The Story of the River

David Aylward, Assistant Clinical Professor, Department of Family Medicine, University of Colorado School of Medicine July 2020

The terms "downstream", "mid-stream", and "upstream" are frequently used in health discussions. You may have wondered where this use originated. This is the story that describes the US health system.[1]

Chapter One

Three friends reach the crest of a mountain and see below them a river originating far away to their right, with a huge waterfall to their left. Within it there are specks of color. As they approach, they see the specks are people struggling in the water, and they are being swept over the falls to their deaths.

One of the three races to the river close to the falls, dives in, and begins pulling people to the shore, using the special lifesaving skills she had learned for her first job during high school. She keeps doing this over and over again; but she can't save everyone. Indeed, some slide back into the river because of the muddy shore.

Her friend sees boards, gas cans, and long poles a bit upstream by the side of the river. He constructs a raft, poles into the river well above the falls, and saves batches at a time. But he too is overwhelmed.

Resting by the side of the river in between missions, they both look for their third friend. They finally spot her swimming up the river away from the falls. They shout: "What are you doing? We need your help saving the people here! Get back here and help." Their friend responds: "I'm going to find out who is throwing all these people in the river and try to stop them."

That's the story I first heard. Downstream is acute medical care; midstream is primary care; upstream addresses social determinants that so dominate thriving or being ill.

But the story didn't stop there.

Chapter Two

More people arrive and begin helping. They bring technology. Soon a fleet of cranes and helicopters are deployed next to the falls plucking people out of the water: from upstream and those slipping back in. Plans for complex bridges just above the water are made; drones with human lift capacity are deployed.

The raft in midstream above the falls is supplemented with rowboats, then rowboats with engines, then speedboats. But they don't have enough people to man all the boats, so plenty of people are slipping by.

Two adventuresome types grab a canoe and paddle upstream, shadowed by a bicyclist riding along on the shore, to see if they can help the woman who swam upstream. And still the river is full of people who need to be saved.

[1] In folk music tradition, I have taken this tale that I first heard from the brilliant Dr. Rishi Manchanda and then from others and embellished and expanded it. He calls it the Parable of the River; calls himself an "upstreamist". My first job was as a lifeguard. We were paid to pull people out of the water; not keep them from falling in.

Response to a crisis of this magnitude needs to be professionalized and financed. The finance people arrive to pay for the rescue. The obvious way to pay is for the costs of each life saved ("fee for service"). The vast majority of money is spent close to the falls as each rescue is individually extremely expensive (acute and specialist care). The raft and boats in midstream are more cost-effective per person ("primary care"). It's not clear what's happening upstream, it's out of sight; the need at the falls is so clear. Therefore, no money is invested upstream.[2]

> *The people who went upstream proposed that they should be paid by the number of people who did not fall into and come down the river; they called that plan "Pay for Prevention". Their suggestion was rejected as extreme and illogical. Opposition was strong from the bridge owners.*

Chapter Three

So, what did the woman find when she arrived upstream where people were falling into the river?

She found dense settlement. A variety of obviously poor communities were arranged along the banks of the river, mostly shacks. Other homes were built on increasingly high ground on either side. The quality of everything improved as the ground rose: building construction, appearance of stores, paving of roads, size of schools. She was told there had been repeated heavy rains that had seeped into the cheaper homes, undermined the foundations of the shacks, washed away the small crops around them. The people living in the higher communities got wet, but they had good drainage, strong buildings, and protected fields. The people near the river sank into the muck of poverty, slowly sliding into the river.

Of course, this story is a metaphor for today's American health system – for both rich and poor.

