|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Barrier relevance to technology innovation deployment process** | | | | | | | |
|  |  | Initiation (pre-adoption) | | | | Implementation (post-adoption) | | | |
|  |  | Barrier | Cause | Effect | Source | Barrier | Cause | Effect | Source |
|  | System | Attributes:   * *The US HC system is large (PY2\_DI, Pos. 4): It represents 20% of GDP (PV1\_DI, Pos. 46); it is as large as a nation state (CS1\_DI, Pos. 4/76-89)  “If you were to take all of the healthcare in the United States, all the spending, we do all the hospitals, all the doctors, everything, you’re gonna take the entirety of the US healthcare system, and you were to make it a country, a sovereign nation-state, it would be the fourth largest country in the world, it would be larger than Germany. We spend more on healthcare in the United States than Germany spends. When you have a system that large - I forget, I think the last statistic I saw said one in nine Americans works in the US healthcare system - when you have a system that large, a good idea doesn’t change it. A Pareto superior solution does not change it. A PowerPoint does not change it. A single law, even as big as something like the ACA [Affordable Care Act], doesn’t change it [quote].”* * *Many perverse incentives (CS1\_DI, Pos. 4/85-90)* * *Generation of enormous waste (∼30%): fraud, abuse, mistakes, duplicate procedures, unnecessary procedures (CS1\_DI, Pos. 4/85-90)* * *Healthcare data is siloed / fragmented within and across organizations (CS1\_DI, Pos. 4/60-64; CS1\_DI, Pos. 6; PV3\_ETC2\_DI, Pos. 14)* * *The central role of Medicare, a government run agency to US HC: Makes up the majority of patient flow / over half of reimbursement (CS1\_DI, Pos. 8/151-153; CS1\_DI, Pos. 18/385-393)* * *Medicare is an oversized influencer and director of change in healthcare (CS1\_DI, Pos. 8/153-160)* * *The US healthcare system is not state-run but by for-profit companies (despite the government having some control), i.e., it is a business (CS2\_A2, Pos. 8; M1\_DI, Pos. 14; P18\_Q23)* * *There is a tremendous pressure on margin for many organizations (CS1\_DI, Pos. 22; PV1\_DI, Pos. 28)  “Now, there are lots of super, super rich companies and super, super rich people in healthcare, I’m not saying otherwise. I’m saying many organizations really struggle with margin. We even have a federal law mandating that the margin for insurance companies can’t be more than X% [quote].”* * *Often a few large companies dominating a certain space, such as in health IT Epic, Cerner, etc. (PYV1\_DI, Pos. 22)* * *Providers comply with government mandates in such a user-unfriendly way [comply with the bare minimum] (PV3\_ETC2\_DI, Pos. 8)* * *The HC system has been designed to understand the money flow, not the health data flow and patient care flow (PV3\_ETC2\_DI, Pos. 12)* * *Healthcare cannot stop (PY2\_DI, Pos. 64)* * *IT failures are normalized in the industry (CS1\_DI, Pos. 24; CS1\_DI, Pos. 71-73)* * *HC is insular: It is heavily focused on the inside with their own experts and not on the outside (CDE2\_FA2\_DI, Pos. 62)* * *Everything is connected: A mistake in one part of the HC system has an impact on the downstream (HITV1\_DI, Pos. 26)* * *Everything is done everywhere randomly at providers (HITV1\_DI, Pos. 26)* * *Different parts of healthcare are very different, and they all have different workflows with different consent access and whatnots (PV2\_CDE3\_DI, Pos. 28)* * *Health is so fraught with humanity, i.e., it is very emotional, personal, and private (PV2\_CDE3\_DI, Pos. 69)* * *There is an openly adversarial relationship between provider and payer: Providers wanting to charge more and payers to pay less (CDE1\_A1\_DI, Pos. 36-40)* | * *Providers are highly dependent on the Medicare patient flow and its cash flow (CS1\_DI, Pos. 8/153-160)* * *Between 58% and 64% of every healthcare dollar is spent by the government (Medicare, Medicaid, the federal employees fund, the VA [Veterans Affairs], Indians, railroad