### Cholera storyboard: a tale of two cities

####  Background

A disease that is clinically identical to cholera is described in Sanskrit texts as far back as 500 BC. The first cases in Brits were among soldiers stationed in India in 1781. The British papers in 1783 described the cholera death of 20,000 pilgrims at Haridwar in India. The first cases registered in Britain were in 1831. The first London victim died in February 1832, and by the following year, 20,000 were dead.

There were intermittent outbreaks in the UK including a huge on in 1848-49 which killed 50,000.

Meanwhile, Londoners had for centuries been storing waste in cess pits under their houses (filling their cellars with "great heaps of turds" as Peyps said). The city stank; the miasma arising from cess pits were thought to spread cholera. Public health activitsts led by Thomas Chadwick ("All smell is disease") pushed through the Public Health Act of 1848 (aka the "cholera bill"), requiring all buildings to join their waste to municipal sewers. But the municipal sewers led to the Thames.

In 1849, when the population of London was close to 3 million, John Snow publsihed a monograph theorising that chloera was water-borne.The scientific establishment, wedded to miasmas and unwilling to take on the important commercial interests of the water companies, took no notice. The Thames grew dirtier than ever.

The next great outbreak was in the summer of 1854, with an epicentre in Soho. Snow mapped affected households and traced their source of drinking water to a pump at Borad Street; an excavation of the Broad Street pump found that it was linked to a cesspool where the slops from diapers from a baby with cholera had been thrown. Over 600 people in the Broad street area died in a matter of months.

"The time will arrive when great outbreaks of cholera are a thing of the past," wrote Snow. The scientific establishement continued to take little notice. In 1858, a heatwave produced the Great Stink from the Thames. It was so bad that Parliament shut down. But there was NO increase in disease -- a blow to miasmas. It was the stink, and the public outcry around it, that re-booted plans for a sewer system that carried waste beyond the river and the city. By 1865, London was underpinned with 82 miles of sewers. A final cholera outbreak in 1866 killed 4,000 Londoners. It occurred in the only area not yet hooked up to the new sewer sytem, and was clearly linked to improperly filtered water supplied by a single water company (in what is now Hackney, funnily enough!). Since then, there had not been a single cholera outbreak in London. ' (All preceding sourced from 1)

Meanwhile, in other urban areas, cholera continues to kill. There are an estimated 3-5 million cases (about 0.05% of all diarhoea cases) and 120,000 deaths a year, mostly in the under 5s, though it can be treated with oral rehydration salts costing a few cents.2 A strain of cholera known as El Tor killed thousands in India and Bangladesh in the 1960s and 1970s, and its endemic in Calcutta.3 My very first story as a Reuters correspondent in Delhi was about a cholera outbreak in the capital (linked to contaminated water drawn from a hand-pump put in by a campaigning politician)4.

#### Key Parameters

**Victim characteristics: far, near**
When the UK ruled India, it built drains in London, not in the native areas of Calcutta. Why the Indian government hasn't done the same in the 67 years since independence…

**Human influencers: technocrats**The ground-breaking research of John Snow did not, in fact, make very much difference at first. Rather, a decision by a rival technocrat aligned with commercial interests made matters worse, though that's more than we need to know.

**Human influencers: politicans**
It wasn't until the problem of water pollution came truly "near" to the politicians, shutting down parliament, that good intentions turned into action and sewers were built.

**Infrastructural influences: sanitation**Building London's sewers was an extraordinary technological challenge, expensive, disruptive and perhaps no longer possible in our more directly democratic age. But it solved the problem once and for all.

**Time**

#### The story

This is a tale of action taken and action not taken. Same bug, same overcrowded slums, same outcome -- regular outbreaks of a rapid and noxious killer. In one setting, politicians make a necessary one-time investment and the problem is solved. In another, they fail to and the problem persists.

#### Music and staging notes

We start with a series of cholera outbreaks in Indian music-- no reaction.

