



Talking About Addiction

An Interim Message Memo

A FRAMEWORKS RESEARCH REPORT

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ADDICTION REPORT 3 OF 3



About FrameWorks Institute:

The FrameWorks Institute is an independent nonprofit organization founded in 1999 to advance science-based communications research and practice. The Institute conducts original, multi-method research to identify the communications strategies that will advance public understanding of social problems and improve public support for remedial policies. The Institute's work also includes teaching the nonprofit sector how to apply these science-based communications strategies in their work for social change. The Institute publishes its research and recommendations, as well as toolkits and other products for the nonprofit sector, at www.frameworksinstitute.org.

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Introduction

This preliminary MessageMemo on framing addiction summarizes research conducted by the FrameWorks Institute for the Alberta Family Wellness Initiative supported by the Norlien Foundation. To assist the Foundation's ambitious goals of redefining addiction to include both processes and substances, and to expand public understanding of the causes and solutions to addiction, FrameWorks Institute conducted a series of studies designed to document the conceptual challenges in the public's understanding of addiction, and prescribe communications strategies that will improve understanding and increase support for evidence-based programs and policies to address addiction.

This research on addiction is informed by our broader research agenda in Alberta on effective translation of the science of early childhood development. In this related research, we have documented both the constraints and opportunities in the public's understanding of the intellectual, social and emotional development of children, including the role of genetic predispositions and environmental stressors.^{1 2} We already use this robust "core story" of early child development (see Appendix A) as the foundation for analyzing and prescribing strategic communications about child mental health; as it relates to the early biological antecedents of addiction, our foray into the issue of addiction represents another extension of this core story.

The research on addiction synthesized in this report documents a considerable lack of understanding about what addiction is and what causes it. The gaps between lay and expert understandings are significant and have implications for public consideration of appropriate intervention and treatment. Furthermore, both a lack of science-translation and a scarcity of addiction scholars in media depictions, along with a highly patterned and caricatured portrayal of addiction and the addicted in these news stories, demonstrate a profound need and opportunity to improve the public's scientific literacy regarding addiction.

Work on the prescriptive stages of our research is ongoing; in the interim, we offer this MessageMemo that summarizes findings to date. At this juncture in the research process, FrameWorks Institute has: (1) established the primary and recurring themes in the academic literature/scholarly discourse on addiction; (2) assessed the dominant frames on addiction made available to the public through the media discourse in Alberta; (3) documented the cultural models available to ordinary Albertans when they think about addiction; (4) observed small groups of Albertans interact with and negotiate concepts of addiction; and (5) conducted a preliminary test of frame elements that can be shown to improve support for addiction-related policies. Our research continues with the refinement and empirical investigation of simplifying models that might deepen public understanding of addiction – specifically, what it is, and what causes it. To date, more than 4,600 Albertans have participated in the research that seeks to answer these questions.

This interim MessageMemo charts a course through the dominant patterns of reasoning employed by the public, identifies the major challenges for communicators, and recommends how communications

may be redirected to improve public understanding. It is organized as follows:

- » We first **Chart the Landscape** of public thinking by providing a description of the dominant patterns of thinking that are chronically accessible to people in reasoning about addiction and the communications implications of these dominant models.
- » We then identify the **Gaps in Understanding** between experts and ordinary people – features that bring into relief the specific locations where translation is needed if expert knowledge is to become accessible to the public in understanding and reasoning about addiction.
- » We then provide an outline of **Preliminary Redirections**, based on the research to date, that represent promising routes for improving public understanding of addiction.
- » We end with a cautionary tale of the **Traps in Public Thinking** that must be avoided if reframing is to succeed.

I. Charting the Landscape: Default Patterns of Thinking about Addiction in Alberta

The mental landscape on addiction is a complicated terrain. In this section, we discuss the most prevalent and highly shared paths, or “cultural models,”³ that ordinary Albertans rely on when asked to think about what addiction is, what causes it, and what are effective solutions. These constitute the most important challenges that the prescriptive reframing research will address. It is crucial that communicators who would seek to redirect the conversation and build new understandings be aware of these default patterns of understanding in knowing what they and their communications are up against.

A. First, our informants relied on two cultural models when asked to explain *what addiction is*.

1. Addiction is a chemical dependence.

Informants explained that addiction is caused by chemical properties of certain substances. These properties make some substances essentially irresistible and physiologically or psychologically necessary. As a result of this cultural model, many people believe that a single exposure to particular substances, such as crack cocaine or meth, can lead to addiction. Another belief structured by this model is that one can’t be addicted either to substances or to processes that lack these inherent addictive properties, i.e., food, sex, gambling. A final consequence of the application of this model is that addiction becomes narrowly defined as dependence on alcohol, tobacco and certain drugs.