workers, state employees, school workers, prisons. This adds up to $4.3 trillion in government spending (CS1\_DI, Pos. 18/385-393)* * *There is a tremendous pressure on margin for many organization (CS1\_DI, Pos. 22)* * *Failed IT implementations (i.e., going back to what there was before) are common (CS1\_DI, Pos. 71-73)* | * *Generation of enormous waste (∼30%)* * *To really move something is hard (PY2\_DI, Pos. 4)* * *Everyone is trying to cut costs (e.g., paying physicians less) without thinking about the downstream effects: Worse patient care (PV1\_DI, Pos. 46)  “Optum is a subsidiary of UnitedHealthcare. And so, they’re an insurance company, but they employ, you know, over 60,000 clinicians and growing, and what they’re doing is they’re taking billions of dollars and just buying whatever private practices are left, and essentially, you have an insurance company that owns these clinicians, and they’re incentivized, if you think about it, they’re incentivizing the doctors to do less because less testing leads to less money that they loose with UnitedHealthcare, right? And so, if they’re able to decrease the testing, they’re able to get profit, and they’re also employing doctors. And so, what they’re doing is they’re making money on both ends, they are making money from the clinicians working, and they’re also making money from the insurance holders [quote].”* * *Anyone looking at healthcare data is trained/assumes that they only see a fraction of that data (CS1\_DI, Pos. 4/60-64)* * *Medicare is an oversized influencer and director of change in healthcare (CS1\_DI, Pos. 8/153-160)* * *Medicare is a slow-to-change, inefficient, and poorly run government agencies CS1\_DI, Pos. 8/153-(160)* * *Lack of interoperability (CS1\_DI, Pos. 6) [see Pr\_TechPerf]* * *IT budgets for organizations are always under pressure with relatively nominal underfunded IT staff that is constantly dealing with well-intentioned government-mandated upgrades and government-mandated new programs (CS1\_DI, Pos. 22)* * *Hospitals do not have a lot of capital available to invest in innovation the way other companies would: Roughly 20 years ago, the average industry in America would spend about 7%-8% of its revenue on IT, the average hospital would spend 2%-3% (CS2\_A2\_DI, Pos. 8)* * *The big health IT vendors merely try to find consensus of the least common denominator (PYV1\_DI, Pos. 22) [see Pr\_TechPerf]* * *Everybody has a different set of incentives (CS2\_A2, Pos. 8) [see Pr\_StakeAlign]* * *The data that providers provide on price transparency is useless (PV3\_ETC2\_DI, Pos. 8)* * *The data is not organized in a user-friendly way so that physicians can do their job (PV3\_ETC2\_DI, Pos. 12) [see Pr\_TechPerf]* * *New things need to run in parallel with old things for a while to see adoption (PY2\_DI, Pos. 64) [see Pr\_PriorTech]* * *Patients are ultimately the product, i.e., every step of the way of the patient journey, there is an opportunity of a dollar exchange (M1\_DI, Pos. 14; P18\_Q23)* * *To keep their lights on hospitals (non-profit and for-profit) are leading their decision-making through finances and revenues (M1\_DI, Pos. 14)* * *They tend not to be career-ending either for the individual employed by the company that made the decision and oversaw the failed effort nor for the vendor who failed to bring the implementation to bear (CS1\_DI, Pos. 24; CS1\_DI, Pos. 71-73) [contradiction M1\_DI, Pos. 48]* * *HC does not really scan what is happening around it and adopt it (CDE2\_FA2\_DI, Pos. 62)* * *[Lots of variability] (HITV1\_DI, Pos. 26)* * *(Because everything is so different) everyone has a different viewpoint on how things should be done and how e.g., data should be managed and exchanged (PV2\_CDE3\_DI, Pos. 28)* * *It has been difficult to bring health into the digital transaction patterns of other industries (it is so fraught with humanity) (PV2\_CDE3\_DI, Pos. 69)* | CS1\_DI, Pos. 4/76-89  CS1\_DI, Pos. 4/85-90  CS1\_DI, Pos. 4/60-64  CS1\_DI, Pos. 6  PY2\_DI, Pos. 