Then the first London outbreak in the 1830s. The parameter representing London cholera death picks up. Scientists/technocrats start to buzz (something a bit pompous and Victorian?), the politicians ignore them. [actually, they choose the wrong solution, but that may be a bit complicated] The death parameter bursts forth again. The scientists get louder. Politicians still ignore them. Then comes The Stink -- it literaly gets up the politician's noses.

In comes the drains. The whole city gets covered with drain noise, except one little corner. The death music fades out of all other areas, but has a final burst in the drain-free region.

Meanwhile, in the Indian music, the cholera outbreaks just keep on coming and going, as they ever did.

#### Data needs

Need to find more info on cholera outbreaks in Calcutta. Colonial era records available at British library, but there's bound to be a paper about it in the Wellcome Library. Interesting background in Notes on the Epidemic Cholera, RH Kennedy, 1827. Detailed reports of cholera in Calcutta -- ebook free online.

**Kevin Notes**

It looks good to me. The only thing that seems unclear is how we show the timelines of both London and Calcutta. It’d be nice to have them overlapping or at the same time.

Themes: water, the river, children

### http://standtall4pts.org/wp-content/uploads/2015/03/70443_fx1.gifStoryboard – PTSD

## Background

Post-Traumatic Stress Disorder (PTSD) has been recognized for centuries (Shakespeare described its symptoms in Henry IV, Part 2) but diagnosed during First World War as “shell shock.” Added to *Diagnostic and Statistical Manual of Mental Disorders* in 1980.

The diagnostic criteria for PTSD in [ICD-10](https://en.wikipedia.org/wiki/International_Statistical_Classification_of_Diseases_and_Related_Health_Problems) include (lasting longer than one month):1

* "Reliving" the trauma by flashbacks, recurring dreams, or by distress when exposed to circumstances resembling or associated with the stressor.
* Persistent symptoms (not present before exposure) shown by any two of the following: difficulty in falling or staying asleep; irritability or outbursts of anger; difficulty in concentrating; hyper-vigilance; exaggerated startle response.

It affects about 1 in 3 people who experience events such as military combat, terrorist incidents, fires, violent assault, sexual abuse, natural disasters like floods or earthquakes.2

Research among US Vietnam Veterans suggests that “the most significant predictor of both suicide attempts and preoccupation with suicide is combat-related guilt.” Many Veterans experience highly intrusive thoughts and extreme guilt about acts committed during war.3

The “cures” are both medical (drugs, counselling, psychiatry) and social (reconnection with community, decent housing, jobs, relationships). Except in acute cases, the social interventions may be more important. There is evidence that music therapy can work well.4

Political hot potato: need to “honour the heroes” but also take responsibility for putting them in harm’s way, and a duty of care when they come back psychologically damaged. Even worse if politicians have to take responsibility for non-combatant victims.

### Parameters

1. **Invisible** to the eye, and people often don’t seek or receive help. Like other mental illness it can be hard to talk about, hard to admit, hard to diagnose. Once a moral failing (“pull yourself together, soldier!”), then a medical condition limited to soldiers, and now widely applied to a range of victims (recent article asks if Afghanistan’s entire population has PTSD)
2. **Near/far.** Our soldiers are our sons, brothers, fathers; the non-combatants are faceless “others” far away.... Except when they show up on our shores as traumatized refugees and migrants.
3. **Treatability**. Some people shake it off, others die of it (suicide), many simply have their emotional and social lives blighted by it.

### Story: The squaddie and the mother

Once an embarrassing commonplace (“he went a bit doolally after the war, drank a lot, topped himself poor chap”) PTSD has become a medical condition that governments have to take responsibility for – but only rich governments, and only for their fighting men, and it isn’t done very well because *medical fixes aren’t enoug*h. The story of the British squaddie’s lonely anguish meshes with another story: the enduring pain of non-combatants – so many of them women – in Syria or Afghanistan or Sri Lanka who’ve witnessed their family or neighbours destroyed by drone or bomb, and get zero mental assistance. (parameters: innocent but far away, and “not our responsibility”, no services). The hopeful part of the story is that the best “cure” is often the social one: the British squaddie and the Pashtun or Tamil or Syrian mum may find comfort, if not salvation, in coming together.