[Addiction] is about the strength of the chemical. It’s [addiction] about the

addictive properties of the chemical. Caffeine is a stimulant, but it doesn't influence our serotonin to the point that crack cocaine does. So now we're working on a chemistry level.

Alberta Cultural Models Interview Informant⁴

Implications for communications:

One implication of this cultural model is that it conceptually collapses the definition of addiction (i.e., being vulnerable to a substance's addictive properties) into its cause (i.e., being vulnerable to a substance's addictive properties). So one can only be addicted to a small class of things with addictive properties and other more behavioral addictions fall outside of the definitional parameters of "addiction." Another communications implication is that the role of neurobiological processes in addiction is diminished in importance when addiction is defined using this model. After all, if substances are inherently addictive, it is simply usage of specific substances that explains why someone becomes an addict. When thinking along these lines, the importance of a wide range of solutions and treatments – anything that comes after the introduction of a substance – is effectively obscured. A final implication is that the chemical dependence model strengthens the moralist's view of the addict, who is seen as someone who lacks the will to resist exposure to the addictive substance⁵.

2. Addiction is an internal "need" response.

Alternatively, informants defined addiction as a process of insatiable and irrational need. We should note that they did not define "need" in any clear way, nor did they link "need" to biology. Rather, they articulated "need" imprecisely, as a psychological or internalized state whereby a "want" mysteriously morphs into a "need."⁶ Employing this definitional model, there is an awareness of "something going on inside"⁷ but a lack of understanding of psychological or biological processes.

Addiction is a need to have whatever it is they need to have.

Alberta Cultural Models Interview Informant⁸

Usually it's because we can't get enough of whatever it is. We need to continuously fill that need, or something.

Calgary Peer Discourse Session Informant⁹

Implications for communications:

One implication of this model is that it opens room for communications to explain neurobiological

processes, because it directs attention away from a narrow focus on external substances and towards internal dynamics. Put another way, the model creates space to talk neurobiology in its implication of some connection between a person's internal states (or traits) and external triggers. Another implication is that when our informants employed this definitional model, they considered a greater range of substances and processes as potentially addictive (i.e., not just alcohol and drugs). This is not to suggest that the "need" response model is conducive to understanding process addictions, as defined by experts, however. When they employed this model, our informants generated long lists of things that one might become addicted to (video games, shopping, texting, etc.). At the same time, they found it hard to understand how exercise, work or other activities that might be healthy in some circumstances could be potentially "addictive." This is likely due, at least in part, to the highly stereotyped and sensationalized image of the addict as living far outside of normal experiences. A lack of understanding of the neurobiology of addiction is the other culprit in derailing what appeared at first blush to offer opportunities to work along the grain of the dominant cultural models.

So which is it?

It may seem contradictory that individuals can, on the one hand, suggest that addiction is driven by the chemical properties of particular substances and, on the other hand, employ understandings that addiction is the fulfillment of an internal need. It is not unusual, however, for individuals to toggle between two different, highly accessible cultural models – this is actually a feature of the discrete and pre-existing nature of cultural models – there may be more than one brought to bear in thinking about an issue, and they may very well contradict each other. The quote below shows an example of these models being used almost simultaneously:

I think a lot of it is self-control. To think – there are addictions where it is "chemical," and there's something inside that craves that drug, or whatever, but I think a lot of addictions are just a matter of self-control, and if you just inserted a little self-control, you know, you could start a new habit, and fix yourself.

Calgary Peer Discourse Session Informant¹⁰

Perhaps the most interesting implication of these two definitional models is that they lead to different assumptions about where responsibility lies for addiction, with significant implications for reasoning about appropriate interventions and treatment. In the first case, attributing responsibility to the individual for addiction becomes a bit more difficult once one has defined the cause as external to the individual. In the second case, our research demonstrated that when the "internal need" model became operative, informant discussions of responsibility were trained squarely on individual choice and behavioral control.

It is interesting that the definitional model of need was more common in group-based discussion than in individual interviews.^{11 12} What this suggests is that, as these groups function as illustrations

and distillations of social norms and expectations, this need-based definitional model and its notions of willpower, self-control and individual responsibility represent the more dominant of these two definitional models. As the quote above illustrates, there were aspects of the chemical dependence model apparent in peer group discussions, but when such models became evident in discourse, their activation was tended to be followed by a rapid default back toward internal individualistic explanations. The dominance of this line of thinking becomes even more evident when informants talk about the causes of addiction.