4  CS1\_DI, Pos. 8/153-160  CS1\_DI, Pos. 8/151-153  CS1\_DI, Pos. 18/385-393  PYV1\_DI, Pos. 22  CS2\_A2, Pos. 8  PV1\_DI, Pos. 28  PV1\_DI, Pos. 46  CS1\_DI, Pos. 4/60-64  PV3\_ETC2\_DI, Pos. 8  PV3\_ETC2\_DI, Pos. 12  PV3\_ETC2\_DI, Pos. 14  PY2\_DI, Pos. 64  M1\_DI, Pos. 14  CS1\_DI, Pos. 24  CDE2\_FA2\_DI, Pos. 62  HITV1\_DI, Pos. 26  HITV1\_DI, Pos. 26  PV2\_CDE3\_DI, Pos. 28  PV2\_CDE3\_DI, Pos. 69  CS1\_DI, Pos. 71-73  P18\_Q23  CDE1\_A1\_DI, Pos. 36-40 | Attributes:   * *The US HC system is large: It represents 20% of GDP (PV1\_DI, Pos. 46); it is as large as a nation state (CS1\_DI, Pos. 4/76-89)  “If you were to take all of the healthcare in the United States, all the spending, we do all the hospitals, all the doctors, everything, you’re gonna take the entirety of the US healthcare system, and you were to make it a country, a sovereign nation-state, it would be the fourth largest country in the world, it would be larger than Germany. We spend more on healthcare in the United States than Germany spends. When you have a system that large - I forget, I think the last statistic I saw said one in nine Americans works in the US healthcare system - when you have a system that large, a good idea doesn’t change it. A Pareto superior solution does not change it. A PowerPoint does not change it. A single law, even as big as something like the ACA [Affordable Care Act], doesn’t change it [quote].”* * *Many perverse incentives (CS1\_DI, Pos. 4/85-90)* * *Generation of enormous waste (∼30%): fraud, abuse, mistakes, duplicate procedures, unnecessary procedures (CS1\_DI, Pos. 4/85-90)* * *Healthcare data is siloed / fragmented within and across organizations (CS1\_DI, Pos. 4/60-64; CS1\_DI, Pos. 6; CS1\_DI; PV3\_ETC2\_DI, Pos. 14)* * *The central role of Medicare, a government run agency to US HC: Makes up the majority of patient flow / over half of reimbursement (CS1\_DI, Pos. 8/151-153; CS1\_DI, Pos. 18/385-393)* * *Medicare is an oversized influencer and director of change in healthcare (CS1\_DI, Pos. 8/153-160)* * *The US healthcare system is not state-run but by for-profit companies (despite the government having some control), i.e., it is a business (CS2\_A2, Pos. 8; M1\_DI, Pos. 14; P18\_Q23)* * *There is a tremendous pressure on margin for many organizations (CS1\_DI, Pos. 22; PV1\_DI, Pos. 28)  “Now, there are lots of super, super rich companies and super, super rich people in healthcare, I’m not saying otherwise. I’m saying many organizations really struggle with margin. We even have a federal law mandating that the margin for insurance companies can’t be more than X% [quote].”* * *Often a few large companies dominating a certain space, such as in health IT Epic, Cerner, etc. (PYV1\_DI, Pos. 22)* * *Providers comply with government mandates in such a user-unfriendly way [comply with the bare minimum] (PV3\_ETC2\_DI, Pos. 8)* * *The HC system has been designed to understand the money flow, not the health data flow and patient care flow (PV3\_ETC2\_DI, Pos. 12)* * *Healthcare cannot stop (PY2\_DI, Pos. 64)* * *IT failures are normalized in the industry (CS1\_DI, Pos. 24)* * *HC is insular: It is heavily focused on the inside with their own experts and not on the outside (CDE2\_FA2\_DI, Pos. 62)* * *Everything is connected: A mistake in one part of the HC system has an impact on the downstream (HITV1\_DI, Pos. 26)* * *Everything is done everywhere randomly at providers (HITV1\_DI, Pos. 26)* * *Different parts of healthcare are very different, and they all have different workflows with different consent access and whatnots (PV2\_CDE3\_DI, Pos. 28)* * *Health is so fraught with humanity, i.e., it is very emotional, personal, and private (PV2\_CDE3\_DI, Pos. 69)* * *There is an openly adversarial relationship between provider and payer: Providers wanting to charge more and payers to pay less (CDE1\_A1\_DI, Pos. 36-40)* | * *Providers are highly dependent on the Medicare patient flow and its cash flow (CS1\_DI, Pos. 8/153-160)* * *Between 58% and 64% of every