behavior—a specific action or decision the audience should adopt or change—must be clearly defined. This is often more challenging than setting a communication objective because of the vast number of stakeholders, processes, and pathways in healthcare, offering a myriad of potential behavioral targets. As more behavioral and contextual data become available, the initial choice of behavior to target often evolves to better reflect the real drivers of decision-making.

We found that mapping each stakeholder's journey helps identify the key determining step and subsequently isolate the target behavior ([The UK Government Communication Service, 2021](#)). In one case, we were tasked to identify unmet needs in preparation for a new treatment launch for atopic dermatitis in Italy ([The Bloc, 2024](#)). Following extensive web research, we conducted patient-focused group discussions and interviewed HCPs in specialist centers, mapping key behaviors along the real-life patient journeys and uncovering relevant main barriers and drivers. In another example, we held a workshop with multiple specialists to identify behavioral drivers and barriers to optimal care for patients with interstitial lung disease ([The Bloc, 2023a](#)). We asked the attendees to map out their behaviors, then performed the same exercise with small multidisciplinary teams, and as one whole group. Although time-consuming, this approach uncovered multiple factors affecting behaviors within a system and facilitated the shortlisting of priority target behaviors.

Identifying the root causes of multiple behaviors may also help pinpoint the target behavior that could evoke the most impact on health outcomes. We adopted the 5-whys approach ([Improvement Institute for Healthcare, 2019](#)) to identify the root causes of suboptimal epilepsy management in Italy. We were able to isolate key factors contributing to existing behaviors and subsequently prepared a communication program to target them ([The Bloc, 2023b](#)).

2.2 Behaviors are complex and are impacted by numerous drivers and barriers

HCP behaviors in a healthcare system are complex and multifactorial. During a workshop with a heterogeneous group of international HCPs, each operating within different healthcare systems and regulatory environments, we investigated the behavioral factors influencing how a new therapy for epilepsy would be perceived and adopted. Remarkably, the HCP group identified over 120 barriers and drivers connected to a single target behavior, highlighting both the complexity of treatment adoption and the importance of tailoring interventions to different contexts ([The Bloc, 2023b](#)). Based on our experience of applying BE-COMMS in health communications, we summarize common factors that influence HCP behaviors according to the COM-B model ([Michie et al., 2011](#)). Capability factors are those

that represent the scientific and procedural knowledge of HCPs, as well as their capability to offer sufficient attention and apply knowledge to practice. Opportunity factors refer to social (e.g., peer) and environmental (e.g., access) influences and constraints under which HCPs operate. Motivation factors encompass the impact of an HCP's own professional goal and identity, intent, emotion, optimism toward treatment, beliefs about their capabilities, and the consequences of their decisions.

3 Common capability factors affecting HCP behaviors

3.1 Uneven distribution of capabilities is seen within different specialties and regions

HCPs' levels of knowledge and skill vary by therapy area, region, and discipline, and the reasons for suboptimal levels of capability are often multifactorial ([Kuhlmann et al., 2024](#)). Regardless of the wealth of a country, there is often a notable difference between the capabilities of HCPs working in hospitals in cities versus those in rural areas. During interviews conducted as part of an unpublished analysis project, multiple stakeholders across hematological disease areas noted discrepancies between the knowledge of novel therapies and treatment strategies held by urban and rural doctors ([The Bloc, 2024](#)). Understandably, an area with limited resources has limited access to therapies or new technologies, which may contribute to a relatively lower level of knowledge.

The rarity of a condition also affects HCPs' capability. For example, hidradenitis suppurativa is difficult to diagnose because of its low incidence, the stigma around its symptoms ([Marron et al., 2025](#)), and the low level of interest among general practitioners (GPs). Even among GPs with a special interest, the number of cases provides little experience for knowledge exchange.