B. When asked to explain what *causes* addiction, our research revealed two primary cultural models at play.

1. Addiction is caused by early developmental disruption PLUS the experience of a proximate trigger.

Informants readily suggested that addiction is caused by some experience or set of experiences that happened early in life. This model was also documented in our Alberta research on early childhood and children's mental health, particularly when informants were asked to explain the causes of mental illness.¹³ Although our informants were not able to specify exactly how development is disrupted, they were resolute in thinking that what happens early in a child's life has long-term effects. Even without an explicit understanding of the processes of development, they reasoned that early experiences are necessary for establishing emotional control, coping, social knowledge and "life skills." They were also confident that addiction is caused by negative experiences that somehow "get embedded" in the child and have long-term negative effects.

I think family life plays into it [addiction] a lot. Trauma as a child, things like that...I think childhood trauma plays into it [addiction] massively.

Alberta Cultural Models Interview Informant

At the same time, informants explained that there are factors that can trigger addiction in and of themselves: the need to escape or avoid problems; the need to fill a void; and having access to particular substances. However, they argued that the most likely pathway to addiction was the experience of early childhood adversity coupled with the experience, later in life, of one of these more proximate triggers. They often explained that, for example, early adversity was likely the creator of the voids, such as a lack of fulfilling relationships that needed to be filled. Despite this nod to process, our informants often invoked a "damage done" model when asked to explain the outcomes of these types of experiences. In other words, they argued that developmental disruption could be so harmful as to lead to irreparable damage. This clearly has enormous implications for the public's understanding of prevention and appropriate treatment of addiction. If the damage is done, the best we can hope to do is manage the harm; neither preventing nor curing addiction is part of the equation.

Implications for communications:

Some Albertans adopt a developmental stance, believing that early experiences get carried forward into adult life. Even though this and other research suggest that the domain of “development” is unstructured and unsupported by deeper understandings that model how development works, the presence of the connection between addiction and childhood experiences is a promising foothold from which communications can work to translate science and present policy messages. In other words, the fact that there exists a connection between early experiences and later addiction in the minds of Albertans opens the door for scientists and advocates to explain *how* early experiences promote or derail development, and with what influence on addiction.

Secondly, understanding environmental triggers sets up broader thinking about influences external to the individual. This connection has promise in opening Albertans up to considering how the contexts of children’s development might be improved through programs and policies. Informants did, in fact, acknowledge that friends, educators, and community mentors can and do shape children’s development; thus, they can play a role in protecting against vulnerability to addiction. However, the considerations of the processes by which experiences affect development are quite shallow and tend toward abstract notions of internalization (i.e., “something” experienced somehow gets embedded into one’s self). This suggests that providing the public with more effective translation of the science of development writ large, through simplifying models like brain architecture that concretize this very idea – might improve understanding of how addictions develop and how they may be prevented.

2. Addiction is caused by reaching a tipping point along the continuum of control.

A second model that structures the public’s thinking about addiction is the idea that there is a “continuum of control,” with self-control on one end and lack of control on the other. Informants explained that addiction was caused when an individual reaches a *tipping point* along this continuum and crosses the threshold into the “lack of control” end of the continuum. Informants also discussed how developmental experiences, such as abuse or living with parents with substance abuse issues, determined the length of the continuum and the position of each individual’s tipping point (i.e., shaping the length of time it might take one to move between points along the continuum), while proximate triggers, such as access to substances or stress, were seen as propulsion factors (i.e., the forces that push an individual along the continuum toward an addictive state). Informants explained that someone has reached the tipping point when they become severely dependent, compulsive, or destructive – or, more colloquially, when they lack “self-control” or have moved from a position of “wanting” to one of “needing.”

Despite considering early adversity, environmental triggers, and the existence of some continuum of control, our informants still focused on how individuals choose to deal with the problems, and the adversity and “voids” that they experience. This line of thinking tended to crowd out other ways of understanding addiction causation that emerged from our research. In this way, informants

downplayed the role of stressors and focused instead on how individuals deal with the sources of stress in their lives, which, they reasoned, are an unavoidable part of life. The ability to move toward self-control on the continuum was explained in terms of personal attributes such as self-determination and willpower. Our informants consistently summoned these concepts when asked to explain why one person suffers from an addiction and another does not. Self-determination and willpower were used to explain whether people “choose” addiction to deal with their problems and the extent to which they can control their addictive behavior.