### Music and staging notes

PTSD can be “imaged” through brain scans.5 On-stage official denial (“it’s all in the mind”) can be belied by the medical evidence of changes to post-trauma brains. A doctor (or our data-nerd MC) could argue with a general about it.

Symptoms can be portrayed in sudden rage and violence (screaming guitar, crashing percussion), in extended depression (the blues, the lament), in flashbacks (recurring images on a screen, or simply recurring sounds and lights).

The journey from embarrassing commonplace to medical condition can portrayed by historic headlines (firing squads for “cowards”, revelations about numbers of soldiers diagnosed with shell-shock after the Somme, current campaigns for Help for Heroes NGO). Also by the Rudyard Kipling poem “Danny Deaver” about a British soldier executed in India (*For they're done with Danny Deever, you can 'ear the quickstep play/The regiment's in column, an' they're marchin' us away/Ho! the young recruits are shakin', an' they'll want their beer to-day/After hangin' Danny Deever in the mornin'.*)

The condition’s commonality to the squaddie and the mother can be expressed in a shared melody played by different instruments and in different styles to denote their geographic diversity, or by different melodies that have a common chord structure and can merge when they come together in the community “cure.”

### Data needs and sources

Prevalence is an important parameter. Gather together the estimates of PTSD in general populations, among combatants, among non-combatants. Data timeline begins with First World War, but current stats can probably tell a sobering story.

There is also a data story of resources devoted to UK soldiers’ psychological needs vs lack of mental health care available in the Asian countries mentioned.

**Sources**

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### Storyboard – Coronary Heart Disease’s Social Contagion

#### Background on CHD

CHD was responsible for 31% of global deaths in 2012[[1]](#footnote--1). It is the largest cause of death in developed countries; (although it affects developing countries most severely[[2]](#footnote-0)). The main causes of CHD are poor diet, smoking, a lack of exercise and stress; along with direct treatment, addressing these risk factors is the most effective way to reduce CHD prevalence[[3]](#footnote-1).

In theory, everyone in the UK has equal access to healthcare, but people of different ethnicities present themselves to GPs at different rates and have different levels of “health literacy”. What’s more, certain communities can more easily access and afford nutritional food.

#### Parameters

* **Treatable, disabling, *preventable***
* **Chronic**, with **acute episodes**
* **Anyone** can be a victim
* Victims are “**guilty**” by lifestyle, but this is affected by…
* **Health system**, and…
* Other **commercial interests** (Big Agri, Big Tobacco)

#### The story

CHD is driven by risk factors, driven by commercial interests (e.g. Big Tobacco, the food industry). Different groups are affected to differing degrees, and some receive treatment when others don’t.

**1 An acute episode:**

A wealthy Londoner is walking through their daily business and suffers a heart attack. The response is rapid – it might be useful to have someone visually representing treatment and resuscitation. This sets the scene for the chronic story… (it might even set the beat)

**2 A chronic story:**

Now there are a bunch of heartbeats, beating steadily. Some become irregular as commercial interests are introduced (in the form of lyrics/instruments/melodies or perhaps a call/échauffement, like in West African drumming).

The effects (on some groups) steadily grow worse. A few of the heartbeats are helped by treatment, returning their heartbeats to normal. (These people feel entitled to healthcare; the groups that don’t are those who tend to present later.)

(NB – is the diet inequality more associated with ethnicity, or with income?)

**3 An acute ending:**

The music has built to a cacophony of irregular heartbeats. Finally one of them bursts. The resuscitator comes over but it is too late – the beat stops.

