1. Model Performance Comparison - Regression Models

Model	R2	MSE	MAE
Baseline - Linear Regression (X = '% Chronically Absent', using last year's % Chronically Absent to predict next year's)	0.662	105.51	7.51
Linear Regression	0.818	57.00	5.36
Random Forest *Final Model	0.824	54.97	5.14
DNN Regression	0.822	55.66	5.05

2. Model Performance Comparison - Classification Models

Model	Accuracy	Confusion Matrix	Classification Report

Baseline - Decision Tree (X = '% Chronically Absent', using last year's % Chronically Absent to predict next year's)	0.774	[[9326 73 9397]
		[33 12622 6048]
		[2967 6851 64892]]
			<pre> precision recall f1-score support
			
			        High 0.76 0.50 0.60 18796
			         Low 0.65 0.67 0.66 18703
			      Medium 0.81 0.87 0.84 74710
			
			    accuracy 0.77 112209
			   macro avg 0.74 0.68 0.70 112209
			weighted avg 0.77 0.77 0.77 112209</pre>

Decision Tree	0.840	[[13295 8 5493]
		[17 12742 5944]
		[3470 3150 68090]]
			<pre> precision recall f1-score support
			
			        High 0.79 0.71 0.75 18796
			         Low 0.80 0.68 0.74 18703
			      Medium 0.86 0.91 0.88 74710
			
			    accuracy 0.84 112209
			   macro avg 0.82 0.77 0.79 112209
			weighted avg 0.84 0.84 0.84 112209</pre>

Naive Bayes	0.516	[[15502 315 2979]
		[856 15871 1976]
		[20787 27356 26567]]
			<pre> precision recall f1-score support
			
			        High 0.42 0.82 0.55 18796
			         Low 0.36 0.85 0.51 18703
			      Medium 0.84 0.36 0.50 74710
			
			    accuracy 0.52 112209
			   macro avg 0.54 0.68 0.52 112209
			weighted avg 0.69 0.52 0.51 112209</pre>

Random Forest Classifier	0.848	[[13701 7 5088] [15 13114 5574] [3366 2960 68384]]	

	precision	recall	f1-score	support
High	0.80	0.73	0.76	18796
Low	0.82	0.70	0.75	18703
Medium	0.87	0.92	0.89	74710
accuracy			0.85	112209
macro avg	0.83	0.78	0.80	112209
weighted avg	0.85	0.85	0.85	112209

KNN	0.838	[[13615 15 5166] [36 13279 5388] [3921 3664 67125]]	

	precision	recall	f1-score	support
High	0.77	0.72	0.75	18796
Low	0.78	0.71	0.74	18703
Medium	0.86	0.90	0.88	74710
accuracy			0.84	112209
macro avg	0.81	0.78	0.79	112209
weighted avg	0.84	0.84	0.84	112209