

**UNIVERSITY OF HOUSTON**  
**ORAL HISTORY OF HOUSTON PROJECT**  
*Houston History Magazine*

Interviewee: David Almaguer  
Interviewed by: La’Nora Jefferson, Roshni Patel, and James Thornock  
Date: February 10, 2016  
Transcribed by: Ethan O’Donnell  
Location: Houston Fire Department EMS Office, 600 Jefferson Street, Houston, TX,  
77002

Keywords: Houston Fire Department, emergency medical services, EMS, Houston EMS, HFD, fire safety, Methodist Hospital, Memorial Hermann, Red Duke, Ken Mattox, Life Flight, helicopters, paramedic, golden hour, trauma centers, Texas Medical Center, John F. Kennedy, John Connally, Chain of Survival, Pat Kasper, MAST pants, Hurricane Katrina, emergencies, stress on the job, Ambus, Mobile Stroke Unit, CPR, training, physician director, Chief Whitey Martin, HEC center, Houston Emergency Center, Ben Taub Hospital, call volume, protocols, 9-1-1, tiered response

**Abstract:**

HFD EMS Assistant Chief David Almaguer discusses how he became a paramedic, the impact of Life Flight on Houston medicine, his memories of Red Duke, and the role Houston EMS has played in its 45-year history. Almaguer’s first fire-safety experience was in an elementary school demonstration and was followed by a Southwest Houston church fire in his community one week later. Working throughout his college years at the fire department, he was initially an EMT and had no plans to become a paramedic until he was instructed to become one by superiors. A portion of the interview centers on his knowledge of Dr. Red Duke, who started Houston’s helicopter ambulance Life Flight, and cared for Gov. John Connally who was shot along with President Kennedy in 1963. The bulk of the interview, however, is devoted to the history of Houston EMS, which began service April 10, 1971. He discusses many changes that have taken place in the department as it has stayed at the forefront of research and development in emergency care, including protocols for patient treatment and department equipment. He explains the role of the physician director, the tiered response of the department in dispatching equipment in response to 9-1-1 calls, the department’s ability to respond to mass casualties, and its call volume.

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RP: If you could, please state your full name.

DA: David Ross Almaguer.

RP: David Ross... Okay, and were you born here in Houston, Texas or...

DA: No, I was born in East Orange, New Jersey.

RP: New Jersey, okay. And then what brought you here?

DA: My parents. (Laughs)

RP: So, where you, like, a-

DA: I was born in New Jersey and my family moved here within a year or so.

RP: Of you being born?

DA: Of me being born.

RP: Okay. So, do you remember anything about...

DA: New Jersey?

RP: Yeah.

DA: Not really much.

RP: So, you pretty much were raised here, you just weren't born here.

DA: I was raised pretty much here.

RP: Okay, so can you tell me a little bit about your life growing up here in Houston?

DA: I lived most of my life, all the way through high school, in Southwest Houston. I went to Catholic school, so I went to St. Thomas Moore, and then to Strake Jesuit for high school.

RP: Oh, that's close to where I live, I live in Alief. Okay, and did you always- since you were a little kid- did you always want to work with the fire department or the EMT?

DA: No, not at all. My first recollection of anything that had to do with the fire department was when I was in elementary school. The fire truck came out for fire safety week, and I remember the firemen coming out there in the firetruck and talking to us about how to call the fire department. Because back then, they didn't have 9-1-1, so you had to remember the actual phone number to the fire department.

RP: So it was, like, a ten digit phone number?

DA: Seven.

RP: Seven.

DA: Yeah, because back then, they didn't use the area code.

RP: Oh, okay. (Group laughter)

JT: I knew that, I knew that.

DA: And, on the pad, if you've noticed, there's letters. So, actually the phone number to the fire department back then was, if you spelled it out, C-A-P-A-D-A-D, which a fireman told us was "Cap a dad." And they had a picture of a guy sitting with a dunce cap on and that was "Cap a dad." And that's how the kids were supposed to remember how to dial the phone number to the fire department. I remember that it was right after the fireman came to the school. Within a week,

the church next door to ours burned down. It was an- somebody had torched – arson – had burnt the church down. So, I remember to coming to school one day and seeing the church on fire and all the hot embers and everything, and we still had school. So, that was my first even thinking about the fire department, and I didn't really think about becoming involved with the fire department until I was in college and my summer job was working at Methodist Hospital in the cardiac ICU unit with Dr. DeBakey. From there, when I went back to college, I got involved in their Emergency Care Team at Texas A&M, and that's kind of what I did in the summer to get money to go back to school was to work for the private ambulance company. And then, after that, that's when I didn't make enough money with the private ambulance to go back to college (laughs) and had to find a full-time job. The company that I was working for was run by firefighters; that was their side job, was working for the ambulance companies. So, they convinced me that it was the best thing in the world to go work for the fire department because they'll pay for your college education, you get all this time off, you can finish your degree, and it was great and wonderful and I fell for it and joined the fire department. Even when I joined the fire department, I didn't intend to become a paramedic. I was an emergency medical technician at the time, and when that certification came up for renewal with the state, the fire department sent me to paramedic school because they had a shortage of paramedics. So, that's how I got to become a paramedic.

RP: So, was it your choice or you were just, "I don't know. Well, they're sending me?"

DA: Well, I didn't have much of a choice. I was a first-year probationary rookie so I just went where they told me to and they told me to go to school, so I did. It was fine. Like I said, I was an emergency medical technician, so I figured just, you know-

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RP: Might as well go through with it?

DA: May as well go through (inaudible).

RP: What were you in college for?

DA: Marine transportation, Texas A&M at Galveston. I was going to be driving ships; not cruise ships through hurricanes. That was my whole intention, was to be a ship's captain.

RP: So, you really like the sea?

DA: Yeah.

RP: That's really good. So, I'm going to start with the Duke questions.

DA: Okay.

RP: So, what can you tell us about working with "Red" Duke, with Houston EMS?

DA: He started EMS. He was one of the doctors in the community that realized how important it was to have an ambulance service that was reliable and took care of people even before they got to the hospital. The other doctor that was very instrumental in Houston was Dr. Mattox, Ken Mattox from Baylor and Ben Taub. It was kind of interesting, "Red" Duke, being an Aggie was working for the University of Texas, and then Dr. Mattox worked for Baylor. So, it was just interesting to see their-

RP: To see their rivalries?