#### Musical and staging ideas

* A heart attack could be well represented rhythmically, beginning with a steady beat and changing it noticeably (perhaps with lighting to highlight the change).
* The repeating cycle of a heartbeat is in two parts: contraction and expansion – “lub-dub”. What about a call and response where one group is lub and another dub. This might be difficult and confusing with multiple heartbeats though.
* The resuscitator could be in the role of a conductor or band leader, who goes to each section in turn to check their health. However, this resuscitator also allows outside influences into his orchestra. Along come tobacco and the food industry (perhaps a loudish instrument playing a melody to an off-kilter rhythm), they selectively target some sections, which then pick up the disturbed heart-beat.
* The “chronic” section of this piece might be an opportunity to do a musical collage without diluting the message conveyed – make a collage of musical styles (each with their own heartbeat) reflecting the ethnic diversity in London.
* Or, it could be a sequence: we see the Indian classical, Chinese and Latin beats falter and return, passing on the baton to the next group. Eventually, one of them cannot continue. (Which group this is will come from the data.)
* At the “cacophony” stage, the irregular heartbeats are noticeably clashing (we could use discord, clashing rhythms or even different tempos…) but some get their health back and are brought back into the fold, implying there is some groove to return to. The music might be a round which sounds pleasant when “healthy” but clashing when unhealthy.
* The whole piece ends when the beat stops – no more heart beat. One way to make it dramatic could be to use an elaborate tihai that sounds unsteady and irregular before ending abruptly.
* Themes: blood, heartbeat

#### Data to find

Prevalence of CHD (in London) by cause, risk factor, income, ethnicity(?)

Rates of self-presenting by income, ethnicity

(Variation of diet by ethnicity)

**Potential sources:**

Very good source of comparative data on this is IHME's Global burden of disease data, which you can use for global comparisons, as well as for England: <http://vizhub.healthdata.org/gbd-compare/england>

You should be able to get more detailed data on ethnicity etc for the UK (and London commissioning areas) from the National Cardiovascular Intelligence Network: <http://www.yhpho.org.uk/ncvinc>

<http://heart.bmj.com/content/78/6/555.short>

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<http://www.ncbi.nlm.nih.gov/pubmed/18042654>

<http://www.ncbi.nlm.nih.gov/pubmed/20230652>

<http://www.ncbi.nlm.nih.gov/pubmed/22700834>

<http://www.ncbi.nlm.nih.gov/pubmed/23293243>

### https://i.ytimg.com/vi/JOXFJ59N6hA/hqdefault.jpgStoryboard – Dengue and Zika

#### Background

Dengue is found in 110 countries straddling the Equator, and is transmitted by female mosquitoes mainly *Aedes aegypti* (which also transmits Zika infection). Symptoms include fever, headache, vomiting, muscle and joint pains, skin rash. Severe dengue can kill through hemorrhagic fever or shock, but most cases treated like flu, with bed rest and paracetamol.

Dengue was identified in Jin Dynasty China (265-420 AD). In Swahili it is called “Ka-dinga pepo” (caused by evil spirit). WWII really kick-started it, and rates increased 30 fold between 1960 and 2010 due to urbanization, population growth, international travel, global warming.

The numbers fluctuate but a recent estimate indicates 390 million infections per year. A half million people with severe dengue require hospitalization each year, many of them children. About 2.5% die. The year 2015 had large dengue outbreaks worldwide, including Philippines, Malaysia, Brazil, India. Brazil alone reported over 1.5 million cases in 2015.1

Zika is related to dengue and carried by the same mosquito. It first appeared in 1947 in Uganda’s Zika forest. Until 2007 there were only 14 confirmed cases, but it has recently appeared in large numbers in Latin America, notably Brazil (I CAN’T FIND PREVELANCE FIGURES]. Presents like a very mild Dengue fever, often with a rash, red eyes, joint pain.2,3