Access to high-quality education is another key factor in the varying levels of knowledge among HCPs. Specialists generally have more and better access to continuing education than GPs. A survey found that a high proportion of specialists were optimistic toward novel therapies; this was largely recognized and appreciated by patients ([de Montalembert et al., 2024](#)). In contrast, patients indicated that fewer non-specialists were open to newer treatments. Given that the majority of patients in lower- and middle-income countries (LMICs) are not managed by specialists, more education, training, or information dissemination is needed for frontline HCPs throughout their careers ([de Montalembert et al., 2024](#)).

3.2 Education on the practicalities of applying findings from clinical trials is a common need

Clinical trials use strict protocols that limit their ability to reflect the full range of real-world clinical scenarios ([American Society of Hematology, 2016](#)). As a result, practical education on new therapies often fails to prepare clinicians for diverse patient populations and complex management challenges. This is particularly the case for patients with multiple comorbidities or of different demographic

groups (such as older adults or ethnic minorities), and for specific adverse events outside trial settings. For example, newer hemophilia therapies show an increased thrombosis risk in trials (Mancuso et al., 2024); although events were infrequent and not severe, there was anxiety about managing them in practice, highlighting a need for stronger real-world guidance.

The lack of guidance on the practicalities of including a new therapy into existing treatment pathways is also a common reason for slow uptake. When biologics were first introduced to manage ulcerative colitis, gastroenterologists were uncertain about how to start therapy, what to monitor, when and how to adjust doses, and when to stop (Peyrin-Biroulet et al., 2015). Generating and disseminating this practical knowledge was instrumental in building confidence among gastroenterologists in advancing care (Beraldo et al., 2021).

4 Common opportunity factors affecting HCP behaviors

4.1 Resource or access limitations and practical factors may affect HCPs' capacity to change

While HCPs are generally aware of guidelines, application is often hindered by differences between guidelines and the reality of local situations. This is particularly the case in LMICs where resources are limited and may not allow the full adherence to recommendations (Zieroth et al., 2025). For example, guidelines or management recommendations may propose frequent monitoring of response and escalation of treatment if a target is not met (Peyrin-Biroulet et al., 2015), but this can be difficult to implement when there is little to no access to tests or subsequent lines of therapy, or insufficient staff to carry out the required tests. Consequently, treatment may not be escalated as early as recommended. In one case where we investigated the behavioral factors influencing treatment adherence among patients with chronic hepatitis D across multiple centers in Italy, we found that approximately 1 in 10 patients experienced medication delays (Badia et al., 2024). Further discussion with clinicians confirmed that regional disparities in drug availability and laboratory services exist; while some centers combined various tests and procedures in one visit, this practice was not widespread, potentially contributing to the delays observed.

Another barrier to the adoption of a new therapy is the impact on workflow (work-up, paperwork, etc.). In some locations, only one therapy from the same class can be listed in a hospital's drug formulary. Prescribing an unlisted therapy, e.g., will require additional paperwork, creating a barrier to its use.

4.2 Access to treatment, diagnostic, and monitoring tools poses a barrier to the adoption of medical advances

Access to advanced therapies, vaccines, diagnostic tools, and medical devices varies across countries and locations. Many LMICs do not have or have delayed/limited access to the latest advances, leading to the slow or lack of accumulation of experience. The rollout of the COVID-19

vaccines was a clear example where access directly affected uptake despite patient willingness to be vaccinated (Fox et al., 2023).

5 Common motivational factors affecting HCP behaviors

5.1 Perception of benefits of new therapies affects HCPs' confidence in exploring new options

Satisfaction with existing therapy and perception of benefits of novel options are key determinants for whether HCPs adopt a new practice, which often requires overcoming the habit of using tried and tested regimens. This is particularly the case when the benefits of a new practice are not tangible or immediately apparent (e.g., delayed progression), or are balanced by disadvantages, such as cost, or work-up or monitoring needs. For example, when checkpoint inhibitors were first introduced in oncology, many HCPs were unfamiliar with their adverse event profiles and preferred using chemotherapy-based regimens, which are associated with predictable, albeit more severe, side effects. Similarly, the treatment landscape for auto-inflammatory diseases is crowded with many therapeutic options (Smolen et al., 2022; Smolen et al., 2023). To differentiate therapies, newer trials aimed for more stringent endpoints that may not be familiar to HCPs. While many HCPs welcomed the expanded treatment options, some discounted the more stringent endpoints as "marketing tactics" and believed that existing therapies were "good enough."