Implications for communications:

The notion of a continuum of control as a model used to think about addiction causation may encourage Albertans to consider the benefits of preventive measures and/or interventions at discrete points in time (i.e., before the tipping point is reached). But the dominant and powerful model of self-control and willpower that is firmly entrenched in and connected to the continuum model warrants concern and needs to be avoided. This model unfortunately reduces the range of solutions to consider, as treatment efficacy is related to the desire to change and the application of sufficient self-discipline. As we also found in our research on children’s mental health, Albertans’ thinking was highly reliant on *mentalist* models of reasoning, which are sets of assumptions that rely on highly individualistic and personal explanations for social phenomena.¹⁴ As applied to addiction, the reasoning is that there are stressors everywhere, and despite forces that compel one toward or over the tipping point, the individual is still in charge of her destiny. Because mentalist models obscure context, it is imperative to emphasize socio-cultural and community contexts as proximate factors, a notion that the continuum model appears to support, and to steer clear of messages that focus exclusively on the individual or family alone.

Finally, it is important to note that we observed relationships among these models, such that the patterns of reasoning used to think about what causes addiction often shaped thinking about what constitutes addiction, who is responsible, and what the possible solutions are. This suggests simultaneously a challenge and opportunity to communicators: activating certain causal models predisposes people to think in particular ways about appropriate intervention and treatment. The developmental disruption model has promising features, but lacks any specificity with regard to developmental processes; activating this model, then, will essentially drive thinking toward fatalism and the perception of “damage done is damage done.” The tipping point model leads to individual, not systemic, attributions of responsibility, both in terms of cause and treatment outcomes. In both cases, the consequences accrue only to the individual and his or her family; the consequences of addiction for society are simply masked by these lines of thinking. It is very difficult, given this mental landscape, for Albertans to think more broadly about the public dimensions of addiction. It will be very important, then, for communicators to effectively explain the true causal mechanisms of addiction and to do so in ways that connect the dots to effective interventions.

II. Gaps in Understanding

Gaps in understanding are those places where the cultural models employed by the public to think about an issue are significantly dissonant from the experts' understanding of the same issue. These also represent opportunities for strategic framing to bridge gaps between expert and lay understandings, and are the focus of much of our future research on this topic. We begin our discussion with an explanation of the significant gaps in Albertans' understanding of addiction, and then demonstrate how often-deployed framing strategies in expert and media communications can trap public thinking by triggering unproductive patterns of reasoning.

Gap #1: The “What It Is” Gap

Experts explain addiction as related to the neurobiology of reward systems¹⁵, and as manifesting in the loss of an individual's ability to rationally assess the costs and benefits of particular actions. For experts, addiction is brain-based and related to cognitive functioning. In contrast, the public defines addiction in terms of the chemical properties of certain substances or, more commonly, as an internalized need.

Further, expert interviews revealed a tension in the field regarding the definition of substance and process addictions. Many experts acknowledged that there are only subtle and nuanced differences between process addictions (e.g., work, sex) and substance addictions (alcohol, drugs). Others argued that there are fundamentally different mechanisms by which different types of addictions stimulate the brain reward circuitry. The public, however, is hard pressed to define anything that can, in some circumstances, be positive and rewarding (work, exercise, sex) as representative of addiction. While they will argue, in theory, that one can become addicted to anything, they implicitly but powerfully define addiction as related to substances.

Gap #2: The “How It Happens” Gap

The cultural models interviews revealed a sizeable gap between expert and lay understandings of genes, their expression, and the implications for outcomes. This gap was also found in FrameWorks' earlier qualitative research investigating public understanding of gene- environment interaction,¹⁶ as well as in Albertans' understandings of children's mental health¹⁷. Experts understand addiction as caused by a dynamic relationship between genes and environments that shapes the development and functioning of neurobiological systems. There is tension among experts in defining specific causal mechanisms at play in all addictions (substance and processes). But experts agree that repeated exposure to sources of addiction, such as drugs or gambling, engages and affects specific brain circuits in ways that result in compulsion and loss of control. In contrast, Albertans clearly understand environmental triggers as influencing susceptibility to addiction, but don't understand how that process works. Without an understanding of the “how,” they default to assertions that outside events somehow “get embedded” in individuals or that self-control is the key mediating variable. And, when reasoning about genes, they do so in strongly deterministic terms (i.e., that genes are set in stone, are immune to influence, and alone can determine behavior, personality, etc.).¹⁸

Gap #3 - The Solutions Gap

Experts firmly asserted the efficacy of interventions in the prevention and treatment of addictions. This is in direct contrast to our public informants, who largely claimed that once damage is done during development, damage is done. And, therefore, once an addict, always an addict. The issue of “control” factors prominently into both expert and public considerations of addiction and its treatment, but in very different ways. For experts, addiction is defined as a neurobiologically-based lack of control. Responsibility is conferred on the factors that shape those neurobiological systems — experiences, environments, and exposures. Solutions to the problem of addiction are those that can more optimally shape those systems.