DA: Their rivalries getting together. Because Dr. Duke also, of course, started the Life Flight program.

DA: So, he was very much involved in making sure that medical care got to people in the field even before they got to the hospital.

RP: Okay. Did you know him personally or you just had encounters with him when you (inaudible).

DA: I had more than encounters- well, everybody had encounters with him. But I worked- One of my side jobs when I was working for the fire department was working at Hermann in the trauma centers. So, we would see Dr. Duke on a regular basis in there, and I got to know him more when I started working in the fire department administration in EMS because, once again, he was very involved in making sure that the guys in the field knew what to do and was very supportive of making sure HFD EMS stayed on-track as a leader in the different things that we did in the field. He didn't want us just to be an ambulance service, he wanted us to be an extension of what the physicians needed and what they were doing. That was very important because that led us to get our first medical director for the fire department, was Dr. Duke and Dr. Mattox working for the medical society to get that in motion.

RP: To get everything started up?

DA: Right.

RP: Okay. So, you answered that for me, too. Okay, so was EMS involved when he first started Life Flight? You said he started Life Flight after he did this whole EMS program?

DA: Well, actually, I don't remember the year that Life Flight started. I think it was after he got EMS started up, because he was involved in a lot of the emergency-type care issues. Yeah, he

started Life Flight as an extension of the hospital because he realized in his dealings, and as he was in the Army and everything else, that the sooner we got the care to the people, the sooner we started definitive care to treat what was actually wrong with the people, the better outcome it was for them. Back then, a lot of the services were ambulance services which just meant they picked the people up and got them to the hospital as quickly as possible. But in-between those 15, 20 minutes- and that's short, actually, because we're in Houston, we can get to the trauma center in 20 minutes. But in some places, they have an hour before they can get there, and that's where they were finding out about what they termed that "Golden Hour." They were finding that if we could get people to definitive care within that hour to correct what was wrong with them, then they had a lot higher resuscitation rate, a lot higher survivability for whatever was wrong with them. A lot of the things back then were geared towards trauma. Trauma was a lot of what people were more interested in on the medical side just because on the medical side, those are problems that the people- you're going to have, like, a stroke and there may not be very much you can-

LJ: You can do in-between, right.

DA: So, they wanted to concentrate on things that they could fix rapidly, and a lot of that means stopping the bleeding, getting the blood pressure back up, and all that kind of stuff. So, that was the reason for the helicopters, was to get them to the trauma center. Nowadays, we have much more than trauma centers; we have trauma centers, we have stroke centers, we have cardiac centers. So, the medical side is now a big focus of what we do now because there are things we can do in the field to treat on the medical side that we weren't able to do before. So, Dr. Duke, though, was instrumental in getting us to look at getting those services out in the field before-

DA: Yeah.

RP: Does Life Flight specifically just go to Memorial or wherever? Like you said, there was trauma center, cardiac center.

DA: They just transport their patients to a Memorial hospital. They do have- Now that they have multiple Memorial hospitals, they do have helicopters at different ones than just the downtown. But the downtown one, the Medical Center one is their trauma center. When they pick somebody up, they usually go on to Hermann.

RP: To Memorial? Okay, cool.

DA: There's another helicopter service in our area that recently has come in. It's called "Petroleum Helicopters, Incorporated," PHI. They're yellow and black if you ever look at helicopters flying overhead. They're an extension of the group that does offshore oil wells. They were doing helicopter transfers to the oil wells. They've taken over some of the area that Life Flight wasn't covering which was down towards the coast, towards Louisiana. That area is farther East than back towards Beaumont and stuff.

RP: Okay, so farther and more than Houston? But you guys don't partner with them, you just partner with Life Flight?

DA: Yeah.

RP: What did you think of Life Flight when it first started- when it was first initiated and how do you feel like it is important today?

DA: It was awesome when it first started, not that it's not now, but when it first started, it was ground-breaking because Life Flight actually flew physicians on the helicopters to the scene. So, when we called Life Flight and that helicopter landed, not only did we get a nurse, but we got a doctor on-scene, which was incredible for all the different things that we couldn't do. We couldn't do things like amputations and all kinds of things; putting in chest tubes so that people could breathe. So, that was always- Well, you call Life Flight, you've got something bad, and the physician was going to be there. And initially, Dr. Duke was on every one of those flights. He, for the first, I think, couple of years, he was the doctor that would fly out, and you think, *Wow, that could happen all night, and then the next day*, to the point where Dr. Duke had a room up at Hermann-

RP: Yeah, I heard about that.

DA: That he lived in most of the time.

RP: That's amazing.

DA: So, that was great. Now, they fly with two nurses or a nurse and a paramedic, which is fine. Most of the things that now occur out there, a lot of their transfers, don't require a physician and, if they do, most of those people have been trained to a level where they can do things that most regular nurses and paramedics don't do anyway. So, they've brought them up to a very, very high standard on those helicopters.

RP: For the paramedics and the nurses that go- well, the paramedics that go onto Life Flight, are they specifically with Memorial Hermann or do they go through you?

DA: No, they're all Hermann employees.

RP: What's something you'll always remember about him?

DA: Dr. Duke?

RP: Yeah.

DA: His colorful language. (Group laughter)

RP: My sister's a nurse on the trauma floor at Memorial, she's always talking about that.

DA: I very rarely ever saw him get mad at any of the EMS crews. We would bring in some very bad patients and there would be chaos in the trauma room while people were trying to do things, and the one thing I'll always remember- he may be rough, gruff, and use his language to get things done, scream and yell and everything at the people- at the residents, at the doctors, but I never saw him mistreat a nurse or any of the paramedics that came into the room. As a matter of fact, he would go out of his way to come down after surgery and if the crews were there or whatever, tell them, "This is what we found, this is what was wrong." He was very good at teaching them about what was going on and why things happened. So, I'll always remember that. He was just all-around a very good person to be around, to learn, and to understand. If you were hurt, that was a person you wanted taking care of you.