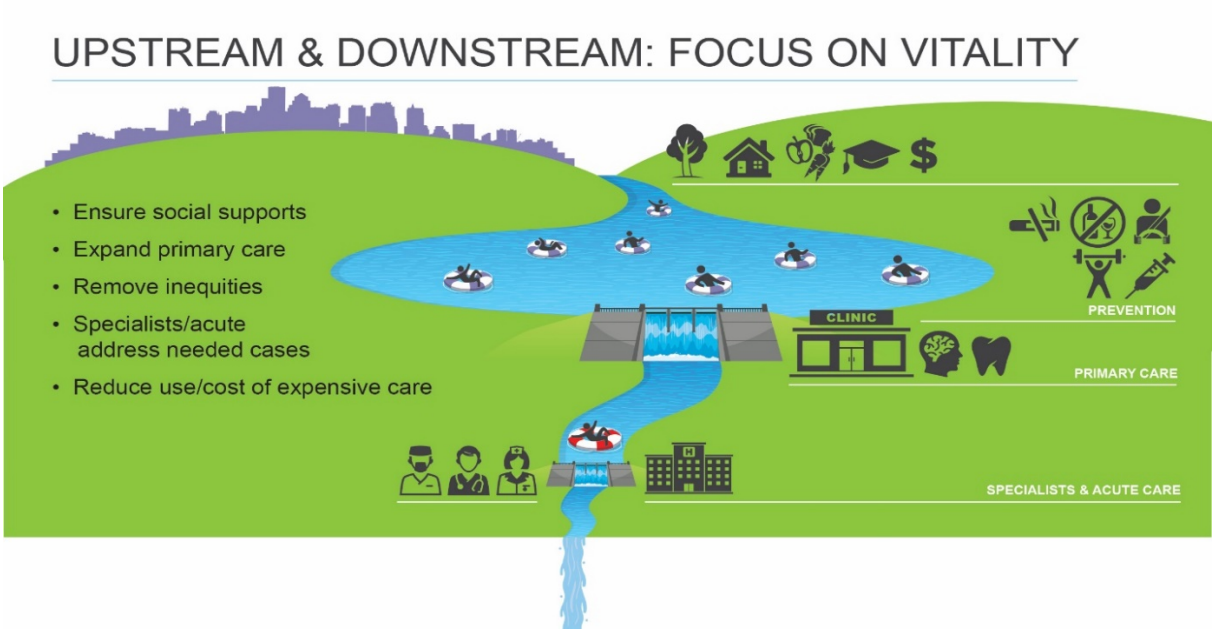
[2] Metaphoric irony. A further complication for investing upstream is that the staff upstream are not part of river rescue organizations so there is no simple way to pay them. They are also trained to keep people from falling in, not water rescue.

The woman saving lives at the falls is the “downstreamist”. She is the acute care specialist and system, the emergency room, the surgeon, and the operating theater. On a fee-for-service basis, all her costs are reimbursed. We spend 87-91 cents of every health dollar on such specialists and acute care – right at the falls in heroic attempts to save people before they go over the cliff. New technology is focused there. It is a vast, growing repair industry. And yet, numerous people they bring to shore slide back in again.

The man with the raft is a “midstreamist”; he is our primary care system. He gets 5-7 cents of every US healthcare dollar. Dollars invested with him save suffering and reduce the need for the very expensive rescues next to the falls. Yet, he lacks resources and cannot work 24/7. Moreover, he gets paid by the visit, so he has no business incentive to focus upstream, outside his primary clinic’s walls. If he keeps people from going down river towards the falls, he gets none of the savings.

The friend swimming upstream is the lonely evangelist for seeking to address the social determinants of health (SDoH) that are the dominant causes of illness and decreased well-being and longevity (50-60% contributor to health; genetics are 30% and highly impacted by SDoH; clinical care is 10-15%). She discovered and began to address the reasons why people fell into the river of illness: lack of good housing, poor diet, low income, untreated behavioral health issues, lack of education, and similar negative influences. She is an “upstreamist”. But there is no system or business incentive to shift more investment from downstream to her work; she gets none of the savings her successful work can create.

In our health system today, we spend $.03 of every health dollar on prevention (e.g. vaccines), and $0.90 on social services (upstream) for every $1 we spend on healthcare. (The average for other developed countries with far better health outcomes than ours is $2 on social services for every $1 spent on healthcare). Can you imagine if the “extreme” idea of investing to keep people from falling into the river and expanding primary care was adopted? We could change the system to look like Figure 2 and Pay for Prevention: better health for less money, with specialists focused on a smaller group with real need.



This is a work in progress that has benefited from critiques and additions by friends and colleagues. I would be grateful for any criticisms and suggestions you may have. david.aylward@cuanschutz.edu.