

**Interview of Ben Kruskal, MD, PhD
Director of Infection Control of Harvard Vanguard Medical Associates**

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David Harlow: This is David Harlow on HealthBlawg, and I'm speaking today with Dr. Ben Kruskal, Director of Infection Control of Harvard Vanguard Medical Associates. Hello Ben, how are you?

Ben Kruskal: I'm very well, David. How are you?

David Harlow: Very well, thank you. So, Ben, we last spoke in the spring as people were just trying to get a handle on swine flu, as the infection was spreading, and as various groups were trying to get ahead of swine flue. So here we are 4, 5 months later and I'm interested to hear: From your perspective, have things gone as you might have expected 4, 5 months ago?

Ben Kruskal: I would say they have. We continued to see some H1N1 disease gradually winding down from the spring through the summer, things were quite quiet through the summer and are still relatively quiet, although we're just beginning to get the intimation of maybe things ticking up again.

David Harlow: OK. I was looking at some Massachusetts Department of Public Health figures and it looked like there was a bit of a spike in late May/early June, does that track with anything that you saw?

Ben Kruskal: That's exactly right. What we saw was seasonal flu winding down through April and then at the end of April and beginning of May, a big spike well above the normal levels for that time, with a gradual trail coming down through May, June and trailing of back to sort of true in between season levels in the middle of July or so.

David Harlow: Okay, so as we look ahead to the following school year, here we are end of summer, college kids are back at school, school kids are back at school, have you seen any uptick in cases what with folks back into school and back in closed quarters with other young folks?

Ben Kruskal: We're not seeing a whole lot of cases here yet but there are certainly reports from all over the country of some outbreaks, localized particularly in the college and the university world.

David Harlow: Do you attribute that to a dumb luck or has there something else been going on locally that may be helping in mitigating this spread?

Ben Kruskal: I don't know that there is anything we can easily attribute it to. I know that there has been some earlier activity in the southeast which may have something to do with an earlier start to the school year for school age kids, they start a week or two at least before we do, so that may explain some of it.

David Harlow: Right, so we may see that on a rolling basis, just as school gets underway.

Ben Kruskal: Exactly.

David Harlow: So we're looking forward to seeing a vaccine in the near future and I'm wondering whether you can tell us anything about the vaccine, and about whether there has been any change in characteristics of the virus overtime. And also – again, back to the vaccine - there has been varying information about whether people will need one dose or two for the H1N1 vaccine.

Ben Kruskal: Well, let me speak first to the issue of the virus changing. Buy and large, it seems to be fairly stable in its behavior through the flu season in the southern hemisphere. Most of the reports were that it was very similar to what we had seen here. There are a few locales where there has been a higher proportion of severe disease, just as it was in Mexico in the very beginning of the outbreak, and we really don't understand why that is the case.

David Harlow: Have any theories been floated or any ideas about why some people are hit harder by this?

Ben Kruskal: There are a few theories out there. One is that the areas that are harder hit may have populations with particular genetic susceptibility to the virus. Another possibility is that in certain locales there are other microbial pathogens, other co-infections that could potentiate the H1N1 and cause it to become more severe. Yet another theory is it relates to lower immune defense because of malnutrition. I don't think that theory flies quite so well as the others because it really doesn't correlate terribly well. The severity of disease doesn't correlate terribly well with economic indicators.

David Harlow: So we're looking forward now to the fall and winter and looking at H1N1 layered on top of the seasonal flu; would you expect there to be a more severe flu season because of the added ingredient to the H1N1?

Ben Kruskal: Well that is certainly a big question mark. The experience that we have to guide us from the southern hemisphere seems to be that by and large the typical flu seasonal flu strains were simply displaced by the novel H1N1. And so rather than seeing the 2 or 3 circulating strains that we normally see in a typical flu season in the southern hemisphere, the vast majority of flu that they saw was the novel H1N1.

David Harlow: Interesting, so it's sort of crowded out others?

Ben Kruskal: Right and that's been a feature of previous pandemics as well, so it's not entirely surprising. So what we anticipate, most likely, is that we will have an H1N1 outbreak - it will last as long as it lasts. It will quite likely occur earlier than typical flu season and hopefully after that's over, it will be over and we won't have any more flu for another year.

David Harlow: Right, but in the meantime, there has been a lot of contingency planning done both by health care providers, schools, employers even looking forward to what they can do to mitigate interruptions in operations in case there is greater incidence of this flu. Are there any particular plans that you can point to that seem to be well thought out and executed on the healthcare front? Thinking particularly about the issue of vaccinating healthcare workers, I remember reading in the past few weeks about some health care providers who have said that they don't want to be inoculated and I'm wondering whether that is something that should be left to the individual provider?