Benefits of treatment may not be sufficiently appreciated by clinicians, frequently due to differences between clinical trial design and real-world practice. For example, itchiness is a debilitating symptom in chronic cholestatic liver diseases and is included as a primary endpoint in clinical trials (Kanda et al., 2025). However, while HCPs appreciate the trial results, they find the cost-to-benefit ratio of using a novel therapy to treat pruritus to be high despite the availability of data suggestive of longer-term liver benefits. Interstitial pulmonary fibrosis is a progressive lung disease associated with high disease burden and mortality. While a novel treatment has been found to delay progression, this benefit may not be viewed as "good enough" because it is not immediate or tangible. There is an opportunity to better contextualize trial endpoints in terms of patient wellbeing, disease control, and long-term progression to enhance acceptance and adoption by HCPs.

Perceived drug cost is also a common cause of inertia in taking up novel agents. If overall management cost was not considered, many clinics in LMICs preferred using factor replacement therapies to manage patients with hemophilia because of the perceived lower short-term cost, despite the availability of non-factor agents that may offer long-term economic benefits.

5.2 Past personal experiences (or experiences of peers) and emotions may affect HCPs' perspective and decision-making

While HCP decisions are largely guided by clinical recommendations, protocol, and data, their own and their peers'

clinical experience play a major role in influencing their judgment. For instance, while JAK inhibitor use in patients with atopic dermatitis is associated with acne as a side effect (Sun et al., 2023), meta-analyses were unable to differentiate the JAK inhibitors in terms of their likelihood of causing acne (Martinez et al., 2023; Sun et al., 2023). Interviews with HCPs, however, found polarized results: some stated they would only use one JAK inhibitor over another due to the risk of acne as a side effect, while others stated the opposite choice for the same reason.

5.3 HCPs' perception of patients may also influence their decision-making

While HCPs are professional and strive to be impartial, personal biases may inevitably affect their actions. In a sickle cell disease survey (de Montalembert et al., 2024), a notable proportion of patients described being mistaken for drug seekers by emergency room HCPs. While this is likely to be unintentional, it may delay treatment and prolong suffering for patients with sickle cell disease. In the cross-sectional, multicenter study conducted in Italy, we found discrepancies between HCPs and patients on the understanding of treatment goals: while clinicians thought the treatment goals were clear, they were not fully understood by patients; this may affect treatment adherence and, therefore, outcomes (Badia et al., 2024). In atopic dermatitis, some dermatologists refused to escalate treatment because they felt the patient's condition was "not that severe" or believed the patient was nonadherent to topical therapies.

5.4 HCPs' beliefs about consequences are important and frequently overlooked factors affecting their motivation to change

HCPs' unwillingness to escalate or change treatment in the management of chronic diseases may occur due to fear of limiting future options. Not all diseases have multiple lines of treatment, and not all clinics have access to the different lines of treatment available. Hence, switching treatment to a different class may be viewed as reducing future options.

6 Effective communication initiatives should aim to address key behavioral barriers and/or reinforce existing drivers

Here, we summarize key themes of factors influencing HCP behaviors. While this analysis is not exhaustive, we find that, regardless of geographic location and therapy area, HCP behaviors are influenced by various overt and covert factors related to capability, opportunity, and motivation.

In general, capability and opportunity factors are easily identified and frequently considered. They are often interlinked: access to various interventions reinforces knowledge and skills and vice versa. Motivational factors, although influenced by capability and opportunity, are more often non-conscious and are frequently

overlooked. They include HCPs' perceptions, past experiences, goals, and beliefs. These motivational factors play a major role in determining the appropriate direction a communication intervention should take. Here, we complement the COM-B model with the ACT Matrix by investigating how motivational factors are subjectively experienced and how they are oriented toward or away from HCPs' professional goals. For example, HCPs in LMICs often face access issues and may have a low level of practical knowledge on the use of advanced therapies. However, strategies to improve HCPs' exposure and acceptance differ based on their perception of advanced therapies. A resource-appropriate treatment consensus may be useful among HCPs who are convinced of the benefits of novel therapies, while reframing the advantages in terms of HCPs' goals may be more effective among those who are not.