RP: My sister, actually- He's the one that actually got- She got Life Flighted to Memorial and he's the one that actually helped her and stabilized her. So, this is a really personal story to me. He was awesome. You kind of answered this: If you could describe him in one word, what would it be?

DA: Umm...

DA: Golly...He was a good ol' boy.

RP: A good ol' boy.

DA: A good ol' boy. That being, you know, the country good ol' boy kind of thing. He was down to earth, very sincere about everything, about himself and everything. He was a happy guy. One of my stories about him was my wife and I, somebody gave us some tickets to the River Oaks Country Club. He was a guest speaker for the A&M Women's Club who was trying to raise money for the library up at A&M. So, we get to the country club and we're in coat and tie, and you get in there and there's these elderly people sitting there with their nice lace gloves on and all this kind of stuff, and they're having their meeting, then they bring out their little teacups and these tiny little cracker things- I don't know what that was supposed to be. But they introduced Dr. "Red" Duke, and he was a tank commander in World War II. So, talk about his history, and that's where he got his signature glasses, the little round ones. That's what they had issued him in the war and he always wore that style of glasses. Anyway, he gets up there and he looks around the room in his typical drawl and he says, "Well, I'll start with this joke." And he started telling this joke that was so off-color that it made me kind of blush, and the little old ladies, "Oh, that's so cute! Oh, he's so nice!" Only "Red" Duke could get away with that. Everybody else would have been offended at his language or something, but no, not Duke. Everybody loved "Red" Duke. He just came across as a down-to-Earth really good guy. His whole thing was taking care of people and he did that to the sacrifice of even himself. He, too many times, didn't sleep, didn't eat, didn't do whatever just so that he could be there in the emergency room taking care of people that were- It was real tough for him. He couldn't go home

and hear the helicopter landing. You know, that helicopter, those blades start turning, and “Red”

Duke knew that he had to be somewhere to make a difference. That’s kind of what I remember about him.

RP: He seems like an amazing person to me.

DA: Yes, yeah. Yeah.

RP: Did you ever get into a conversation about him and him handling President Kennedy in Dallas?

DA: He wasn’t talking directly to me, but yeah. He kind of- he used to really not like talking about that because to him, he was there by accident. He walked in when Kennedy was on the table and, basically, he said that they were at the point where they said, “Okay, this is done. There’s nothing we can do.” And while all the people were in there, he walked out of that room and across the hall, in another room was the governor who had been shot. He said that he was laying in the bed all by himself, nobody was in there taking care of him ‘cause everybody was just-

LJ: Worried about the president.

DA: With the president, and he was there and he was barely breathing. So, he went in there and started doing stuff to take care of him, and they said if it hadn’t been for “Red” Duke, then the governor would have died because nobody was there to call everybody into the room and say, “Hey, we’ve got one, this one’s still alive!” But- and I think this even made the news in one of his interviews- I remember him talking about how, when he walked out of there and as he was going to be leaving the hospital, he walked past a trash can, and there in the trash can was the

flowers that Jacqueline Kennedy Onassis was carrying in the car. They were in the trash can

because they were covered in blood and everything else. He says he visually just- that was one thing that he just really remembered, was seeing that bloody bouquet sitting in the trash can.

JT: So, we're going to go back.

DA: Sure!

JT: Back to your motivation and you covered a little bit of this, but I want to go a little bit further in detail, just about the training that you had. So, if you want to enlighten us. What specific requirements did they have? I know that they've changed a lot of that.

DA: They've changed a lot. They actually are formalized now. (Laughs)

JT: Can I come here and watch this on the truck and we'll get you in tomorrow?

DA: We'll get you in tomorrow, there you go. When I went to school, I got my emergency medical technician while I was attending college. They wanted everybody to be an EMT that was on the emergency care team, and it was a way of working the summer as an EMT on the ambulances. And that was, you know, a couple hundred hours of classroom and also riding on the ambulances and going to the hospital I mean it was very minimal it was more, when I went through more advanced first aid kind of training.

JT: Okay. Again like trauma and stuff, like stuff that you can see?

DA: How to splint arms and legs and how to put on oxygen and do suction, and it was it was - Did we do CPR back then? Yeah I think we did. But I mean I kind of laugh at the kids right now because I will pull out their paramedic manual, which actually isn't a book anymore it is four and

it is about this, four volumes they stand about this tall and when I went to school we had one book it was that thick that was it. And that was paramedic. So, the amount of knowledge that is required that we require for paramedics now is substantially more than what I was taught. When I was taught CPR, we were taught ABC's airway breathing circulation. Now there's an entire alphabet that you have to know. Good thing I don't have to go to school now because ~~I was not~~... I would not have done well at learning all those kinds of things. Pharmacology, cardiology, and because medicine continuously changes, a lot of things that I was taught back then... not that they were wrong, but they developed to the point where we're practicing medicine out there. That is why it is so important for us to have a medical director because that physician has to say that every one of those paramedics can operate as under his license. In the state of Texas, which is the only state in the union that is like this, we operate directly under the license of the physician. So if I make a mistake out there, it is treated as if Dr. – my medical director made the mistake. Which in a lot of different states or different areas of the country they go back to the fire department and say, Oh, you so are an employee of the fire department is responsible for whatever medical mistake you make." Not here, though, the physician is actually the one that is responsible so there is a lot that we have to make sure that we're always on top of here in the fire department because Dr. Persse it is as if he was out there on the field treating these people, whatever medication we are giving, whatever protocol we're doing to take care of an asthma patient, those things change as they look at ways to take care of asthma patients. As things change, so we try to make those changes in the field.

JT: Okay. I might ask you more questions about that later on I have a couple. But I want to make sure we cover these. So you began working you don't remember the year you were in college?

DA: Well, I

DA: At Strake Jesuit the seniors were required to do 100 hours of volunteer work. I was corralled by my older brother to start working at ~~dollar~~ Bellaire General in the emergency room and that was my first experience, medical experience with working as a volunteer emergency room at Bellaire General from there I got my EMT certification that was in college and that was probably in '78 or '79 which (inaudible).

Group laughter)

DA: From there I got my paramedic in 1981.

JT: Okay.