However, Zika virus is a cause of microcephaly and other birth complications in infants. “Typically, microcephaly occurs in .02 percent to .12 percent of all U.S. births. The prevalence of even more common congenital conditions, such as Down syndrome, is often less than 1 percent. By contrast… the estimated risk for microcephaly with Zika infections in first trimester of pregnancy ranged from 1 percent to 13 percent.”4 Zika is suspected to be the cause of 2,400 cases of microcephaly and 29 infant deaths in Brazil in 2015.5

#### Parameters

1. **Shock factor**. Microcephaly is a nightmare for a prospective parent, and can be a huge drain on family resources and public health budgets during the child’s lifetime.
2. **Media**. The crossover between the shock factor, fears about Olympic athletes, and general confusion has given rise to a lot of speculative and scary media coverage.
3. **Prevalence** and **Time**. Dengue is endemic, and its development over time shows that it is a true creature of globalization – and global warming could make it even worse. Zika is growing, but it is nowhere near the scale of Dengue. Measures to reduce Dengue (mosquito nets, stagnant water control) would largely reduce Zika.
4. **Near/far**. Dengue occurs far away from UK, only experienced by tourists who then come back to be treated by good health systems. Zika is similarly far away but brought closer by the idea of thousands of athletes travelling to the Rio Olympics. [possible **Big Pharma** connection: there are vaccines for Dengue, but no big push to roll out or fund them – the South can’t/won’t pay for it, and the North won’t fund it]

#### Story: From Dengue merengue to Zika samba[[4]](#footnote-2)

Mosquito-borne Dengue is one of the WHO’s 17 “forgotten tropical diseases.” It has been growing and globalizing for a long time. But so long as it stays in the South and doesn’t kill large numbers of people in one place, it gets little notice in the North’s media or public consciousness or research facilities.

In contrast, Zika has grabbed our notice because of its shock factor and its as-yet unknown impact on a huge sporting event scheduled for Rio. By next year we should have some idea of whether the fears were justified. If they were, and there a lot of microcephalic babies showing up in other countries, there may be an increase in Zika funding and programming – which would be helpful against Dengue. But if the fears are unfounded, the interest in Zika will fall, and it will be just another forgotten tropical disease.

#### Musical and staging notes

This is the one disease in the show spread by a visible and audible creature we all know so...

Consider the mosquito. She leads millions through the Dengue merengue (and possibly Adungu music6 – [click](https://www.youtube.com/watch?v=7wFiAPOe9UI) for YouTube link from Uganda, where a major strain of the disease began) in the global South, but up here we don’t really worry about her – the tune is faint, though many are dancing or singing with her. But when she starts the Zika samba and the fear of babies with small heads begins, the music gets loud and a lot of people in the North take her picture – even though the numbers following the dance are small. Possible refrain for lyrics: “My name is Aedes aegypti, and I’ll lead you a merry dance.” Pronunciation is Ay-ee-dees Ee-jip-tai, so six syllables, but can be five if you rhyme Aedes with Hades.

The time and prevalence aspect could be portrayed onscreen as we follow the diseases’ spread on projected maps, accompanied by increasing numbers of instruments playing quietly until Zika erupts.

#### Data needs and sources

Need to get data on the two diseases (1) geographically and (2) over time for prevalence, deaths, and Zika-related microcephaly.

Try to quantify the media and scientific interest over time:

* Dengue press/scientific articles
* Zika press/scientific articles
* “Dengue + Zika” press/scientific articles

**Sources**

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### HIV and activism storyboard

####  Background

Human immunodeficiency virus is a rather fragile pathogen transmitted largely during vaginal and anal sex but also at childbirth, through breastfeeding and when infected blood is injected into the body, in blood transfusions or when syringes and needles are re-used. Over time, it destroys the immune system so that other opportunistic infections, grouped together in a syndrome known as AIDS, take hold. Eventually they kill the now defenceless patient. However for many years, generally 8 - 10 in untreated patients, HIV is largely asymptomatic and invisible.