healthcare dollar is spent by the government (Medicare, Medicaid, the federal employees fund, the VA [Veterans Affairs], Indians, railroad workers, state employees, school workers, prisons. This adds up to $4.3 trillion in government spending (CS1\_DI, Pos. 18/385-393)* * *There is a tremendous pressure on margin for many organization (CS1\_DI, Pos. 22)* * *Failed IT implementations (i.e., going back to what there was before) are common (CS1\_DI, Pos. 71-73)* | * *Generation of enormous waste (∼30%)* * *To really move something is hard (PY2\_DI, Pos. 4)* * *Everyone is trying to cut costs (e.g., paying physicians less) without thinking about the downstream effects: Worse patient care (PV1\_DI, Pos. 46)  “Optum is a subsidiary of UnitedHealthcare. And so, they’re an insurance company, but they employ, you know, over 60,000 clinicians and growing, and what they’re doing is they’re taking billions of dollars and just buying whatever private practices are left, and essentially, you have an insurance company that owns these clinicians, and they’re incentivized, if you think about it, they’re incentivizing the doctors to do less because less testing leads to less money that they loose with UnitedHealthcare, right? And so, if they’re able to decrease the testing, they’re able to get profit, and they’re also employing doctors. And so, what they’re doing is they’re making money on both ends, they are making money from the clinicians working, and they’re also making money from the insurance holders [quote].”* * *Anyone looking at healthcare data is trained/assumes that they only see a fraction of that data (CS1\_DI, Pos. 4/60-64)* * *Medicare is an oversized influencer and director of change in healthcare (CS1\_DI, Pos. 8/153-160)* * *Medicare is a slow-to-change, inefficient, and poorly run government agencies CS1\_DI, Pos. 8/153-(160)* * *Lack of interoperability (CS1\_DI, Pos. 6) [see Pr\_TechPerf]* * *IT budgets for organizations are always under pressure with relatively nominal underfunded IT staff that is constantly dealing with well-intentioned government-mandated upgrades and government-mandated new programs (CS1\_DI, Pos. 22)* * *Hospitals do not have a lot of capital available to invest in innovation the way other companies would: Roughly 20 years ago, the average industry in America would spend about 7%-8% of its revenue on IT, the average hospital would spend 2%-3% (CS2\_A2\_DI, Pos. 8)* * *The big health IT vendors merely try to find consensus of the least common denominator (PYV1\_DI, Pos. 22) [see Pr\_TechPerf]* * *Everybody has a different set of incentives (CS2\_A2, Pos. 8) [see Pr\_StakeAlign]* * *The data that providers provide on price transparency is useless (PV3\_ETC2\_DI, Pos. 8)* * *The data is not organized in a user-friendly way so that physicians can do their job (PV3\_ETC2\_DI, Pos. 12) [see Pr\_TechPerf]* * *New things need to run in parallel with old things for a while to see adoption (PY2\_DI, Pos. 64) [see Pr\_PriorTech]* * *Patients are ultimately the product, i.e., every step of the way of the patient journey, there is an opportunity of a dollar exchange (M1\_DI, Pos. 14; P18\_Q23)* * *To keep their lights on hospitals (non-profit and for-profit) are leading their decision-making through finances and revenues (M1\_DI, Pos. 14)* * *They tend not to be career-ending either for the individual employed by the company that made the decision and oversaw the failed effort nor for the vendor who failed to bring the implementation to bear (CS1\_DI, Pos. 24; CS1\_DI, Pos. 71-73) [contradiction M1\_DI, Pos. 48]* * *HC does not really scan what is happening around it and adopt it (CDE2\_FA2\_DI, Pos. 62)* * *[Lots of variability] (HITV1\_DI, Pos. 26)* * *(Because everything is so different) everyone has a different viewpoint on how things should be done and how e.g., data should be managed and exchanged (PV2\_CDE3\_DI, Pos. 28)* * *It has been difficult to bring health into the digital transaction patterns of other industries (it is so fraught with humanity) (PV2\_CDE3\_DI, Pos. 69)* | CS1\_DI, Pos. 4/76-89  CS1\_DI, Pos. 4/85-90  CS1\_DI, Pos. 4/60-64  CS1\_DI, Pos. 6  PY2\_DI, Pos. 4  CS1\_DI, Pos. 8/153-160  CS1\_DI, Pos. 8/151-153  CS1\_DI, Pos. 18/385-393  PYV1\_DI, Pos. 22  CS2\_A2, Pos. 8  PV1\_DI, Pos. 28  PV1\_DI, Pos. 46  CS1\_DI, Pos. 4/60-64  PV3\_ETC2\_DI, Pos. 8  PV3\_ETC2\_DI, Pos. 12  PV3\_ETC2\_DI, Pos. 14  PY2\_DI, Pos. 64  M1\_DI, Pos. 14  CS1\_DI, Pos. 24  CDE2\_FA2\_DI, Pos. 62  HITV1\_DI, Pos. 26  HITV1\_DI, Pos. 26  PV2\_CDE3\_DI, Pos. 28  PV2\_CDE3\_DI, Pos. 69  CS1\_DI, Pos. 71-73  P18\_Q23  CDE1\_A1\_DI, Pos. 36-40 |