DA: That was through the fire department

JT: So, to rewind, before you were really introduced to the system just give us as much as you knew before EMS what was there in place to help people

DA: In Houston we hear the stories all the time about the funeral homes but it just so happens when I was going to the same time I was small, one morning, ~~my~~ to go home my mother had come to pick us up and she got in a car wreck so my neighbor had to come pick us up from school and on the way home we actually saw the wreck, my mom's car wreck, and after she was still there come to find out my mom had been there for over an hour waiting for an ambulance to come to take her to the hospital and that's because back in those days the ambulance services were run by the funeral homes and there was a big disconnect on whether it was better if you were alive or not because

DA: Yeah, incentives, as an ambulance all they get paid is like a taxi to take you to the hospital but if you don't make it well they got other things like your funeral...so that was the end because their priority was funeral work they did not have anybody to put on ~~the to~~ drive the ambulance to pick someone up and take them to the hospital. So it was not unusual for people in Houston to wait over an hour to get an ambulance to take them to the hospital. And back in 1971 is when the fire department started taking care of them, Chief Whitey Martin was the one that decided that if we were goanna do something about this problem with the ambulances in Houston, he wanted the fire department to do it because anytime a fireman got hurt they would be relying on these same people to come pick them up and take them to the hospital and he didn't trust them to take him, so he said we get our own people to do it. We'll get firemen to staff the ambulances they'll take them we know there are fire stations we know they're gonna get there, pick them up, take them to the hospital, and take care of them. So that was the whole premise for the fire department to get involved with the ambulance services.

JT: And you know some of us don't understand a world before google maps. No, no, this is serious, right? It is my understanding that fire departments they knew the layout of the land,

DA: Right

JT: They knew the streets, they had the key maps they had all those things in place before my generation came up and just assumes that all the directions are already there so functionally that makes sense and that was not something I thought of.

DA: Now every neighborhood fire station the firemen knew their locations they knew where everything was and so at that point the nationwide the department of transportation had come up

out with a what they called a white paper, which said that trauma was the number one killer in America and we had to do something about that, and to do that we had to find a system that would take care of these trauma patients and help save lives, and ~~the trauma patients and help save lives~~ and the place that everybody – y'all may not remember or seen that on reruns -- when I saw it when it came out, is the series called *Emergency*.

JT: Heard about it

DA: It was LA county fire department. L.A. Country Fire Department put their paramedics on what we call squads, they still had the private ambulance come to the house but the paramedics the ones that made the difference and did all the pre-hospital medicine were fire fighters and that was because they knew they controlled those guys. You, those, also the fire department, usually people that join the fire department don't quit and go to other jobs. Usually when you join the fire department you're there for a career and you're going to stay there. I've been with Houston for over thirty-two years so you know most of the time a person gets in the fire department, so you have a good work group that has consistent employees. You don't have to worry about turn over, you train somebody to do a job

LJ: They stay through, yeah.

JT: So EMS was instituted you said in 1971?

DA: '71

JT: Was when it switched over to the fire department

DA: April the 10<sup>th</sup>.

LJ: Was this with the paramedics already or was this just specifically firefighters?

DA That was on April 10<sup>th</sup> the fire department made it first run with firefighters staffing the ambulances.

(LJ, RP) Oh, ok.

DA: Paramedics back then, that was a new concept. People would use the word paramedic, but there was not a national standard for what ...

LJ: what that actually meant.

DA: ... everybody an idea of what that saying was. Houston did have advanced training, medical training for the guys on the ambulances and they, they worked eventually were considered paramedics by the state health department, who came, came to give them all certificates and patches, state patches, which they dropped into the trash can because Whitey Martin, our chief, said we don't need your state patches, we have Houston patches, which we can get you. We have plenty of those. It says City of Houston Paramedic on and it has a fire department logo symbol on it. So that was a pride thing

(Group laughter)

DA: So you we're the Houston Fire Department were paramedics were better than just

RP: Texas.

(Group laughter)

JT: Texas isn't a bad name either, but just to clarify did the duties of the EMS and how it's changed over time, it used to be just get them to the hospital and make sure they're intact. Now

it's gone to being not a complete physician but someone who knows has a large degree of knowledge about what's going on, how to identify things and then the alphabet and how to diagnose that stuff.

DA: Right. Yeah and that's the way I like to look at it. When we first started it 1971 we were an ambulance service we were, it was good firemen doing it, but it was still an ambulance service. And it's not until we got our medical director, our first medical director, that he came in and set these standards different and started taking the practice of medicine that you would find in the emergency room out into the field, and we started actually making a difference. The biggest difference when we were able to really look and see the difference we were making was in cardiac arrest patients. When people drop dead from sudden cardiac illness and we were able to get there and treat them and actually bring them back from the dead, literally, that was what made the difference; that I think was the hallmark that got everybody behind us, the Harris County Medical Society, Dr. Duke and everybody saying this is where we need to put our efforts into making sure we can deliver. I mean this is Houston the Texas Medical Center if you don't have a high standard of medicine in the world this is it. So we wanted to be able to make sure that, you know, that if you have a problem in Houston then these are the right people to call and get that treatment started you know way before they have to get to the emergency rooms here.

JT: Absolutely and along with changes in protocol, and changes in, I know that there were changes in law, and changes in technology, do you wanna go over those briefly? How does the law work? How does one change a protocol when new technology comes out, or the ambulances themselves become more high tech? How does that happen?

DA: The state has health department that regulates how ambulances and EMS services in the state operate, and right now the name of that organization is the Texas Department of State Health Services. They are the governing body that regulates EMS. The city since we operate in a municipality has a City Health Department that does some regulation of the ambulance services, but a lot of what we do out there is, I wouldn't say regulated, but it is directed by the physicians by the medical community, and the medical community around here the Harris County Medical Society is the group of physicians that sets a lot of the standards of care and how things happen. Dr. Persse being the medical director uses them as a sounding board when new technologies or different types of care treatments come out, he makes sure that whatever we're going to do, whatever he decides is going to be the protocol for the City of Houston, is still accepted by the medical community what we do. For years we used a device called the "MAST pants," the military anti shock trousers. In Vietnam they were used people had penetrating injuries, gunshot wounds, blast injuries in the lower extremities or even in the upper they put these neumatic pants on them and pump them up, and miraculously the person's blood pressure would increase. The person would wake up, but not until they start studying the outcome of those patients, did they find out that actually the people that got the MAST pants, even though they look better when they got to the MASH hospital, they died more often than the people that didn't get them. So our medical director at the time, Dr. Paul Pepe, who was our first medical director ...It was Pepe. RP: I remember you saying that.