In contrast, the public both underscores the need for personal responsibility and self-control in managing behavior, staying away from the “tipping point” and in overcoming addiction. Interestingly, if an individual has lost control, she is therefore not responsible for her behavior. It is, then, the lack of control that causes addiction. This control proposition is also applied to think about the efficacy of treatment. In general, our informants argued that, if interventions “worked,” it was due to the self-determination and willpower of the individual. The role of communities, government, and society more generally were rare in our informants’ discussions of how best to address addiction. In addition, informants narrowly interpreted addressing addiction as treating people already identified as addicts.

III. Traps in Public Thinking

In the following section, we list those aspects of thinking about addiction that trigger models that may be “easy to think” but which trap public thinking in unproductive evaluations and judgments.

a. The Early Adversity Trap

It is important to reshape Albertans’ understanding of the specific developmental processes that can shape addiction outcomes, but calling attention to the role of early adversity *alone* will not do the trick. Even those who understand that early experiences matter tend to believe that *damage done is damage done*. Their lack of understanding of *what* develops in the child and *how* development can be facilitated leaves them unable to see how interventions at particular points in the developmental trajectory might either prevent or successfully treat addictions.

b. The Nature/Nurture Trap

When we attempted to demonstrate the interactive effects of biology and environment in the development of addictions, we often saw informants take sides on the role of nature or nurture in determining outcomes. Informants saw the issue as a “nature vs. nurture” debate, and missed the explanation of the interactive effects of biology and environments. Most of our informants argued that environments were the most important factor in addiction and pointed to the child’s home as the most important environment. Others reasoned that biology equals destiny, because

genes are set in stone and that certain people are simply wired to become addicts. Still others were thrown by this biological determinism argument from their peers, as it ran right up against their notions of willpower as a central determinant of addiction. Future research will refine explanations of addiction as operating at the intersection of biology and environment with the goal of overcoming this trap.

c. The Willpower Trap

Both cultural models interviews and peer discourse sessions revealed Albertans' reliance on individualist models to define addiction, and explain its causes and outcomes. For example, willpower can explain why some are able to stay on the control side of the continuum, in contrast to those who reach the tipping point. Similarly, the efficacy of treatment is often explained according to an individual's willpower and desire to change. Any communication that emphasizes self-determination, personal responsibility and willpower will obscure the science translation of causal factors and appropriate treatments for addiction.

d. The Iconic Image Trap

Informants often described addicts as somehow fundamentally different from "normal" people. As reported in O'Neil,¹⁹ the media is filled with images that "otherize" addicts and portray their behaviors or life contexts as far outside normal experiences. Our informants often characterized addicts as homeless, jobless, as engaging in criminal behavior. Once such notions were generated, our participants were virtually unable to reason about how community contexts might shape the onset and course of addiction. The notion of addiction as individual pathology simply obscured broader contexts from consideration.

IV. Preliminary Redirections

Building a more productive route along the cognitive map of addiction will require communicators in Alberta to counter those highly accessible but unproductive patterns of thinking that limit the public's understanding of the causes, essential features and mechanisms, and treatment options for addiction. This will require the introduction of strategic framing elements that translate expert understanding by clarifying what addiction is, how it happens, and how it can be prevented or treated. Strategies to reframe addiction will also need to make explicit the public dimensions of the issue. Although the prescriptive stage of FrameWorks' research is in process, we offer some preliminary do's and don'ts for communicators.

DO:**1. Prime communications with two values: Interdependence and Ingenuity.**

As noted above, the existing mental landscape makes it very easy for Albertans to see addiction as an individual issue and highly difficult to consider collective consequences. Specific framing strategies are needed to orient Albertans such that they can consider a broader notion of what is at stake in both the prevention and treatment of addiction.