| System | Attributes-regulation:   * *Healthcare is the most heavily regulated industry in the US (CS1\_DI, Pos. 22)* * *The HC system is built on legacy tools that are extremely private to comply with HIPAA (PV3\_ETC2\_DI, Pos. 8)* * *The US has a very litigious society (CS2\_A2, Pos. 34)*   *State efforts/law and federal efforts/law often work cross-purposes (PV2\_CDE3\_DI, Pos. 12)* |  | * *Providers, in particular their front office staff, view HIPAA strongly (CS2\_A2, Pos. 34)* * *The HC system created this purposeful walled garden of non-interoperable data that doesn’t make sense unless it’s only within that system (PV3\_ETC2\_DI, Pos. 8)* * *Tapestry of rules, regulations, requirements, restrictions, confusion on part of stakeholders and data holders (PV2\_CDE3\_DI, Pos. 12)* | CS1\_DI, Pos. 22  CS2\_A2, Pos. 34  PV3\_ETC2\_DI, Pos. 8  PV2\_CDE3\_DI, Pos. 12 | Attributes-regulation:   * *Healthcare is the most heavily regulated industry in the US (CS1\_DI, Pos. 22)* * *The HC system is built on legacy tools that are extremely private to comply with HIPAA (PV3\_ETC2\_DI, Pos. 8)* * *The US has a very litigious society (CS2\_A2, Pos. 34)* * *State efforts/law and federal efforts/law often work cross-purposes (PV2\_CDE3\_DI, Pos. 12)* |  | * *Providers, in particular their front office staff, view HIPAA strongly (CS2\_A2, Pos. 34)* * *The HC system created this purposeful walled garden of non-interoperable data that doesn’t make sense unless it’s only within that system (PV3\_ETC2\_DI, Pos. 8)* * *Tapestry of rules, regulations, requirements, restrictions, confusion on part of stakeholders and data holders (PV2\_CDE3\_DI, Pos. 12)* | CS1\_DI, Pos. 22  CS2\_A2, Pos. 34  PV3\_ETC2\_DI, Pos. 8  PV2\_CDE3\_DI, Pos. 12 |
| Ease of change:   * *A single thing, e.g., a good idea, a pareto superior solution, some law does not change the large US HC system (CS1\_DI, Pos. 4/76-89)* * *Enormous waste could be all eradicated by policy (CS1\_DI, Pos. 4/85-94)  “And the thing about that statement is I just said a third of Germany could be eradicated like that by policy. What would that do? Even if you can accomplish it. Even if you can wave your magic wand and make it all go away, how many, you know, college funds and, you know, people’s livelihoods are supported by this enormous amount of waste that’s so intractably built into our system? [quote]”* * *Changing the HC system is extremely hard (CS1\_DI, Pos. 4/103; PY2\_DI, Pos. 4)* * *Even though there were strong standards, government mandates, enforcement of these mandates, and the commercial industry (payers, providers, health IT vendors) pulling together, payers and providers failed to send claims using the new formats and the standardized code system (i.e., only 15% auto adjudication rate = when the provider sends a claim to the payer, can it be processed by the payer and sent back to the provider without a human ever touching it?) (CS1\_DI, Pos. 12/311-343)* * *Each involves a whole sea change [as different parts of healthcare are very different, and they all have different workflows with different consent access and whatnots] (PV2\_CDE3\_DI, Pos. 28)* * *It takes a tremendous combination of happenstance for the industry to affect major change without a government mandate (CS1\_DI, Pos. 18/428-19)* | * *The US HC system is as large as a nation state (CS1\_DI, Pos. 4/76-89; CS1\_DI, Pos. 12/311-343; CS1\_DI, Pos. 18/428-19)* * *Many