Ben Kruskal: Well, you have to probably start with the trends in seasonal flu vaccination for health care workers. Flu is a relatively unusual virus in that it's serious enough to cause disease that's quite a problem for many patients but it's not serious enough that everybody who gets it won't come to work. So if you have dedicated health care workers who get sick and still get into work, so they don't strand their coworkers and their patients, they are infecting their patients. And so as a result there has been a strong move over the past 5 years or so to increase health care worker vaccination against seasonal flu and actually in many health care organizations that's made a requirement of employment and that's a trend that has been accelerating rapidly with the H1N1 outbreak. For example, here in Massachusetts, the Commissioner of Public Health issued a public health order mandating that all health care organizations offer seasonal flu vaccination and pandemic flu vaccination when relevant to all of their staff and that staff who don't want that vaccine have to actively decline.

David Harlow: That stops short of mandating it, so someone could still decline the inoculation and come to work.

Ben Kruskal: That is true and there are certainly some health care organizations that have been experimenting with making it a firm condition of employment, allowing only medical exemptions.

David Harlow: Other than the Department of Public Health Commissioner's order there has been a lot of activity at the Department of Public Health and I'm wondering if you could comment on some of the other actions taken there and whether those have been moving things forward in your estimation.

Ben Kruskal: I think so; I think Massachusetts is ahead of many states in terms of pandemic planning. The Department of Public Health has been working on this for at least 8 or 9 years and as a result I think we have plans that are considerably more mature than in many other areas of the country. That being said, you still want to be fully

prepared but the Department I think has been coping very, very well and really is serving something of a model for other states.

David Harlow: Could you give us an example of one of the parameters along which the Department has done some good advanced planning or perhaps something from your experience at Harvard Vanguard?

Ben Kruskal: Well, I think the Department has done very well establishing communications channels both to healthcare providers and to the general public. They set up the 211-information line. They have made epidemiologists available to answer questions during the outbreak; they really staffed their communication center quite heavily so that people were available. They were holding frequent conference calls with various constituencies to keep us up-to-date. They worked very, very hard at communicating and I think they did a very successful job of it.

David Harlow: As you're mentioning these various items I'm remembering that Dr. Al DiMaria, the state epidemiologist, also put up a YouTube video on how to wash hands.

Ben Kruskal: Absolutely.

David Harlow: So they are really firing on all cylinders there.

Ben Kruskal: That's right.

David Harlow: Are there other areas of concern that you see ahead of us? We were talking about health care workers refusing inoculations, are there other potential areas of concern that we need to be thinking about?

Ben Kruskal: I think we need to be really focusing everyone's attention - both health care's attention and the public's attention - on basic infection control measures. And washing hands because, juvenile as it may seem, really is a major contributor to decreasing transmission of many respiratory illnesses. And there have been several studies in the last few years that have really demonstrated a clear impact of improved hand hygiene on transmission, for example within a household.

David Harlow: Okay, and that's something that's easy to do and have a real impact.

Ben Kruskal: Exactly. You don't need a college degree.

David Harlow: Anything else that you would like to highlight as we continue this experience?

Ben Kruskal: You raised some questions earlier about the vaccine, which we really haven't gotten to. The vaccine in the early trials that have been reported performed much better than expected. Given that it's a relatively new strain that most young people have not had any prior exposure to this strain or related strains and that therefore there is little

preexisting immunity, it was expected that we would need two doses of vaccine, one to sort of immunologically prime us and a second to give us a full boosting to get really good levels of antibody. And surprisingly in all of the major vaccine trials that have been reported in the last few weeks, a single dose has been sufficient to generate very good levels of protection - better than many seasonal vaccines. And so we're feeling very hopeful that we'll be able to get a lot more people vaccinated with the supply that we have.

David Harlow: And the supplies are coming in or when are they doing?

Ben Kruskal: They are nominally due in around the middle of October. Secretary of Health and Human Services Sebelius has said that they may be able to mobilize some doses even a week or two before that. We expect that we will start with small shipments and gradually swelling shipments and then get a steady supply over a period of many weeks.

David Harlow: And do you see looming difficulty in getting folks in to have both the seasonal and H1N1 inoculation?

Ben Kruskal: My experience with seasonal flu has been that the vaccination rate in any given year depends very heavily on media attention. And one or two well publicized cases or especially deaths can really spur vaccination quite a lot. So I think it's going to depend an awful lot on what the public perception is and what the media's shaping of that public perception is.

David Harlow: Well, we've certainly been hearing a lot about H1N1 and I suppose people will be getting their seasonal flu vaccines as well as a result.

Ben Kruskal: Right, it certainly has generated a larger than usual interest in seasonal flu vaccine so far this year.

David Harlow: Okay, well thank you very much. I've been speaking with Dr. Ben Kruskal, Director of Infection Control of Harvard Vanguard Medical Associates here in the Boston, Massachusetts area. Thank you again.

Ben Kruskal: It's a pleasure David.