We found similarities in HCP behavioral drivers and barriers across different therapeutic areas, but the combination of these factors in specific scenarios is unique. Communications in different areas, therefore, require a tailored approach. For instance, the use of preventive measures, such as vaccines, anti-fracture, or antithrombotic medicines, shares similar issues in that the effect of the intervention is not immediate or easily quantifiable. Because the target patient populations are often generally healthy or asymptomatic, offering such interventions is frequently a low priority for HCPs. However, there are clear differences in these areas: vaccines face hesitancy, misinformation, as well as fatigue (Giezeman-Smiths et al., 2025); osteoporosis and thrombotic diseases are chronic conditions where optimal management relies on patient adherence. Motivational factors for HCPs managing these conditions also vary by region. While raising awareness of the untreated disease is necessary for these conditions, the approaches should be different. Effective communication relies on identifying and directly addressing the behavioral factors via the use of behavioral change techniques (Michie et al., 2013; Hart et al., 2023).

In one case, we supported the promotion of a cardiovascular therapy with proven superiority to its competitor but failed to capture the expected market share (The Bloc, 2017). Behavioral analysis found that the lack of prescriptions was related to the habits of HCPs as well as a lack of recognition of the additional benefits conferred by the superior product. Based on this finding, we designed a program that leveraged anticipated regret to demonstrate the potential impact of not prescribing the most effective drug available. The campaign focused on how a treatment decision may directly impact the survival of patients, with a subsequent 46% year-on-year increase in sales growth. This was attributed to the message making the consequence of inaction tangible. The campaign was emotionally driven and directly spoke to HCPs, rather than focusing solely on data.

In another example, we were tasked to raise awareness of cardiovascular risks among the general population (The Bloc, 2020). Our behavioral analysis showed that many viewed cardiovascular disease as a "solved problem" and overestimated the impact of established cardiovascular treatments and dietary supplements. To counteract these beliefs, we took a three-pronged approach: (a) personalize cardiovascular risk by highlighting the gap between perceived and actual protection, making residual risk emotionally compelling; (b) reframe the use of supplements by stating the fact that no supplement has demonstrated clinical evidence or is indicated to reduce cardiovascular risk; (c) contextualize the residual cardiovascular risk despite the use of conventional treatment, thereby

creating a motivation to address an unsolved problem. In response, a third of the people exposed to the campaign enrolled to learn more about cardiovascular risk. These examples show that a systematic approach to behavioral analysis, such as BE-COMMS, can help uncover valuable insights that could help drive behavioral change.

Although our analysis is not systematic, it provides a well-rounded overview of factors influencing HCP behavior, as well as our perspective on effectively tailoring communications to bring improvements to patient care. It is important to note that changing a behavior or its underlying drivers (capability, opportunity, motivation) is a dynamic process, affecting the broader system (Kok et al., 2016), which can create new drivers or barriers that affect future behaviors. With the landscape of communications advancing and changing rapidly, there is an ever greater need to closely assess human behaviors and tailor messages accordingly, such that communications speak directly to people's needs and evoke the desired behavioral change.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors without undue reservation.

Ethics statement

Ethical approval was not required for the study involving humans in accordance with the local legislation and institutional requirements. Written informed consent to participate in this study was not required from the participants or the participants' legal guardians/next of kin in accordance with the national legislation and the institutional requirements.

Author contributions

MC: Data curation, Formal analysis, Project administration, Conceptualization, Investigation, Writing – original draft,

Writing – review & editing, Resources. BS: Resources, Formal analysis, Conceptualization, Data curation, Writing – review & editing. MS: Data curation, Conceptualization, Writing – review & editing, Resources. FP: Writing – review & editing. TR: Methodology, Writing – review & editing, Conceptualization, Resources.

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