Our research suggests the effectiveness of two particular values in structuring this orientational shift. The value of Interdependence has been shown to effectively orient Albertans toward the importance of using collective tools and resources to address addiction, while Ingenuity works to tap into Albertans' sense of innovation on behalf of the common good. It is important to note that these two values were designed to specifically address some of the communications challenges of addiction. The value of Ingenuity evokes a "can do" attitude and promotes solutions to the problem of addiction. The value of Interdependence encourages people to see that all parts of the province are interconnected and that addressing addiction is beneficial to everyone. Both of these values put the issue in the public rather than private domain and emphasize a pragmatic notion that addiction is an issue that can be effectively addressed.

Here are examples of how one might implement these values in practice:

Ingenuity

As a province, Alberta needs to invent more effective solutions to address addiction issues. Innovative provinces have been able to design highly effective solutions to address addictions of all kinds, such as programs that focus on early identification and diagnosis and therapies that have a strong focus on changing people's patterns of thinking and that last for a longer period of time than is typical of current addiction interventions. These innovations have solved problems in how we provide care for addiction and have led to significant improvements in the lives of people who are addicted and their families.

Interdependence

Albertans know that what affects one part of Alberta affects us all. We need to have programs that get people to work together to solve our health and social problems like addictions, as well as programs that prevent the factors that put people at risk for addiction. Albertans know that we function best when all members of our community come together to use our resources to deal with problems. When we share responsibility for the health of our communities, this bonds our communities together and allows us to deal effectively with problems.

Here are some key components that *must be included* when these values are implemented in communications:

- » A can-do assertion that solutions are available and they need to be implemented
- » An explanation that using resources today can produce long-term improvements in quality of life
- » The notion that collective action to resolve problems bonds communities and has implications for the province as a whole

Here are some things that *should be left out* of the description of these values:

- » Any direct reference to specific substances or processes
- » Any mention of the role of the individual in determining the efficacy of solutions

2. Rely on the core story of early child development to build on what Albertans already believe²⁰.

FrameWorks' reframing tools on early childhood offer communicators a rich set of resources. The core story is consonant with the science of the neurobiological development of addiction. Further, it has been vetted and validated in prior research in Alberta²¹, and which followed 12 years of research in the United States²². The fact that Albertans see early experiences as significant in the development of addiction, but cannot exactly identify how, suggests an opportunity for communicators to rely on aspects of the core story of development to fill certain gaps in the public's story of addiction. A strategic pivot to aspects of the development story – which explains the *what*, the *how*, and the *to what effect* of development – could help fill in some of the missing pieces in public understanding of the causes of and processes involved in addiction.

3. Make explicit the role of communities, government and society in addressing addiction.

Albertans clearly think about the family as embedded in and influenced by communities. This represents an opportunity for communicators who wish to broaden understanding of addiction policies and programs that function at the community level. This might include epidemiologically based assessments of risk factors or community supports for Albertans dealing with addiction. When community contexts are made explicit, it improves understanding of how policies and programs might shape developmental outcomes and, by extension, addiction.

Communicators should always be aware, however, of the ability for this wider lens to constrict when people are provided with cognitive cues that activate the individualist models in their swamps of understanding. Communications that focus on the individual or family will get eaten in the swamp of individualism, obscuring social influences and supports. Focusing on individuals also runs the risk of triggering explanations that individuals are unique and, therefore, no community-based or population-based program could possibly address the range of individual differences.

DON'T:

1. Focus initially or exclusively on individual addicts and their families
2. Talk about specific substances early in the communication
3. Highlight factors related to individual control or willpower when discussing effective treatments
4. Focus on the role of early adversity without explaining developmental processes
5. Reinforce stereotyped images or portrayals of addicts or addiction

Conclusion

The cognitive terrain of addiction in the minds of Albertans offers up a complex map with many ancillary routes and dead ends. But this map also reveals opportunities in the cultural landscape. The derailed development model, along with an understanding of proximate triggers, has two important implications for communicators. First, it signals an opportunity for science translators to explain the neurobiological processes involved in addiction. Albertans know that development matters and believe that experiences matter, but they cannot further specify the process. It is this lack of specificity that leaves them vulnerable to unproductive and stereotyped considerations about what addiction is and what causes it. Further, although Albertans asserted a need for interventions that might address the root causes of addiction, they were unable to grasp what those might be and how such interventions would work. To begin to bridge the “what it is” and “how it happens” gaps, communicators can rely on the core story of development. This core story can provide Albertans with a more concrete and complete understanding of developmental processes, including how development is both facilitated and derailed.²³ While we do not suggest that this can solve the host of conceptual problems that are very specific to addiction, there is considerable evidence that Albertans’ lack of understanding of development limits their understanding of the causes and course of addiction, as well as its prevention and treatment.