LJ: Can you spell the last name?

DA: P-e-p-e

LJ: Oh yeah I remember Persse talked about that.

DA: He did the study on the MAST pants and that set us up to do a lot other of studies in the field on medical protocols and different treatments and things. Houston Dire Department was a leader in nationally, and actually sometimes worldwide, in a lot of the changes in the protocols that were done to treat emergency patients 'cause we would do we have a high volume of patients in Houston, a very tight controlled group, which was the paramedics directly underneath a single physician; and so we could do scientific trials and find out with control groups what really did and didn't make a difference, and that is really where we find the changes we made. Somebody comes up with an idea that this makes a better outcome for asthma patients, so we change our protocol, and we look at how those patients did compared to the ones before, or if we do a side by side comparison, on even days we do one thing, on odd days we do another. We look at how that affects the outcome of the patient, and since we have those high numbers in a very short period of time, in a year or so, we could have enough numbers to say look we know that this makes a difference and then all the other EMS agencies around the country say, "Wow if that's working for Houston, let's try do it here," to the point where some of the things, using certain drugs in cardiac arrest patients, the American Heart Association changed some of their standard treatment protocols because of the what the information they found out from Houston. Not necessarily that we found out, everything we're doing good we did a couple of studies trying medications that didn't work; we found out that although people thought now, "we think this works" found out it doesn't.

JT Yeah.

DA: Both ways. And then that is where the changes usually happen it's in, and we have the medical arts, the medical center we have the input from the medical society of a lot of things that could change the outcome of people. Like now we're affiliated with but we're not directly doing

the CAT scan ambulance. The University of Texas Neurology Department has a CAT scan in the main ones that they take the stroke patients in the field, and they can do the CAT scan in the field to find out if the person has a clot in their brain or if they have a bleed. If they have a clot they can give them the medication that opens up the clot.

LJ: Right then.

DA: But you don't want to give that drug if they have a bleed because it'll makes them bleed more.

LJ: Bleed more.

JT: Yeah

DA: So, yeah, so they, right there we're taking a piece of equipment that ~~they~~ ten years ago couldn't even be thought of leaving the hospital, and now it is in an ambulance and we're taking that to the field and that's only in Houston that's something that is happening right here.

**Cut 39:32-40:24** (Stop tape for some students/interviewers packing up to leave for class)

JT: I would like to ask you more psychologically what types of things you do to keep the boys motivated, to mentally how do you go to work every day, see what you see. I was one of the bodies on I-45, so it gets a little personal, right? I wasn't close to death, I wasn't anywhere close, but it takes a special kind of person to do EMS work and so I curious how that translates and the leadership behind that.

DR: We also need to talk about one of his partners who was a personal friend of us both, Pat Kasper. I don't know if he helped train you, or you helped train him.

(Group laughter)

DR: He was just, I think at the forefront of before we knew about customer service

JT: Oh

DR: Yeah, he knew innately how to treat people, I've had many a paramedic r EMT tell me. He told me don't go in the house with your shades on 'cause these guys, they were cool.

(Group laughter)

DR: "Hey man, how are you?" And he would tell them and coach them, "you need to take those shades off, you need to talk to everybody 'yes ma'am,' 'yes sir,' like it's your friend."

JT: that's true.

LJ: Professionally.

DA: But as far as instilling what he had to himself. I mean it is amazing because guess who is graduating from fire school. His daughter was graduating from fire school.

LJ: Oh, aw.

DA: That's right. And she'll be a paramedic.

DR: He's gone but, yeah that's going to be cool. So maybe you can include her. We have so many stories

Cut 42:28-43:38 (students departing)

LJ: Okay so we're going to go ahead into like 9-1-1 type of things kind of talk about a little bit of history of Houston Fire Department with the EMT and so one of the questions I have is what is the process when an emergency call comes into 9-1-1?

DA: Anytime somebody dials 9-1-1, that call gets routed to what is called county neutral what that is that is just a person who sits there as a switch and routes your call to the appropriate agency. If it comes up on their screen that you're City of Houston, and they say "what's your emergency?" you say, police, fire ambulance, or whatever they punch a button ~~in~~ that call goes to that answering cite. The City of Houston our main answering site for both fire, ambulance, and police is called the Houston Emergency Center, the HEC Center. So the very first thing that happens, and some people don't even remember this when they call 9-1-1, they get asked what is their emergency and he person, depending on what you tell them because some people say, "oh I'm sorry I have the wrong number," they just press the button goes to the answering point. So you call 9-1-1 from this building the first person to ask you, "what's your emergency?" you can say, "I need an ambulance." The people at the HEC center, they say "what's your emergency?" and you're gonna say, "I need an ambulance. I found somebody laying in the street, in the room over here and he won't wake up." They're going to and ask you a certain set of questions to determine what level of response you need. If you say "there's a person laying over here and they have a gun," then you're probably going to get police questions, like "is he pointing it at you?" If you say, "He is unconscious just laying over here," then they say, "OK is he conscious? Is he breathing?" and from there they'll try to determine what kind of

LJ: Service you need.

DA: Exactly. Every type of emergency has those basic questions if you're awake or not, if you're breathing or not, and from there if it doesn't sound too urgent like, "well I have a stomach ache" so you're breathing, you're conscious because you're telling me you have a stomach ache, or where does your stomach hurt, how long have you had it, they'll ask you a couple more questions, but usually no more than about four questions. And after that the computer tells them by answering yes, no, yes, yes, what you're going to get. Now if it's something like "My stomach hurts, I'm awake, I'm alert, and I just don't know what to do because my stomach is just hurting real bad," they're going to send the closest unit we have in the fire department to find out what is wrong with you. Now in this building the closest fire station is across the street, it's Station No. 8. At Station 8 they have an ambulance, they have a fire truck, and they have a paramedic squad unit. Your level of call because you have a stomach ache and you haven't complained of anything else is probably going to get the ambulance to come over and find out what's wrong with you. But as I was coming up here for the interview the ambulance was leaving on a call so, what's left in the station is the fire truck and a squad. You don't need the paramedics, so they're going to send the fire truck over here, because the fire truck has four people on it, and all four of those people are EMT's so they're going to come over and take your blood pressure, ask you some questions. Then they go "you know what? I don't know. Her pain is down there by her appendix. I don't know she's starting to throw up now and her blood pressure is a little bit low, I think she's going to go to the hospital. We're going to get the closest ambulance to come over here, pick you up and take you." So they'll call, they'll call for a transport unit if you need it. Now if they get up here and you called about his guy, he's unconscious, and they can't wake him up, they'll call paramedics. Paramedics are going to come here ...