AIDS (and thus HIV) was first identified in gay men in the US during the hyper-conservative presidency of Ronald Regan, when homophobia raged. The government largely closed its eyes to HIV, leaving gay men to organise themselves against the epidemic. The gay community was full of well-educated men, relatively wealthy in many cases, and often with important positions in "alternative" professions such as media and the arts. They began to organise very high profile, sometimes extremely aggressive campaigns to pressurise the government into investing in finding a cure. Their campaigns paid off; funding for HIV research rocketed, pharma companies began to develop effective treatment and then to sell it at very high prices in the countries which could afford it (mostly North America, Australasia and Western Europe, where HIV was also concentrated among gay men).

Meanwhile, HIV spread around the globe. In East Asia and Eastern Europe it was driven largely by drug injection, in Southeast Asia by commercial sex. By far the largest number of cases (three quarters of the world total or almost 7 out of 9 million people as early as 1990, and 26 out of 37 million people by 2015) were in sub-Saharan Africa. There the epidemic looked very different; it was spread in sex between men and women, not just commercially but also through polygamy and other broad networks of concurrent sexual relationships which are common, at least according to data collected from household surveys, but frowned upon from the pulpit and other sources of public rhetoric.

At first, no-one even thought of trying to provide HIV treatment on a large scale to African patients: the countries were too poor, infected people were too many, and health systems were too weak. But there developed a very unlikely overlap of interests between HIV activists in rich countries and fundamentalist Christians. The activists were exporting their brand of direct action to other countries (starting with South Africa, where HIV also affected a white gay male sub-population). Some local patient groups started to demand access to treatment. Meanwhile, the Christians were exporting their brand of redemption. Gay men and junkies in the US may not deserve support, but in Africa "innocent women and children" were being infected by their philandering husbands and must be saved.

The Christians forced the hand of the most conservative of all US presidents, George W Bush. He poured 60 million dollars into a programme to buy medicines for Africans, with children and women first in line for treatment. The medicines would be bought from American pharmaceutical companies at full price -- about US$ 8,000 per person per year. But the screechy activists in Africa and elsewhere had learned their lesson well. They yelled loudly about the rules that essentially channelled taxpayers money to American Pharma companies; eventually Bush gave in and the money was used to buy generic drugs from India at about US$ 200 per person per year, thus potentially saving 40 times as many lives.

Now, just 11 years after combination antiretroviral therapy was discovered, 17 million people around the world take the medicine regularly, 12 million of them in sub-Saharan Africa. It happened a lot more slowly than in richer countries, but it has happened. In a world where kids still die of diarrhoea, that's a miracle.

#### Key parameters

**Human influencers: patient advocates and activists**Patient activists are at the heart of this story. Indeed HIV is probably the first disease in the world in which patients took a lead role in driving the political and scientific agenda. But we have another group of "activists" too: the Christian right, who came to the party once the victims were cast as innocents in need of redemption.

**Human influencers: Big Pharma**Big Pharma was initially not very interested in drugs for a "niche" market like gay men: they were bribed into research with government funding, which was bullied out of the government by activists who also used the media to put pharma executives on the spot. Pharma fought to keep prices high, never thinking they'd get anything out of African markets. Eventually they recognised the determination of the treatment access campaigns and went for volume by lowering their prices.

**Victim characteristics: Guilty, partly responsible, innocent**A key parameter in the HIV story. In most of the world, for most of the epidemic, people who contracted HIV were believed to be "at fault" -- it was seen as fair punishment for promiscuity, unnatural sex or addiction. Except where the "guilty" had a loud voice (gay men in rich countries), this meant affected communities could be ignored. Then scientists and others began to sing songs of "innocence", to powerful affect. Women and kids got all the attention, for better and for worse. Closely linked to:

**Victim characteristics: Unpopular, remarkable, cute**Gay men and the groups most affected outside of Africa (sex workers, drug injectors) were certainly socially marginalised at the start of the epidemic. In Africa HIV affects the mainstream (with additional cute children), but because of its roots (and because of the hypocrisy of the churches) it's still highly stigmatised.