perverse incentives (CS1\_DI, Pos. 18/428-19)*   The need for Medicare as the biggest payer to pave the way *(CS1\_DI, Pos. 18/428-19)* | * Many livelihoods that are supported by this waste would be eradicated [simply changing the entire system is almost impossible] (CS1\_DI, Pos. 4/85-94) * *Intermediators had to emerge to facilitate data exchange (be it because the parties cannot receive standardized transactions despite the system being designed to accept those standardized transaction or because parties are adversaries) (CS1\_DI, Pos. 12/311-343; CDE1\_A1\_DI, Pos. 36-40)* | CS1\_DI, Pos. 4/76-89  CS1\_DI, Pos. 4/85-94  CS1\_DI, Pos. 4/103  CS1\_DI, Pos. 12/311-343  PY2\_DI, Pos. 4  PV2\_CDE3\_DI, Pos. 28  CS1\_DI, Pos. 18/428-19  CDE1\_A1\_DI, Pos. 36-40 | Ease of change:   * *A single thing, e.g., a good idea, a pareto superior solution, some law does not change the large US HC system (CS1\_DI, Pos. 4/76-89)* * *Enormous waste could be all eradicated by policy (CS1\_DI, Pos. 4/85-94)  “And the thing about that statement is I just said a third of Germany could be eradicated like that by policy. What would that do? Even if you can accomplish it. Even if you can wave your magic wand and make it all go away, how many, you know, college funds and, you know, people’s livelihoods are supported by this enormous amount of waste that’s so intractably built into our system? [quote]”* * *Changing the HC system is extremely hard (CS1\_DI, Pos. 4/103; PY2\_DI, Pos. 4)* * *Even though there were strong standards, government mandates, enforcement of these mandates, and the commercial industry (payers, providers, health IT vendors) pulling together, payers and providers failed to send claims using the new formats and the standardized code system (i.e., only 15% auto adjudication rate = when the provider sends a claim to the payer, can it be processed by the payer and sent back to the provider without a human ever touching it?) (CS1\_DI, Pos. 12/311-343)* * *Each involves a whole sea change [as different parts of healthcare are very different, and they all have different workflows with different consent access and whatnots] (PV2\_CDE3\_DI, Pos. 28)*   *It takes a tremendous combination of happenstance for the industry to affect major change without a government mandate (CS1\_DI, Pos. 18/428-19)* | * *The US HC system is as large as a nation state (CS1\_DI, Pos. 4/76-89; CS1\_DI, Pos. 12/311-343; CS1\_DI, Pos. 18/428-19)* * *Many perverse incentives (CS1\_DI, Pos. 18/428-19)*   The need for Medicare as the biggest payer to pave the way *(CS1\_DI, Pos. 18/428-19)* | * Many livelihoods that are supported by this waste would be eradicated [simply changing the entire system is almost impossible] (CS1\_DI, Pos. 4/85-94)   *Intermediators had to emerge to facilitate data exchange (be it because the parties cannot receive standardized transactions despite the system being designed to accept those standardized transaction or because parties are adversaries) (CS1\_DI, Pos. 12/311-343; CDE1\_A1\_DI, Pos. 36-40)* | CS1\_DI, Pos. 4/76-89  CS1\_DI, Pos. 4/85-94  CS1\_DI, Pos. 4/103  CS1\_DI, Pos. 12/311-343  PY2\_DI, Pos. 4  PV2\_CDE3\_DI, Pos. 28  CS1\_DI, Pos. 18/428-19  CDE1\_A1\_DI, Pos. 36-40 |
| Pace of change:   * *It takes a long time, i.e., the lifetime of many people to change the large US HC system (CS1\_DI, Pos. 4/76-89)* * *Changing the HC system is extremely slow (CS1\_DI, Pos. 4/103; M1\_DI, Pos. 12)* | * *The US HC system is as large as a nation state (CS1\_DI, Pos. 4/76-89; CS1\_DI, Pos. 4/103)* |  | CS1\_DI, Pos. 4/76-89  CS1\_DI, Pos. 4/103  M1\_DI, Pos. 12 | Pace of change:   * *It takes a long time, i.e., the lifetime of many people to change the large US HC system (CS1\_DI, Pos. 4/76-89)* * *Changing the HC system is extremely slow (CS1\_DI, Pos. 4/103; M1\_DI, Pos. 12)* | * *The US HC system is as large as a nation state (CS1\_DI, Pos. 4/76-89; CS1\_DI, Pos. 4/103)* |  | CS1\_DI, Pos. 4/76-89  CS1\_DI, Pos. 4/103  M1\_DI, Pos. 12 |
|  |  |  |  |  |  |  |  |  |