LJ: And start working on him.

DA: Right. So that is what we call a tiered response. We have different tiers of responses that's the EMTs are the basic life support, then we have the paramedics, and then other than that is the highest levels when we know we have the somebody who isn't breathing, is not conscious, and that gets not only does that get the paramedics it gets their supervisor also so they get an army of people coming, such as for a cardiac arrest case.

LJ: And so I really wanna just to clarify with the hierarchy, every one of the fire department is a trained EMT? But when it comes to the paramedics that is like a more specified training?

DA: Yes, yes, uh huh.

LJ: And that is when you'd bring in the ambulance, and that's when they'd have somebody working on them as they're getting to where ever they need to get to

DA: That is right

LJ: Okay

DA: so the call comes in they determine they're going to send you the closest unit. It is the fire truck because that what shows on their computer screen that Engine 8 is still in the house. The call taker who is the person that was asking the questions then sends that your screen to the dispatcher. He punches the buttons that says Engine 8 and that alerts the station the fire truck to location and then he actually dispatches the fire truck to your location, and then they monitor the radio to see if the engine needs an ambulance or whatever else. In the meantime as that call taker had sent the dispatch information to the dispatcher they can stay on the line and give you instructions, "OK well the ambulance is on the way but we don't want you to drink any water.

Sit, wait for them. If you feel nauseated, this is what to do. They give the people what we call pre-arrival instructions and that for the critical cases is CPR. They can teach somebody over the phone ...

LJ: Right, right.

DA: ... how to CPR. LJ: Okay great. So this is all current protocol. Has that really, how was it before that? Is this something that kind of evolved and it's something that's constantly changing or what was in place before that?

DA: Yeah before we had a medical director, basically what you did was you called the number. I remember when 9-1-1 came in, that was a big deal, but even before, even with that you called the number and said, "I need an ambulance. I'm sick," or whatever and that was about it. They would send an ambulance. If you asked for an ambulance they would send an ambulance.

LJ: Everyone got the ambulance, right.

DA: And so that's changed because by having the tiered response, by having these different levels of service we can send out, we can be more specific on the what goes and that way the paramedics don't go all the time. So we don't need, if we have 800 calls today, we don't need enough paramedics to go every one of those calls. They may only go to 200 of those 800. So that saves us both equipment and personnel from having to train 800 paramedics how to take care of people, we only have to train, right now I think we have about 450 of paramedics in the city.

LJ: Wow. So it's a better way of utilizing your resources I guess

DA: Right

LJ: That makes sense. Okay so what exactly is the Chain of Survival?

DA: The Chain of Survival is a leaning tool for the community to understand that there are certain things that need to take place if the outcome is going to be that somebody survives like a heart attack. The reason for that is to let the people know that the very first thing is the actions that are taken by the bystander, which a lot of times is the family member. A lot of heart attacks actually happen in the presence of a family member. So when people go, "Well, oh I don't know if I'd ever do CPR on a stranger, probably not going to; probably you're going to, it's going to be a coworker, or somebody you know, or in your house and that's when somebody is going to choke or they're going to have a heart attack and you're going to want to know how to do something to help out. So the very first thing is to get the public, the community, the layperson who may not be trained in the all kinds of advanced things, just to recognize that there's an emergency, call for help, and to take the first step, whatever it is if it is just taking care of a person or if it is starting CPR whatever it is. And then the chain goes to the next step. The EMS people get there and they do their job. You get to the hospital, the hospital does their job, but it doesn't stop at the emergency room. The Chain of Survival continues all the way to the person leaving the hospital because there's things that can happen for that person.

LJ: In between.

DA: Right, and the rehabilitation makes a big difference in somebody's...like for example, a stroke. How that person is rehabbed is how much function they are going to have for the rest of their life. You know they're going to be sitting in a chair dependent on someone taking care of them, or are they going to be able to stand up and use a walker at least be mobile. That's a quality of life issue, and so we needed the community, everybody, including the medical

community to realize the survivability is more than just one of these aspects. We can't rely on just the hospital making all the difference. They have to have something brought to them that they can survive, that is survivable, but even after then the rehabilitation has to take place that person has a quality of life left.

LJ: You said this is for the community. How do you all get this message across? Is it through a website or train little kids or ...?

DA: Most is done by the organizations that promote community involvement what's the Red Cross, American Heart Association, be able to do the stroke intervention. Any of those health groups we rely on them to try to get their word out. The fire department unfortunately isn't really good about getting the community word out. We try even with things like smoke detectors. Yeah it doesn't always help. Yeah, so I guess people are used to calling the fire department when there has already been an emergency, a reaction but on prevention side think I think that is a whole 'nother type of educational thing. So I think relying on the people that are really good about community work get the job done.

LJ: Great. Alright can you give us information on the number of emergency calls has grown since the EMS has been in Houston.

DA: Yeah I would look up some of the numbers back in 1971 how many runs they made. I know that the last year we made I think about 290,000 incidents, the fire department did, and of those I think 270 were medical related calls.

LJ: 270 what?

DA: Thousand. 270,000.

DA: 270,000. 87 percent of the responses we make in the fire department are medical cases. The other have to do something with either fire or a combination of fire, rescue, and medical because even though you call for somebody who is hurt in a car accident, there is still the fire department component of getting there and making sure the cars are safe, that they're not going to catch on fire, fuel spills, so some of those are joint fire and EMS but still a majority of more than majority 80, like I said, 87 percent of what people call for it's a medical emergency.