There are also important lessons to be learned in how communicators can begin to reshape the media discourse, which currently reinforces many of the more problematic cultural models of addiction on which Albertans rely. FrameWorks’ media analysis²⁴ revealed that media portrayals of addiction were highly individualistic and sensational – vivid images of the effects of addiction on families, with particular attention to drug- or alcohol- induced parenting and its ill effects on children. Despite this focus, there was virtually no explanation of how children’s developmental outcomes were affected. These media depictions reinforce notions that the most important environmental context is the home without explaining the factors that shape the home environment. Further, such depictions invigorate considerations of the moral dimensions of personal choices and behaviors, and obscure the role of communities and social forces.

Perhaps even more significantly, there was not a single story in FrameWorks' media analysis that dealt directly with the science of addiction, nor did researchers or scientists serve as messengers with any regularity. Albertans, then, have virtually no access to a public discourse that treats addiction as an issue of science. We know from FrameWorks' research on early child development and mental health that Canadian media are, in those cases, largely dependent on scientists and researchers as storytellers.²⁵ This presents an immediate opportunity for those scientists and researchers who study the neurobiology of addiction to be recruited as public translators of the science of addiction. Without a translation of the science that situates addiction as rooted in neurobiology, which is shaped by environments and experiences, and for which social and provincial resources can impact course and treatment, the more destructive cultural models outlined here will prevail and inhibit understanding. While we have presented some preliminary routes through the mental landscape in Alberta, future stages of research will focus on developing and testing metaphorical models that will be held accountable to improving public understanding of precisely these mechanisms.

Appendix A

FrameWorks Institute’s research with the National Scientific Council on the Developing Child has resulted in the articulation of an overall “core story” or key elements of development. An explanation of the Core Story of Development can be found in FrameWorks’ Framing Early Child Development MessageBrief, which can be found here:

http://www.frameworksinstitute.org/assets/files/ECD/ecd_message_brief_2009.pdf

The essential outline of the Core Story is as follows:

- » **VALUE: INGENUITY** Innovative states and communities have been able to design high-quality programs for children. These programs have solved problems in early childhood development and shown significant long-term improvements for children — but many places still don’t have access to these innovations.
- » **WHAT DEVELOPS: BRAIN ARCHITECTURE SIMPLIFYING MODEL** The basic architecture of the human brain is constructed through an ongoing process that begins before birth and continues into adulthood. Like the construction of a home, the building process begins with laying the foundation, framing the rooms and wiring the electrical system in a predictable sequence. Early experiences literally shape how the brain gets built; a strong foundation in the early years increases the probability of positive outcomes. A weak foundation increases the odds of later difficulties.
- » **HOW IT GETS BUILT: SERVE AND RETURN** The interactive influences of genes and experience shape the developing brain. The active ingredient is the “serve and return” relationships with their parents and other caregivers in their family or community. Like the process of serve and return in games such as tennis and volleyball, young children naturally reach out for interaction through babbling and facial expressions. If adults do not respond by getting in sync and doing the same kind of vocalizing and gesturing back at them, the child’s learning process is incomplete. This has negative implications for later learning.
- » **HOW IT GETS BUILT: CAN’T DO ONE WITHOUT THE OTHERS** You can’t focus on developing just one part of the child without paying equal attention to the other capacities. Cognitive, emotional and social capacities are tightly connected throughout the life course. Being an interactive organ, the brain utilizes some functions to enrich others. Language acquisition, for example, relies on hearing, the ability to differentiate sounds, and the ability to pay attention and engage in social interaction.
- » **HOW IT’S DISRUPTED: TOXIC STRESS** Chronic stressful conditions such as extreme poverty, abuse or severe maternal depression — what scientists now call “toxic stress” — can

also disrupt the architecture of the developing brain. This can lead to lifelong difficulties in learning, memory and self-regulation. We know that children who are exposed to serious early stress develop an exaggerated stress response that, over time, weakens their defense system against diseases, from heart disease to diabetes and depression.

- » *WHAT ARE THE CONSEQUENCES: PAY NOW OR PAY MORE LATER* Trying to change behavior or build new skills on a foundation of brain circuits that were not wired properly when they were first formed requires more work and is less effective. Remedial education, clinical treatment and other professional interventions are more costly and produce less desirable outcomes than the provision of nurturing, protective relationships and appropriate learning experiences earlier in life. The exaggerated neurological response to toxic stress never goes away, with costly consequences for both children and society.

