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Streamlining Field Inspection Data Capture with Tablet PCs



The **Structural Pest Control & Pesticides Division** of the **North Carolina Department of Agriculture & Consumer Services** protects public health, safety and welfare by regulating the structural pest control industry and pesticide products used, and by improving the quality of structural pest control services.

According to field inspector Travis Snodgrass, the Division's field inspectors have been using a paper-based process for years, filling paper forms out on site in triplicate, then mailing them back to the headquarters on a weekly basis. "For each inspection that we did, we had anywhere between one to upwards of five or six forms," he says.

That involved an enormous amount of repetition, filling out name, address, etc., over and over again. "We had to manually write that down by pen and paper, the exact same thing every single time for every single form – and then we'd go down our inspection checklist for each form," Snodgrass says.

Those forms then had to be physically mailed back to the office. "They were mailed to our supervisor, one on each side of the state, the Eastern district and the Western district ... and he would look at them, approve them, then he would take them physically to Raleigh, and someone had to sit behind a computer to put in all the data," Snodgrass says.

What's more, not every inspector's handwriting was particularly legible. "So the secretaries sitting in the office were having to constantly scan over the forms and decipher what we were writing on them. ... We deal with product registration numbers, which are anywhere between five to 15 different sets of numbers – and getting one of those off could change the entire inspection form," Snodgrass says.

And so, several years ago, Western District Manager Dwight E. Seal says, the Structural Pest Control & Pesticides Division began exploring alternate options that could improve efficiency. "We knew that there was a better way – a better system out there," he says.

Seal says **Mi-Co** invited him and a colleague to view the **Mi-Forms** mobile data capture solution – a visit that was made particularly easy, he says, by the fact that they're located just a few miles away from his office. "We could actually see them face to face, speak to them, and be able to communicate with them," he says.

The Structural Pest Control & Pesticides Division now has 19 Windows-based tablet PCs deployed using the Mi-Forms system, though they're not standardized on a single device – Seal says they're currently using products from Dell, Gateway and Lenovo.

And Seal says making the switch from a paper-based process to Mi-Forms' tablet-based solution wasn't always an easy process. "We don't have IT specifically assigned to our division – it's department-wide – so I had to get them to buy in ... and it evolved as we went," he says. "We had some bumps in the road and some differences of opinion on how to go forward, but we worked through it."

A crucial factor in doing so successfully, Seal says, was to take it slowly, in three distinct phases. "For phase one, we started with three forms that we wanted to get in – pretty common forms – and get them perfected, get the understanding of how Mi-Forms operated, and how the whole database system worked," he says.

Phase two, Seal says, entailed a two-year process of expanding the system's functionality. "And after we got through all of the budgeting issues, we finalized it this spring, and have been operating it pretty well," he says. "We're still learning some things along the way, but all in all it's been very successful."

Buy-in at all levels, Seal says, was crucial to the success of the deployment. "Your IT people have got to be bought in, the users have to buy into it and want to learn it, mid management has to ... and also any type of secretarial staff," he says.

While some field inspectors showed initial resistance to the Mi-Forms solution, Seal says it didn't take long for them to adjust to the new setup. "Some people were not that computer/tech-savvy, and were confused – but after we demonstrated how it worked, I think now people wouldn't dare go back to the paper-based system," he says.

One key result, Snodgrass says, has been a massive increase in efficiency. "With the electronic data capture, we're able to input a license number and have everything pre-filled for us ... and if we choose one selection on one type of question, it makes other selections required," he says. "So it makes the data more accurate, and makes it easier on the end user."

And the field inspectors enjoy another enormous benefit as well. "One of the greatest things about it – switching from paper to electronic – is that we no longer have to carry around a shopping cart full of paper forms with us," Snodgrass says. "We're able to have everything on our tablets when we go in and do an inspection."

Another result is a significant time savings throughout the process. "No matter how many times I click on a form, I never run out of them – whereas with these paper forms you have a limited supply, and we're always shuttling paper forms back and forth to our office in Raleigh – and as end users we're stationed throughout the entire state, from one end of the state of North Carolina to the other," Snodgrass says.

While the system could support real-time or same-day delivery of data, Seal says that's not necessary for them. "We could, at the end of the day, have the inspector go home, log in, download his inspections, I could take a look at them, get them sent in to the server and into the database that night ... but we're not that time-critical," he says.

Seal says the Structural Pest Control & Pesticides Division will have recouped its investment within the next two or three years – but it's not just about the money. "The speed, the time, the accuracy, that kind of thing is improving – and it's just a much cleaner system," he says.

And because the Division is fee-supported, Seal says the new system has also helped ensure that license fees and pesticide registration fees are paid. "There's more tracking and accountability ... making sure there's no lapses in fee payments," he says. "So it's helped out our bottom line with supporting our division, with supporting what we do."