LJ: Wow, that's so interesting I would've never thought that. OK, so with the Houston EMS how do you coordinate with other medical services in the community?

DA: There is a group, a regional advisory, it's called an advisory council. It's very difficult to describe what they did, the state health department broke the state up into 22 different zones that they manage so each region has their own manager that takes care of health issues in their region, but they didn't have a way of coordinating resources like you're saying all the different agencies in our region. So they came up with this advisory board, which is a nonprofit group actually, but they manage all the funds that come from the state for EMS agencies for training classes, for public education. They get all that money from the state and then we as the Houston Fire Department, you have people like Fort Bend County EMS, you have different hospitals, anybody who provides health care in this region comes together in this group, and we attend meetings and subcommittees and relay to the advisory board what our needs are. When there was the different flu outbreaks, Ebola, stuff all the SETRAC, which is our regions called the Southeast Texas Regional Advisory Council, they brought all these people together we sat in different meetings saying what is gonna happen when we get an Ebola patient. From the minute that person

complains of being sick to the time they're discharged from the hospital, how do we manage that patient and how do we manage the community around them? So not only do we deal with health care people but all the different axillary people, the agencies that have be called in, the waste control people, the people that manage all of that. We have to get in contact with them and say, "OK what are y'all gonna do? We have a patient producing 15 pounds of garbage every day that is contaminated.

LJ: Oh wow.

DA: Do you have a way to ...People haven't thought about it and there're federal laws about moving that material from one zone to another, and they had to get certain permits in place to be able to do that. So that is the group that actually, the regional advisory council is a group that coordinates all the different activities in our region. When we had the people coming from Louisiana and Katrina they were the coordinating group that put together all the different facilities. They helped get the Astrodome and the downtown the George R. Brown, get the supplies in there. George R. Brown I was there for the whole time that was up. It had its own central supply like all you would think in the hospital, but somebody had to coordinate getting those supplies from different places, getting the requisitions filled out from FEMA, trying to get oxygen tanks and putting it all together, it's just coordination involved ...

LJ: Right

DA: Incredible.

LJ: Every one.

DA: But it worked and everybody in the country looked at Houston and said how did you do that? How did you take an influx of 100,000 people and take care of them and still go on with your regular day to day business?

LJ: I'm really glad you brought up Katrina because one of the other questions I was going to ask was how do you guys assist with emergencies outside of 9-1-1 calls, those being natural disasters or, we talked about before coming here, maybe what kind of terror attack, how do you handle those types of situations?

DA: Well the fire department within the city of Houston we are responsible for any of the emergencies, but say, I think it was about a week or so ago, they had the school in Beaumont that had all the kids affected from carbon monoxide poisoning. Somebody had done something wrong with the heating in the school and all these kids, 800 kids got sick. Station 8, we have one of their regional what we call Ambus, it's a bus that can carry 18 patients. It's especially designed to carry mass casualties. We have a bus and the Atascocita Volunteer Department have a bus, and both of those buses went to Beaumont to help take care of the patients that were there. So we have a mutual aid response to anywhere in the in our region that if another city, county encounters any kind of mass casualty event we will take whatever resources we have available and send them, immediately send them to that location. Now if we have advanced warning like we know a hurricane is coming in, we can do things and most agencies will staff up. They'll get extra people on duty put out extra equipment, but what usually is the test is when something happens unexpected. Because like today were going to have by the end of the day probably 900 incidents that the fire department's gonna go on, and there will be times of the day when the ambulances are going to be very, there are going to be five ambulances left in service. All of the

other ones will be on calls and if something bad happened then you wouldn't even have those five. So how do you continually manage all the regular crises and chaos...

LJ: On top of everything else.

DA: ...and then you get something that happens. We had fires one yesterday and another one today, called multiple alarm fires where a lot of our fire trucks go there. Apartments are notorious for that to put, a lot of fire equipment is there. That means there's that much less equipment to be able to go out and make the call for the sick person or the whatever, the person having a heart attack. That is the trouble when your resources get drawn down, then there comes a time when we have to call in other agencies. The Bellaire Fire Department, West University, the Village, all those places have ambulances, paramedics and we've worked with them, and they'll call us when they are strapped and don't have enough resources and we'll call them and say "look, we've got a call in Willowbrook Mall, can Cypress Creek EMS make that call for us otherwise it's another 20 minutes' before we can get there."

LJ: Almighty then so now were going to move away from the technical things and get back to the personal, and so in your experiences what are some stories that have always stayed with you?

DA: Oh goodness. Yeah. 'Cause there're the ones that stay with you that you don't want to stay with you

LJ: Don't want to, yeah.

DA: Those are the ones that come around a lot but good ones? I will always remember and the first call I made with the person we were talking about, Diana and I were talking about. The paramedic his name was Pat Kasper and he's the one who really reinforced to me what it was to

take care of people no matter what we personally think if they were in an emergency or not. One of the difficulties our crews have is when you are constantly going on 9-1-1 calls and you're constantly going to these big events, you know life and death and all that, then somebody calls you and says, "my stomach's hurt all weekend long and I don't feel good, take me to the hospital," they tend to rate that as like a 1 or a 0 on the level of what I need to be doing today. What I need to be doing today is I need to be saving a life, that's what I became a firefighter for is to save lives, but the first call we went to was an elderly lady who had sat in her home all weekend long with the flu. And she was sick, she had the flu, she had a fever and stomach ache all that kind of stuff, but to her that was' the sickest shed ever been in her life. She had no idea what our day was going to be like or had been like she just needed somebody to help her, and my partner was so good at saying, "You know what ma'am, we're going to take care of you, and we're going to get you to a hospital. They're going to make sure everything is taken care of before you know it you're gonna be back home. You'll be OK." It was that caring part that was more important than the IV I gave her or the oxygen I gave her. All those things helped and those were medical treatments that she needed but what she really needed was somebody to say you're going to be OK, somebody is going to take care of you. I remember now the times I've been really sick having somebody there telling you "Don't worry about it, we've got you, you're going to be OK," that means more to you than all, you still want the pain meds, yeah. Give me the pain meds. (Laughter) But that means so much and helps you so much get through whatever it is 'cause I've had some things that they gave me the pain meds and this still isn't working. I need somebody to be holding that hand telling me I'm going to be OK. So those are the kind of memorable times, I remember those. I remember delivering my fifth baby in one night on the way to the hospital. It was like, really?