- » *WHAT ASSISTS WITH OPTIMAL DEVELOPMENT: EFFECTIVENESS FACTORS and RETURN ON INVESTMENT* We can measure “effectiveness factors” that often make the difference between programs that work and those that don’t work to support children’s healthy development. Without these effectiveness factors, some children can spend just as many hours in a program, but not show many positive outcomes. In addition, we can evaluate the efficiency of programs for young children by comparing the benefit of the investment to the cost. This allows a reliable comparison between programs that don’t improve child development and those that show real results.

ENDNOTES

¹ Moira O’Neil, “Destiny or destructive environments: How peer discourse sessions toggle between child mental health and illness” (FrameWorks Institute, 2010), http://www.frameworksinstitute.org/assets/files/PDF_childmentalhealth/destiny_or_destructive_environments.pdf.

² Nathaniel Kendall-Taylor, “Conflicting models of mind in mind: Mapping the gaps between the expert and the public understanding of child mental health as part of strategic frame analysis” (FrameWorks Institute, 2009), http://www.frameworksinstitute.org/assets/files/PDF_childmentalhealth/competingframesofmentalhealth.pdf.

³ Naomi Quinn and Dorothy Holland, “Culture and cognition,” in *Cultural Models in Language and Thought* (Cambridge University Press, 1987), 3-40.

⁴ Nathaniel Kendall-Taylor, “Rounding up the associations: How perceptions of addiction are recruited” (FrameWorks Institute, 2010).

⁵ Moira O’Neil, “Changing addiction from a ‘sin problem’: Peer discourse sessions on addiction” (FrameWorks Institute, 2010).

⁶ Ibid.

⁷ Kendall-Taylor, “Mapping the Gaps Between Expert and Public Understandings of Addiction in Alberta,” 16.

⁸ Nathaniel Kendall-Taylor, “Mapping the Gaps Between Expert and Public Understandings of Addiction in Alberta.”

⁹ O’Neil, “Changing addiction from a ‘sin problem’: Peer discourse sessions on addiction.”

¹⁰ Ibid.

¹¹ Lynn Davey, “Talking children’s mental health and the core story of child development in Alberta” (FrameWorks Institute, 2010).

¹² Moira O’Neil, “Changing addiction from a ‘sin problem’: Peer discourse sessions on addiction.”

¹³ Davey, “Talking children’s mental health and the core story of child development in Alberta.”

¹⁴ Nathaniel Kendall-Taylor, “Kids must have mental health...but they can’t, can they?: How Albertans think about child mental health” (FrameWorks Institute, 2010).

¹⁵ This is not a connection made by all experts in addiction, but rather one emphasized by a specific part of the field that focuses on developmental neurobiology.

¹⁶ M. Erard, “More to genes than that: Designing metaphors to explain epigenetics” (FrameWorks Institute, 2010).

¹⁷ Kendall-Taylor, “Conflicting models of mind in mind: Mapping the gaps between the expert and the public understanding of child mental health as part of strategic frame analysis.”

¹⁸ Ibid.

¹⁹ Moira O’Neil, “Changing addiction from a ‘sin problem’: Peer discourse sessions on addiction.”

²⁰ See Appendix A, this document, and FrameWorks Institute’s Talking About Early Child Development toolkit,

here: <http://www.frameworksinstitute.org/toolkits/ecd/ap.html> Reference Applications/Elements of the Core Story

²¹ Lynn Davey, “Talking children’s mental health and the core story of child development in Alberta.”

²² Susan N. Bales, Talking early child development and exploring the consequences of frame choices: A FrameWorks MessageMemo (Washington, D.C. FrameWorks Institute, July 2005).

²³ See Appendix A, this document, and FrameWorks Institute’s Talking About Early Child Development toolkit, here: <http://www.frameworksinstitute.org/toolkits/ecd/ap.html> Reference Applications/Elements of the Core Story

²⁴ Moira O’Neil, “Scientists, holy terrors and lax parents:How the Alberta media tell stories about early child development and its disruptors” (FrameWorks Institute, 2010).

²⁵ Moira O’Neil et al., “Competing frames of mental health and mental illness: Media frames and the public understandings of child mental health” (FrameWorks Institute, 2009), http://www.frameworksinstitute.org/assets/files/PDF_childmentalhealth/competingframesofmentalhealth.pdf.