**Disease characteristics: Curable, disabling, treatable, fatal**At the start of the epidemic, HIV is fatal. Because of the human influencers (activists influence Pharma) and the interaction between humans and infrastructural influences (Pharma creates medicine) it becomes treatable for those who can afford it. After a bit more human influencing, it eventually becomes treatable for most.

#### The story

The is a story of activism acting like a virus, and spreading around the world. It's also a story of strange bedfellows: two groups that despise one another working for different reasons towards a similar goal. Above all, it's a story of hope: when the incentives are aligned, humans can come together to rise to very considerable challenges, eroding inequity on the way.

#### Music and staging notes

We obviously have the possibility for two songs, a Western and an African one. The Western song has screechy elements that catalyse other effects -- those same screechy elements somehow carry over into the African music, where similar effects ensue. After the treatment element comes in, the Western music changes very quickly (dying out if we're looking at AIDS death as a parameter, rising rapidly if we're looking more positively at the % on treatment -- I suggest the latter because it will give a more rousing finale). In the African music the change is slower and more modest, because it takes far longer to roll out treatment, but perhaps greater overall, because achievement and sheer numbers are so big.

Can we do something that suggests that the two activist groups -- gay and religious -- are discordant in their views but come into harmony in terms of the goal?

There's also the difference in the unpopular gay guys and the cute kids to work with, perhaps by isolating the patients (then activists) physically on stage in the Western epidemic, integrating them with the whole in the African one?

#### Data needs and sources

The narrative stuff is described in some detail in The Wisdom of Whores. Trends over time by region in total number infected, number of deaths and numbers on treatment are all available in a rather clumsy database: http://aidsinfo.unaids.org/

We could probably track down media coverage of activist stunts and spending on HIV drug discovery if its needed.

**Andrew suggests**:
Cut the background by half. (Elizabeth ignores because she's still under the 2-page limit and doesn't have time to write less.)

### Storyboard – An Arthritic Interlude

**Background on Arthritis**

Arthritis causes pain and inflammation of the joints, which can cause weakness and limit mobility. It occurs worldwide and affects people at all ages, although the risk increases with age.

**Parameters**

* Chronic
* Invisible – there are no obvious signs, and victims tend to stay inside.
* Victims are “old” – but in fact it can even affect children[[5]](#endnote--1).
* Treatable but incurable – seen as a “lost cause”

**Story**

A melody/rhythm is repeated. It begins complex and rich, but gradually deteriorates with age.

This might work best if it happens over the course of several interludes between longer pieces – the first time establishes the melody for the audience and in subsequent repetitions we get deterioration effect.

**Musical and Staging Ideas**

Loads of ways to do deterioration, but maybe use a thinning texture, a range of notes that gradually shrinks, or literally removing notes from the melody. One person suggested piano music as especially good for this, because deterioration of movement of fingers physically impedes playing.

Victims are figuratively invisible, and old ladies don’t have a voice or many people to advocate for them. This is something to highlight – could the musician(s) performing each interlude get progressively older? Or perhaps they could appear more isolated somehow, in a smaller group or with a larger space around them.

Themes: deterioration, invisibility

**Data**

Not much specific data needed but, if needed, looking up other symptoms could provide more inspiration more how to illustrate it musically.

1. <http://www.ncbi.nlm.nih.gov/pubmed/27206934> [↑](#footnote-ref--1)
2. <http://www.ncbi.nlm.nih.gov/books/NBK45693/> [↑](#footnote-ref-0)
3. [Ibid](http://www.ncbi.nlm.nih.gov/books/NBK45693/) [↑](#footnote-ref-1)
4. This is a bit macabre sounding, and I don’t suggest we use these words, but the musical styles may evoke the geographic spread of the diseases. [↑](#footnote-ref-2)
5. <http://www.cdc.gov/arthritis/data_statistics/arthritis-related-stats.htm>

 [↑](#endnote-ref--1)