DA: People would always go “Wow! Is it great? Do you get to deliver? Yes, I don’t get to deliver babies, I have to. This is not ... I feel sorry for the lady. She would much rather be at a hospital in a nice environment ...

LJ: The way she planned.

DA: Pain meds and all that kind of stuff instead of going down 610. This is not, I’m sure, what she had in mind when she was gonna have a baby. So those are the other things but a lot of the things that I look back on in my career in the fire department have to do with comradery. It is a different life style being a fire fighter. You sit at the station and you live with these people. It’s one thing to work with people and spend eight hours and then go home; it’s another thing to spend 24 hours with them and a lot of times the guys spend more time with their fellow coworkers in the fire station than they do with their spouses because their spouses work. They see their spouse when they get home for a couple hours. They go to sleep, they get up, and they’re gone 24 hours with these guys. So it’s a lot of learning new family members.

LJ: Sacrifice I’d imagine as well.

DA: That does come with it and you don’t get Christmas on Christmas; you don’t get your birthday. If you do have your birthday, you’re at the fire station, you’re expected to bring cake and ice cream, which is of course requirement.

LJ: You’re expected to bring cake and ice cream!

DA: You bring the cake and ice cream. Yeah, but it’s one of the advantages of having EMS in the fire service is you have that family that you can go to. Y’all were talking about how you deal,

or how we deal with some more difficult cases or the difficult things. When you have something really bad happen, you can go back to the station and talk to somebody in your family there at the station, somebody there is going to want to sit down and talk. I became a member of what we call Critical Incident Stress Management Team. It's a group of fire fighters that volunteer their time when there is a critical incident. Something very bad happens, a death or a severe injury or something like that, we go to the station and pull that crew together and have them... they have a very structured way of having them talk about feelings and what happened. That is the first step but you gotta get the first step because too many times our firefighters are trained to internalize everything. And when you do that ... Unfortunately you also have firefighters have a very high incidence of suicide.

LJ: Right that's a lot to bear.

DA: Yeah, and they start reflecting on that, and then it's very difficult for them to handle that, so we found if we can deal with that at the moment that they're trying to deal with it that gets them started down the right path. There's a lot of follow ups. We are fortunate we have two staff psychologists in the fire department. Both those doctors take care of our members when they are having difficulties with either stressful situations be it work or even if it does happen family related or something because that affects how they perform their job. They are very good and last year they did a department wide program that dealt with handling, looking for the signs of possible suicide for in the department and they were able to by training the captains and other people in the department pick up on a lot of members that were having problems that nobody even knew about. So that, but having that family gives us a support group for all these bad things.

LJ: Right to somebody who has experienced it as well with you.

DA: My wife would always like when we would go to parties, she's always introduce me, "Oh, he's a paramedic for the fire department." The first question people would love to ask me is "what's the worst thing you ever saw?" And my answer to that is "you don't wanna know." I know what you're asking but no you don't wanna know that one because I don't wanna even remember that one. Yeah, it is strange because you get different perspectives of people in society. If you've ever been through something really stressful traumatic, then that's, what they say, people has something bad, then somebody will come to you the next day and say, "I just can't believe that such and such didn't have the right ice cream McDonalds." And I say, "Really?"

LJ: That doesn't matter.

DA: That doesn't matter to you anymore. Put your perspective, a little bit changing and luckily a lot of our paramedics have been able to do that because they get the worst of the worst the EMTs and the firefighters, they have a good support group because they are one person on a crew of four on a fire truck, but the paramedics a lot of times have to deal with a lot more of the stressfulness than sometimes you're used to. I remember when I was a paramedic and we used to take people to Ben Taub Hospital the old Ben Taub Hospital, which we called the zoo. And they would be so busy at Ben Taub Hospital where they were doing actual surgery in the hallway in the emergency center because they didn't have enough trauma rooms in the emergency center and the surgery suites were filled with gunshot wounds and everything else. So the doctors are there they would be what we call cracking the chest. They open a person's chest and reach in there and either stop whatever is bleeding or try and manually start the heart again. Many times

the doctors were so busy that when somebody died that we brought in, they'd say, "Hey so and so didn't make it. Can you go tell the family" because the doctors didn't. Their hand is over here, somebody else go do that. I learned really quick about going into the room and telling the family, "I'm sorry but your son didn't make it."

LJ: And that's a big thing to them but every day that doctors and paramedic's face.

DA: And that's something that was, wow, tough to learn how to cope with because half of you would understand how the family feels. Like you said that's the worst thing. That's their whole world is caving in around them but in 15 minutes you have to be back...

LJ: And do something else.

DA: ...and taking care of somebody else.

LJ: Wow. Is there anything else that you'd like to share about Houston EMS and its history that you think is important?

DA: I'm really, really proud of the Houston Fire Department. There are EMS agencies all over the world and there are excellent fire departments. What I'm proud of with Houston is the leadership here In Houston took on more than just the fact that they wanted to be a good ambulance service or an EMS. They took on the role that they wanted to be a leader in EMS. They wanted to take the time and effort to do these research things because it made a difference to hundreds of lives that we don't even know about because whatever we found out here in Houston in Saint Louis they're doing something different and they are saving lives too. Whatever we started here, we might had done a portion of a study here somebody is taking that where we left off and continued and found out something even better, and that's what I'm most

proud of. Our guys have and girls I mean there are excellent paramedics that take care of people but for EMS as a whole the Houston Fire Department took on this forty-five years ago to do something other than just get people to the hospital.

LJ: To the hospital. That is so admirable. I'm just so enlightened. It's funny when I think about heroes I always think about veterans that are in the military. And we have people right here, sacrificing everyday doing the same type of stuff. I am so happy. Thank you so much for sitting and speaking with us and for your service here in Houston.

DA: And that makes a big difference to us. Like Dina was saying, one of the big motivators is guys never get to hear the "thank you."

LJ: Yeah. I didn't even know. This is amazing to hear the things that you guys deal with. That you experience and are exposed to all the time. You are highly appreciated.

DA: Thank you.

[End of interview]